2015-2016
CURRICULUM CATALOG

Career and Technical Education Series:

Middle School
Agriculture, Food and Natural Resources
Architecture & Construction
Arts, A/V Technology & Communications
Business Management and Administration
Education & Training
Finance
Government & Public Administration
Health Science
Hospitality and Tourism
Human Services
Information Technology
Law, Public Safety, Corrections, and Security
Manufacturing
Marketing
Science, Technology, Engineering and Mathematics
Transportation, Distribution & Logistics

Odysseyware®

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We are excited that you are including **Odysseyware®** as part of your program of instruction, and we look forward to serving you and your students.

This **Odysseyware®** Curriculum Catalog provides a quick-reference overview of our course materials. The catalog may also be helpful in planning instruction using **Odysseyware®** course materials. In this document, you will find:

- Customer Experience Management Team and Technical Support contact information
- a description of course contents;
- course information.

As always, we welcome your feedback.

Thanks for choosing us!

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MIDDLE SCHOOL

Career Explorations 1

Course Overview

The Career Explorations 1 course is designed to give seventh- and eighth-grade students an opportunity to explore various CTE subjects. Specifically, students will be able to learn about careers involving human-related services.

Each unit introduces one particular field and explains its past, present, and future. The goal is to whet students' appetites for these careers. Students can then explore that career in more detail as a high school student.

The objectives for this course are:

- Examine work, lifestyle, and a career.
- Evaluate the history of health care and the impact of science and technology has had on it.
- Explain why travel and tourism is important to our economy.
- Understand how geographic principles relate to traveler decisions.
- Explain the history the human services and how it functions in society.
- Analyze careers in the consumer services industry.

CAREER EXPLORATIONS 1

UNIT 1: CAREER MANAGEMENT

Assignment Titles

1. Course Overview
2. The Purpose of Work
3. Personal Benefits Of Work
4. Wages and Employment Benefits
5. Project: Time Sheet
6. Project: Earnings Statement
7. Lifestyle Goals
8. Project: Lifestyle Budget
9. Societal Benefits of Work
10. Quiz: What is Work?
11. Basic Work Qualifications
12. Work Environment
13. Basic Employability Skills
14. Project: Basic Employability Skills*
15. Problem Solving
16. Project: Problem Solving*
17. Lifelong Learning and Technology
18. Career Clusters
19. Project: Career Clusters Research Tri-fold Brochure*
20. Quiz: Elements of Work
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22. Review
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24. Glossary and Credits

CAREER EXPLORATIONS 1

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Assignment Titles

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2. Medicine in the Seventeenth and Eighteenth Centuries
3. The Rise of Modern Medicine
4. Project: Ancient vs. Modern Medical Practices
5. Project: Different Health Career Possibilities
6. Quiz: History of Medicine and Medical Discovery
7. Molecular Technology: Gene Chips
8. Advances in Medical Imaging
9. Innovations in Transplantation
10. Project: Genetics
11. Project: How Technology is Used in Medicine
12. Quiz: Recent Advances in Science and Technology
13. Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 1

UNIT 3: INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

Assignment Titles

1. Travel Terms
2. Segments of the Travel Industry
3. Travel Product Distribution and Why We Travel
4. Project: Travel Terminology
5. Project: Segments of the Travel Industry
6. Quiz: The Foundations of Travel
7. Geographic Basics and Where We Travel
8. The Countries We Visit — Part 1
9. The Countries We Visit — Part 2
10. Project: Geographic Basics and Where We Travel
11. Project: The Countries We Visit
12. Quiz: The Geography of Travel
13. Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 1

UNIT 4: INTRODUCTION TO HUMAN SERVICES

Assignment Titles

1. Solving Problems vs. Teaching Problem-Solving Skills
2. Types of Populations, Services, and Fulfilling Needs
3. Project: Let's Get Happy and Let's Get Rich
4. What Human Services Organizations Do
5. Project: Know Your Surroundings
6. Quiz: History, Standards, and Overarching Mission
7. Direct Service Interventions
8. Policy and Program-Planning Interventions
9. Project: Designing A Human Services Organization
10. Administration
11. Project: Life After High School
12. Quiz: Providers of Human Services
13. Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 1

UNIT 5: INTRODUCTION TO CONSUMER SERVICES

Assignment Titles

1. What are Consumer Services?
2. Customer Service And Consumer Advocacy
3. Project: Personal Skills Evaluation
4. Professional Organizations, Certifications, and Resources
5. Project: Building a Portfolio
6. Quiz: Introduction and Basic Competencies
7. Organizational Structures
8. Safety Within the Organization
9. Project: Drafting a Safety Policy
10. External Influences on Consumer Services
11. Project: Interview-based Article on Sustainability
12. Quiz: Organizational Structure
13. Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 1

UNIT 6: COURSE REVIEW, PROJECT, AND EXAM

Assignment Titles

1. Course Project: Decisions, Decisions*
2. Review
3. Exam

(*) Indicates alternate assignment

Career Explorations 2

Course Overview

The Career Explorations 2 course is designed to give seventh- and eighth-grade students an opportunity to explore various CTE subjects. Specifically, students will be able to learn about careers involving various technical fields from computers to agriculture.

Each unit introduces one particular field and explains its past, present, and future. The goal is to whet students' appetites for these careers. Students can then explore that career in more detail as a high school student.

The objectives for this course are:

- Identify the basic components of a computer system and its use within a networking/communications environment.
- Discuss the history, development, and use of the Internet and mobile computing technology in business and society.
- Explore systems design and implementation.
- State the purpose of a computer network, and explain the role of network hardware in achieving that purpose.
- Identify the advancement of agriculture to the present day.
- Explain sustainable agriculture and its impact on society..
- Understand the STEM field along with the concepts, theories, practical applications, and STEM careers.

CAREER EXPLORATIONS 2

UNIT 1: INFORMATION TECHNOLOGY

Assignment Titles

1. Course Overview
2. Computer Systems and Networks
3. Network Ethics and Security
4. Project: Benefit Analysis Study: Small Business Expansion
5. Information Storage
6. Project: Correspondence Between Stringer and Newspaper Editor: Media Preview
7. Quiz: Computer Systems and Networks
8. Internet in Business and Society
9. Human-Centered Technology
10. Project: Biometrics Report
11. Mobile Computing
12. Project: Geocache Treasure Hunt
13. Quiz: Internet in Business and Society
14. Project: Special Project*
15. Test
16. Glossary and Credits

CAREER EXPLORATIONS 2

UNIT 2: INTRODUCTION TO INFORMATION SUPPORT AND SERVICES

Assignment Titles

1. Supporting the Business Workflow Model
2. Project: Understanding Software Development Models
3. Operating Systems, Hardware, and Software Selection
4. Project: Building a Mind Map
5. Implementation and End-User Training
6. Project: Preparing a Support Plan
7. Quiz: On-Premise Systems
8. Public Clouds
9. Project: Moving to the Cloud
10. Private Clouds
11. Hybrid Clouds
12. Project: Companies in the Hybrid Cloud
13. Quiz: Cloud-Based Systems
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15. Test
16. Glossary and Credits

CAREER EXPLORATIONS 2

UNIT 3: INTRODUCTION TO NETWORK SYSTEMS

Assignment Titles

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2. Project: Report: Technology Devices
3. Network Devices and Components
4. Network Topologies
5. Project: Hardware Awareness
6. Quiz: Computer Networks
7. The OSI Reference Model
8. The TCP/IP Networking Model
9. Project: Slide Show: Networking Layers
10. Data Encapsulation
11. Project: Slide Show: Data Encapsulation
12. Quiz: OSI and TCP/IP Networking Models
13. Project: Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 2

UNIT 4: INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

Assignment Titles

1. People and Agriculture
2. Project: People, Agriculture, and Society
3. Advances in Agriculture
4. Today's Agricultural Consumer
5. Project: Percent Spent
6. Quiz: Overview of Agriculture
7. Sustainable Agriculture
8. Project: Research and Learn: The Power of Poo!
9. Agriculture and the Economy
10. Project: Research and Learn: Commodities and Exchanges
11. Food Distribution and Safety
12. Quiz: Agriculture's Role in Society
13. Project: Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 2

UNIT 5: INTRODUCTION TO STEM

Assignment Titles

1. What is STEM Education?
2. The Great Discoverers and Discoveries
3. Project: Timeline of Great Discoverers and Discoveries in the STEM Field
4. Identify Careers in Science, Technology, Engineering, and Mathematics
5. Project: Exploring Careers in the STEM Field
6. Quiz: Introduction
7. Get Organized: Outlines and Outliners!
8. Project: Create a Google Website
9. Get Organized: Mind Maps and Mind Mapping!
10. Education and Training in STEM
11. Project: Mind Map of Personal STEM Education and Career Plan
12. Quiz: What Lies Ahead?
13. Project: Special Project*
14. Test
15. Glossary and Credits

CAREER EXPLORATIONS 2

UNIT 6: COURSE PROJECT, REVIEW AND FINAL EXAM

Assignment Titles

1. Course Project: And the Results Are...*
2. Review
3. Exam

(*) Indicates alternate assignment

Keyboarding And Applications

Course Overview

Keyboarding and Applications is a semester-long elective that teaches students keyboarding skills, technical skills, effective communication skills, and productive work habits. In this course, students will learn about proper keyboarding technique. Once students have been introduced to keyboarding skill, lessons will include daily practice of those skills. Students will gain an understanding of computer hardware, operating systems, file management, and the Internet. In addition, they will apply their keyboarding skills and create a variety of business documents, including word processing documents and electronic presentations.

This course provides key knowledge and skills in the following areas:

1. Computer Hardware
2. Keyboarding
3. Operating Systems
4. Word Processing
5. Electronic Presentations
6. Internet
7. Job Skills

By the end of the course, the student should be able to do the following:

- Identify various technologies, current and emerging.
- Select the appropriate technology to complete a task.
- Use the computer's operating system to execute work responsibilities.
- Demonstrate proper keyboarding technique.
- Improve speed and accuracy of keyboarding skills.
- Create word-processing documents with columns, graphics, and bulleted lists.
- Create and deliver an effective presentation following presentation guidelines.
- Effectively navigate the Internet and search for information.
- Evaluate a Web site in terms of reliability.
- Demonstrate communication skills for obtaining and conveying information.
- Send and receive information using electronic mail, following appropriate guidelines.

KEYBOARDING AND APPLICATIONS

UNIT 1: COMPUTER HARDWARE

Assignment Titles

1. Course Overview
2. Hardware and Software
3. Current Business Technology
4. Quiz 1: Overview of Hardware and Software
5. Alternate Quiz 1—Form A: Overview of Hardware and Software *
6. Alternate Quiz 1—Form B: Overview of Hardware and Software*
7. Case Studies
8. Emerging Technology
9. Project: Defining Technical Terms
10. Quiz 2: Business Solutions
11. Alternate Quiz 2—Form A: Business Solutions*
12. Alternate Quiz 2—Form B: Business Solutions*
13. Project: Technology in Business
14. Special Project*
15. Review
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19. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 2: KEYBOARDING

Assignment Titles

1. Keyboarding Pretest
2. Keyboarding Exercises
3. Number Keypad
4. Keyboarding Practice
5. Project: Timed Typing Tests
6. Special Project*
7. Review
8. Test
9. Alternate Test—Form A*
10. Alternate Test—Form B*
11. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 3: COMPUTER OPERATING SYSTEMS

Assignment Titles

1. What Is an Operating System?
2. Getting Started–Exploring the Desktop
3. Using the Interface
4. File Management
5. Quiz 1: Operating Systems and File Management
6. Alternate Quiz 1—Form A: Keyboarding Skills*
7. Alternate Quiz 1—Form B: Keyboarding Skills*
8. Project: Customize Your Desktop
9. Special Project*
10. Review
11. Test
12. Alternate Test—Form A*
13. Alternate Test—Form B*
14. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 4: WORD PROCESSING

Assignment Titles

1. Word Processing Basics
2. Writing and Editing a Document
3. Project: Creating a Memo
4. Formatting
5. Project: Writing Assignment
6. Quiz 1: Introduction to Word Processing
7. Alternate Quiz 1—Form A: Introduction to Word Processing*
8. Alternate Quiz 1—Form B: Introduction to Word Processing*
9. Copying, Cutting, and Pasting
10. Newsletters
11. Project: Creating a Newsletter
12. Quiz 2: Keyboarding Skills
13. Alternate Quiz 2—Form A: Keyboarding Skill*
14. Alternate Quiz 2—Form B: Keyboarding Skill*
15. Special Project*
16. Review
17. Test
18. Alternate Test—Form A*
19. Alternate Test—Form B*
20. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 5: PRESENTATION TECHNOLOGY

Assignment Titles

1. What is Presentation Technology?
2. How is Presentation Technology Used?
3. Quiz 1: An Introduction to Presentation Technology
4. Alternate Quiz 1—Form A: An Introduction to Presentation Technology*
5. Alternate Quiz 1—Form B: An Introduction to Presentation Technology*
6. Working with Text
7. Working with Graphics
8. Working with Special Effects
9. Quiz 2: Presentation Guidelines
10. Alternate Quiz 2—Form A: Presentation Guidelines*
11. Alternate Quiz 2—Form B: Presentation Guidelines*
12. Content
13. Layout
14. Putting It All Together
15. Quiz 3: Presentation Planning
16. Alternate Quiz 3—Form A: Presentation Planning*
17. Alternate Quiz 3—Form B: Presentation Planning*
18. Project: Creating a Presentation
19. Special Project*
20. Review
21. Test
22. Alternate Test—Form A*
23. Alternate Test—Form B*
24. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 6: INTERNET

Assignment Titles

1. Internet Browsers
2. Internet Strategies
3. Finding Reliable Internet Resources
4. Quiz: Introduction to the Internet
5. Alternate Quiz—Form A: Introduction to the Internet*
6. Alternate Quiz—Form B: Introduction to the Internet*
7. Project: The History of the Internet
8. Special Project*
9. Review
10. Test
11. Alternate Test—Form A*
12. Alternate Test—Form B*
13. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 7: COMMUNICATION SKILLS

Assignment Titles

1. Communication Skills
2. Electronic Communication Skills
3. Beyond E-mail
4. Project: Revising E-mail
5. Quiz 1: Overview of Effective Communication Skills
6. Alternate Quiz 1—Form A: Overview of Effective Communication Skills*
7. Alternate Quiz 1—Form B: Overview of Effective Communication Skills*
8. Workplace Skills, Habits, and Attitudes
9. Active Listening
10. Quiz 2: Desirable Workplace Skills, Habits, and Attitudes
11. Alternate Quiz 2—Form A: Desirable Workplace Skills, Habits, and Attitudes*
12. Alternate Quiz 2—Form B: Desirable Workplace Skills, Habits, and Attitudes*
13. Special Project*
14. Review
15. Test
16. Alternate Test—Form A *
17. Alternate Test—Form B*
18. Glossary and Credits

KEYBOARDING AND APPLICATIONS

UNIT 8: COURSE REVIEW AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam—Form A*
4. Alternate Exam—Form B*

(*) Indicates alternate assignment

AGRICULTURE, FOOD AND NATURAL RESOURCES

Introduction to Agriculture, Food, and Natural Resources

Course Overview

This semester-length high school elective introduces students to the basic scientific principles of Agriculture and Natural Resources. Students will be recognizing and researching plant systems, animal systems, government policy, "green" technologies, agribusiness principles, and sustainability systems.

Objectives

- Apply understanding of ecosystems and systems thinking to the management of natural resources to maximize the health and productivity of the environment, agriculture, and communities.
- Analyze community practice or policy development related to sustainability in agriculture, food, and natural resources.
- Communicate the impact of "green" and sustainability principles on agriculture, food, and natural resource systems.
- Recognize the social, health, environmental, and economic costs and benefits of renewable energy production (e.g., solar, wind, and biofuels) in comparison to non-renewable energies (e.g., coal, oil, and natural gas).
- Analyze energy usage, renewable energy options, and renewable materials options to promote sustainable practices across AFNR.
- Use "green" technologies and sustainability practices to maintain safe and healthful working environments that sustain the natural environment and promote well-being in the AFNR workplaces.
- Demonstrate an understanding of "green" and sustainability trends that are influencing processes and markets in AFNR.
- Apply adaptive ecosystem management to a common pool resource (e.g., an irrigation system or fishing grounds) problem in a manner that addresses ecological (data, models, concepts, understanding, and scientific responsibilities), socioeconomic (values, interests, information, assets, private sector responsibilities), and institutional (law, policies, authority, assets, public sector responsibilities) contexts.

Students should be familiar with the concepts taught in general science classes. These courses include basic biology, basic simple chemistry, and fundamentals of earth science. A basic appreciation for the importance of these science topics and courses to agriculture and some knowledge of the various agricultural industries from farming and ranching to food production and protection is recommended

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 1: NATURE AND SCOPE OF AFNR AND THEIR ROLE IN SOCIETY AND ECONOMY

Assignment Titles

1. Course Overview
2. People and Agriculture
3. Project: People, Agriculture, and Society
4. Advances in Agriculture
5. Today's Agricultural Consumer
6. Project: Percent Spent
7. Quiz 1: Overview of Agriculture
8. Sustainable Agriculture
9. Project: Research and Learn: The Power of Poo!
10. Agriculture and the Economy
11. Project: Research and Learn: Commodities and Exchanges
12. Food Distribution and Safety
13. Quiz 2: Agriculture's Economic Role in Society
14. Project: Special Project*
15. Test
16. Course Project Part 1: Nature and Scope of AFNR and Its Role in Society and the Economy*
17. Glossary and Credits

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 2: AGRICULTURE, FOOD AND NATURAL RESOURCES AND THE ENVIRONMENT

Assignment Titles

1. Environment and Ecosystems
2. Project: Ecosystems in Your Area
3. Soil and Water Quality
4. AFNR and Population Impact on the Environment
5. Project: Current Event: Sustainable practice in agriculture and natural resources
6. Quiz 1: Overview of Environment and Ecosystems
7. Agriculture Personnel Support Systems
8. Green Technologies and Sustainable Agriculture
9. Project: Research and Share: Renewable Energy on the Farm
10. Environmental Impacts
11. Project: Case Study: DDT
12. Quiz 2: Agriculture, Food, and Natural Resources Environmental Practices
13. Project: Special Project*
14. Test
15. Course Project Part 2: Agriculture, Food, and Natural Resources and the Environment*
16. Glossary and Credits

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 3: SAFETY AND HEALTH IN AGRICULTURE, FOOD AND NATURAL RESOURCES SYSTEMS

Assignment Titles

1. Risks in Agriculture, Food, and Natural Resources
2. Project: Research and Apply: Writing a Safety Plan
3. Risk Management in Agriculture, Food, and Natural Resources
4. Accident Response and Disaster Planning
5. Project: Investigate and Write: Disaster Plans
6. Quiz 1: Safety in Agriculture, Food, and Natural Resources Industries
7. Harvesting and Extracting Natural Resources
8. Natural Resources Conflict and Conservation
9. Project: Research and Learn: Natural Resource Conservation
10. Moving Natural Resources
11. Project: Case Study: The Negative Impacts from the Transportation Industry
12. Quiz 2: Workplace Health in Agriculture, Food, and Natural Resources
13. Project: Special Project*
14. Test
15. Course Project Part 3: Safety and Health in Agriculture, Food, and Natural Resources Systems*
16. Glossary and Credits

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 4: INTRODUCTION TO PLANT SCIENCE

Assignment Titles

1. What Is Soil?
2. Fertilizers and Amendments
3. Project: Understanding Fertilizers
4. Water and Soil
5. Project: Current Event
6. Quiz 1: Soils and the Environment
7. What Is a Plant?
8. Project: What Part Is This? Flower Anatomy
9. Plant Physiology
10. Plant Reproduction, Behavior, and Defenses
11. Project: Research and Learn: Plant Reproduction
12. Quiz 2: Plants and Their Purpose
13. Project: Special Project*
14. Test
15. Course Project Part 4: Introduction to Plant Science*
16. Glossary and Credits

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 5: ANIMAL AGRICULTURE

Assignment Titles

1. Animals in Society
2. Project: Observe and Learn: Animals in Your Life
3. Classification and the Breeding of Animals
4. Animal Behavior and Health
5. Project: Research and Learn: Zoonotic Disease
6. Quiz 1: Introduction to Animal Agriculture
7. Animals and the Environment
8. Project: Problem Solving: Overgrazing
9. Animal Welfare
10. Project: Research and Learn: Animal Welfare Laws
11. Waste Management
12. Quiz 2: Animal Welfare and Animals in the Environment
13. Project: Special Project*
14. Test
15. Course Project Part 5: Animal Agriculture*
16. Glossary and Credits

INTRODUCTION TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Protecting Our Future: Sustainable Practices in AFNR*
2. Review
3. Exam

(*) Indicates alternate assignment

Agribusiness Systems

Course Overview

Agribusiness Systems is a semester-length high school elective that introduces the business, management, marketing, and financial skills needed to successfully produce food, fiber, and fuel for domestic and global markets. Nearly 16 percent of total U.S. employment and 14 percent of the U.S. gross domestic product can be attributed to agribusiness systems, which means agriculture, food, and natural resources play a pivotal role in the economic success of our nation.

Students will learn about the components of the agribusiness system and how they interact to deliver food to our tables. They will also learn about the key elements of a successful agribusiness enterprise: economics, financial management, marketing and sales, and government policies and regulations.

Objectives

- Introduce the components of agribusiness systems.
- Explain key business and management principles and issues for the agribusiness enterprise.
- Present an overview of the knowledge and skills needed by agribusiness enterprises.
- Expose students to career opportunities in agribusiness.
- Analyze and interpret agricultural policies in relation to their effects on the agribusiness system and agribusiness enterprises.
- Understand the impact of green practices and sustainability principles on natural resources and how they affect food production.
- Recognize the need for accurate records and financial practices to maintain a successful agribusiness enterprise.
- Analyze budgets and forecasts to determine business strategies.
- Develop interpersonal and communication skills and critical thinking skills that are necessary for a successful career in the constantly changing agribusiness industry.
- Demonstrate an understanding of global markets, trade policies, and food security and safety issues that affect the agribusiness industry.

AGRIBUSINESS SYSTEMS

UNIT 1: NATURE AND SCOPE OF THE AGRIBUSINESS SYSTEM AND ITS GLOBAL REACH

Assignment Titles

1. Course Overview
2. Today's Agribusiness Systems
3. Project: Producing a Packaged Food
4. The Evolution of Agribusiness
5. Agribusiness Skills in a Changing World
6. Project: Identifying Job Opportunities
7 Quiz 1: Overview of Agribusiness Systems
8. Global Agribusiness Systems
9. The Global Impact of Agribusiness Systems
10. Project: Analyzing Trade Flow
11. Agribusiness Policies and Regulations
12. Project: Debating the Use of GMOs
13. Quiz 2: Local and Global Agribusiness
14. Project: Special Project*
15. Test
16. Course Project Part 1: Introducing Your New Business*
17. Glossary and Credits

AGRIBUSINESS SYSTEMS

UNIT 2: BASIC PRINCIPLES OF ECONOMICS IN AGRIBUSINESS

Assignment Titles

1. Your Personal Utility and the Law of Supply and Demand
2. Project: Analyzing Personal Buying Decisions
3. The Demand Curve and Microeconomics
4. Project: Determining Your Personal Utility
5. Macroeconomics in Agribusiness Systems
6. Quiz 1: Understanding Consumer Behavior and Demand
7. Market Equilibrium
8. Project: Understanding Supply and Demand
9. Controlling the Market
10. Project: Identifying the Impact of U.S. Price Supports
11. Scarcity and Economics
12. Quiz 2: Supply and Market Equilibrium
13. Project: Special Project*
14. Test
15. Course Project Part 2: The Economics of Your New Enterprise*
16. Glossary and Credits

AGRIBUSINESS SYSTEMS

UNIT 3: FINANCIAL MANAGEMENT AND BUDGETING

Assignment Titles

1. Understanding Financial Statements
2. Analyzing Financial Performance
3. Project: Calculating Financial Ratios
4. Comparing Financial Performance
5. Project: Comparing the Financial Performance of Two Companies
6. Quiz 1: Financial Statements and Statement Analysis
7. Forecasting
8. Project: Forecasting Lifetime Income
9. Introduction to Budgeting
10. Creating Budgets
11. Project: Creating a Cash Flow Budget
12. Quiz 2: Budgeting and Forecasting
13. Project: Special Project*
14. Test
15. Course Project Part 3: Financial Planning for Your New Enterprise*
16. Glossary and Credits

AGRIBUSINESS SYSTEMS

UNIT 4: AGRIBUSINESS MARKETING AND SALES

Assignment Titles

1. Introduction to Marketing
2. Market Research
3. Project: Researching the Coffee Market
4. The Marketing Mix
5. Project: Developing a Marketing Mix for a New Food Product
6. Quiz 1: AFNR Marketing
7. The Sales Process: Finding Customers
8. Project: Identifying Potential Customers
9. The Sales Process: Discovering Customer Needs
10. The Sales Process: Making the Sale
11. Project: Negotiating a Pay Increase
12. Quiz 2: Sales and AFNR Systems
13. Project: Special Project*
14. Test
15. Course Project Part 4: Marketing Your Products and Services*
16. Glossary and Credits

AGRIBUSINESS SYSTEMS

UNIT 5: POLICY AND GOVERNMENT INTERVENTION

Assignment Titles

1. Understanding the Farm Bill
2. Analyzing the Farm Bill
3. Project: Debating Cuts to SNAP
4. Conservation and Energy Policies in the Farm Bill
5. Project: Analyzing a Farm Bill Conservation or Energy Program
6. Quiz 1: Agricultural Policy
7. Our Global Food Supply
8. Food Security
9. Project: Exploring an Agribusiness Job with Global Implications
10. Food Safety
11. Project: Studying a Foodborne Pathogen
12. Quiz 2: International Policy and Food Regulations
13. Project: Special Project*
14. Test
15. Course Project Part 5: The Global Context for Your New Enterprise*
16. Glossary and Credits

AGRIBUSINESS SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Developing an Agribusiness Enterprise Business Plan*
2. Course Review
3. Exam

(*) Indicates alternate assignment

Animal Systems

Course Overview

The role of animals in civilization has an ancient history, and they are no less prominent in today's society. For example, pigs were domesticated in China as long as 10,000 years ago and are still vital to our lifestyle today. But we know that pigs are also intelligent beings. What are their preferences for habitat and treatment, and what are their social and reproductive habits?

Animals today are used for clothing, food, transportation, agriculture, herding, companionship, guide assistance, and crime fighting, and research continues to reveal new uses. As our scientific understanding of animal systems grows, so do our best practices, ethical considerations, and research applications. How mankind treats animals impacts their well-being and productivity.

The course provides students with a wealth of information on livestock-management practices, animal husbandry, physiological systems, the latest scientific trends, and innovations in food production.

Changes in practices, regulations, and legislation for animal welfare continue as new research provides solutions to medical, ethical, and practical concerns. The course reviews current topics, such as advancements in technology and research, and defines areas of discussion while maintaining focus on best-management practices. How the research translates to management practices is a vital area of study and discussion.

Objectives

- Understand the role of animal agriculture in society.
- Examine and apply best-management practices in animal agriculture.
- Compare animal welfare versus animal rights.
- Evaluate and select superior animals to be used for reproductive purposes.
- Investigate animal-performance data.
- Explore careers in animal agriculture.
- Study the environmental impact of animal management and production systems.

This is an introductory course in animal systems at the high-school level. An interest in animal physiology, husbandry, livestock, veterinary practice, animal welfare, or food production would be desirable for students of the course. The information gained will be helpful in making educational decisions for undergraduate or graduate study. A student might use the knowledge gained from the course to further an interest in becoming a chef, a researcher, a doctor, a wildlife-management professional, or any number of applicable careers. No previous experience in or knowledge of these careers is required for the course.

Some students will have more experiential knowledge of animals; however, hands-on experience is not a requirement. The course covers livestock anatomy, physiology, and reproductive systems, but medical knowledge is not required for the course.

The ability to review online information, research topics independently, pursue hands-on projects, and create reports and presentations is required.

ANIMAL SYSTEMS

UNIT 1: NATURE AND SCOPE OF ANIMAL AGRICULTURE IN OUR SOCIETY AND ECONOMY

Assignment Titles

1. Course Overview
2. History of Animal Agriculture
3. Project: In My Tribe
4. Advancements in Animal Agriculture
5. Project: The Discovery that Changed Farming
6. Today's Animal Agriculture and Consumer
7. Project: Reliance on Animal Products in Daily Life
8. Quiz 1: Animal Agriculture
9. Animal Behavior and Safety Practices in Animal Agriculture
10. Project: For the Love of Animals
11. Animal Breeds and Classification
12. Project: A Breed Apart
13. Careers in Animal Agriculture
14. Quiz 2: Animal Agriculture in our Society
15. Project: Special Project*
16. Test
17. Course Project Part 1: Why I Want to Study Animals*
18. Glossary and Credits

ANIMAL SYSTEMS

UNIT 2: ANIMAL SELECTION AND HEALTH

Assignment Titles

1. Parts and Processes of the Animal Cell
2. Project: 3D Gelatin Animal Cell
3. Animal Anatomy and Physiology
4. Project: You Are What You Eat
5. Selecting Excellence
6. Quiz 1: Animal Anatomy and Physiology
7. Animal Diseases and Prevention
8. Project: Animal Disease, Treatment, Prevention, and Prognosis
9. Animal Parasites and Treatment
10. Project: The Parasite Project
11. Best-Management Practices to Improve Herd Health
12. Quiz 2: Animal Health
13. Project: Special Project*
14. Test
15. Course Project Part 2: Your Career Role in Animal Health*
16. Glossary and Credits

ANIMAL SYSTEMS

UNIT 3: ANIMAL NUTRITION, GROWTH, AND DEVELOPMENT

Assignment Titles

1. Animal Digestive Anatomy
2. Project: Life as a Blade of Grass
3. Animal Nutrients and Needs
4. Project: The Six Nutrients of Life
5. Selecting Feed and Feedstuff
6. Quiz 1: Animal Nutrition
7. Mitosis, Meiosis, and Prenatal Development
8. Project: What do Meiosis and Mitosis Look Like?
9. Parturition and Postnatal Development
10. Project: Animal Parturition
11. Animal Performance and Development
12. Quiz 2: Animal Growth and Development
13. Project: Special Project*
14. Test
15. Course Project Part 3: Animal Nutrition, Performance, and You*
16. Glossary and Credits

ANIMAL SYSTEMS

UNIT 4: ANIMAL REPRODUCTION

Assignment Titles

1. History of Genetics
2. Project: The Genome Project
3. Traits and Heredity
4. Project: Traits, Breeds, and Hereditability
5. Biotechnology Advancements
6. Quiz 1: Genetics
7. Reproductive Anatomy
8. Project: How Do Different Species Reproduce?
9. Breeding Management
10. Project: Best-Management Practices
11. Gestation, Parturition, and Lactation
12. Quiz 2: Animal Reproduction
13. Project: Special Project*
14. Test
15. Course Project Part 4: Making Baby Animals: Your Involvement in Animal Reproduction*
16. Glossary and Credits

ANIMAL SYSTEMS

UNIT 5: ANIMALS AND THE ENVIRONMENT

Assignment Titles

1. USDA Grades of Meat and Their Purposes
2. Retail Cuts of Meat
3. Project: Interview Your Local Butcher
4. Food Safety
5. Project: Food-Safety Guidelines
6. Quiz 1: Consumers and Public Perception
7. Wildlife Management in Cattle Ranching
8. Project: Wildlife on the Ranch
9. Animal Waste Management and Treatment
10. Animals and Society
11. Project: Animal Welfare and the Work of Dr. Temple Grandin
12. Quiz 2: Animal Issues
13. Project: Special Project*
14. Test
15. Course Project Part 5: What Environment Has to Do With Your Career*
16. Glossary and Credits

ANIMAL SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Your Life in Animal Systems*
2. Course Review
3. Exam

(*) Indicates alternate assignment

Environmental Service Systems

Course Overview

This semester-length, high school elective introduces students to career opportunities and educational pathways in a wide array of environmental fields. Students examine environmental legislation and regulations, government agencies and organizations, monitoring and testing methods and requirements. They discover the relationship between environmental regulations and careers, and study the issues, history, and current status of air and water quality, soil and atmospheric conditions. In an environmentally challenged world, ESS professionals are critically important. Job outlooks and salary scales reflect this need for educated, dedicated researchers, scientists, engineers, etc.

Objectives

- Compare and contrast careers in environmental service systems in terms of scope, academic preparation, employment potential, and career demands.
- Evaluate environmental-related issues with air, waste, water, and disposal.
- Explain how individuals can impact the environment in a positive manner and educate others about environmental issues.
- Articulate the science and technologies surrounding air, ecosystems, waste cleanup, toxics, and water.
- Identify sustainable practices and form a deeper understanding to balance the environment, society, and the economy.
- Describe laws and regulations impacting environmental service systems.
- Identify key laboratory and analytical instrumentation used for environmental monitoring.
- Discuss methods for improvement of analytical results.
- Recognize weather systems and weather patterns using meteorological principles and knowledge.
- Describe soil compositions and properties to demonstrate knowledge of soil science.
- Apply chemistry principles to environmental service systems.
- Evaluate wastewater treatment and compliance with regulations.
- Identify health risks associated with hazardous materials.
- Identify methods of conventional and alternative energy sources.

This is an introductory course in environmental service systems. The student needs to be interested in this field as a possible career, have computer and online access, and some experience with computer searches. Some students or student groups may have already done some field testing, such as simple pH water tests at home or in a stream. Some may have, or have access to, testing equipment and transportation to sites for testing projects, field trips to wastewater treatment plants, etc. The lesson projects are written so that students with access to labs, transportation, and equipment can use them, while those who do not can perform virtual testing. Students may be familiar with 2D and 3D computer modeling, and have access to such programs. These are not required, but are applicable to the course study.

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 1: ENVIRONMENTAL SERVICE SYSTEMS: GETTING STARTED

Assignment Titles

1.	Course Overview	8.	Laws Specific to your State
2.	What are Environmental Service Systems and Why Do We Have Them?	9.	Project: Research Environmental Regulations in Your State
3.	EPA Action: Clean Air, Clean Water, Safe Drinking Water & Toxic Substances Control	10.	Career Research
4.	Project: EPA Action: Research One of the Big Four Acts	11.	Careers in the Field, Lab, and Library
5.	EPA Regulations and Public Policy: Compliance and Enforcement	12.	Project: Career Shadowing
6.	Project: EPA Compliance and Enforcement: A Case Study	13.	Quiz 2: Career Opportunities in ESS
7	Quiz 1: Introduction	14.	Project: Special Project*
		15.	Test
		16.	Course Project Part 1: Describe Your ESS Career Dream Job*
		17.	Glossary and Credits

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 2: ANALYTICAL PROCEDURES AND INSTRUMENTS

Assignment Titles

1. Explore the Basics in Laboratory Equipment
2. Project: Lab Visit or Field Testing
3. What Did Erin Brockovich Learn?
4. Advanced Technology for Analytical Testing
5. Project: Run a TLC Plate Simulation and HPLC Investigation
6. Quiz 1: Introduction to Procedures, Testing, and Equipment
7. What Does Data Tell Us? Interpreting Results
8. Project: Investigate Your Water Quality Report
9. Why is Calibration Important?
10. Project: Get Out in the Field as a Water Quality Tester
11. Educational Requirements for ESS Careers
12. Quiz 2: Interpreting Results
13. Project: Special Project*
14. Test
15. Course Project Part 2: Water Quality and You*
16. Glossary and Credits

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 3: SOLUTIONS AND SCIENTIFIC PRINCIPLES

Assignment Titles

1. Impact of Air Pollutants and Aerosols on the Atmosphere and Global Warming
2. Project: What's Global Warming? Presentation
3. Hydrology: Impact and Effect on Groundwater and Agriculture
4. Coliform Bacteria in Drinking Water: Indicator Organisms and Microbial Testing
5. Project: Boil Water Notices and/or Advisories Near You
6. Quiz 1: Issues and Research in Soil
8. Project: Heavy Metal Disasters
9. Wetlands and Watershed Management
10. Project: Wetlands in Design
11. Education Requirements for Meteorologists
12. Quiz 2: VOCs
13. Project: Special Project*
14. Test
15. Course Project Part 3: Making a Difference with Global Warming*
16. Glossary and Credits

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 4: OPERATIONS OF ESS

Assignment Titles

1. Pollution Prevention
2. Project: Your Pollution Index
3. Landfill Procedures and Criticality of Recycling
4. Project: Recycle This!
5. Drinking Water Treatments
6. Quiz 1: Pollution Prevention
7. Wastewater Treatment
8. Hazardous Waste Materials and Alternative Energy Sources
9. Project: Presentation on Hazmat or Alternative Energy Topic of Your Choice
10. Career Opportunities in Hazardous Materials Management
11. Project: Career Research on Your Dream Job
12. Quiz 2: Wastewater Treatment
13. Project: Special Project*
14. Test
15. Course Project Part 4: Careers Cleaning Up the Planet
16. Glossary and Credits*

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 5: TOOLS, EQUIPMENT, MACHINERY AND TECHNOLOGY USED IN ESS

Assignment Titles

1. Surveying and Mapping Principles
2. Project: Make US Climate Maps and Maps of Your State
3. CAD Fundamentals
4. Project: Explore CAD Programs and Applications in Your Dream Career
5. Geospatial Analysis Processes
6. Quiz 1: Mapping and Surveying, Computer Modeling, Geospatial Analysis
7. Common Hydraulic Equipment Used in Environmental Services
8. Project: Three Gorges Dam Report
9. Hydraulic Systems and High-Flow Technologies
10. Project: Dam Disaster Report
11. Careers and Education Requirements in Hydraulic and Hydrologic Engineering
12. Quiz 2: Hydraulic Systems, Equipment, High-Flow Technologies, and Careers
13. Project: Special Project*
14. Test
15. Course Project Part 5: Design and Engineering in Your Dream Career*
16. Glossary and Credits

ENVIRONMENTAL SERVICE SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Your Ultimate ESS Battle Plan*
2. Course Review
3. Exam

(*) Indicates alternate assignment

Food Products and Processing Systems

Course Overview

Agriculture, food, and natural resources (AFNR) are central to human survival and civilization. Mankind's development, use, and stewardship of natural resources to create food products have a long and ever-changing timeline. This course explores the history and evolution of food products, along with the processing methods that have arisen to feed an ever-growing world population.

Students study specifics in a wide spectrum of food product topics, from early methods of preservation to technological advancements in packaging, regulations in labeling, and marketing trends. The course prepares students for a variety of possible educational and career pathways in the food industry. Students learn industry terminology in each area of the overall system, from "farm to fork" to vertical integration to smart packaging.

Food product systems include global and local marketing of whole and processed foods. The course investigates the economic, environmental, and nutritional benefits of the food students are eating in a series of hands-on projects that supplement the studies and assessments. Health concerns and best practices in quality assurance, inspections, and labeling are reviewed. Students learn how dietary guidelines are made and how they change with the latest research. Students track their own food intake and dietary ratios and research ingredients, processing procedures, and safe handling practices to increase their consumer awareness of food products.

Advertising, marketing, product testing, and distribution of food products comprise a huge sector of food product systems and careers. The course prepares students for further research and work experience in these lucrative fields.

Objectives

- Apply the understanding of science and technology in the advanced production of food products and processing systems.
- Understand the difference between food safety, food security, and food quality.
- Analyze food production and environmental and sanitation policies and regulations related to food production and AFNR systems.
- Recognize consumer factors and the consumer's influence on the food products and the processing system in the development of food products.
- Understand the balance between local and global production of food products.
- Demonstrate an understanding of how natural resources and new sustainable production practices are influencing food products and the processing system.
- Understand how the food products and processing system complements other AFNR production systems.
- Analyze the changing industry structure and how the food production supply chain has evolved into its current state.

This is an introductory course in food products and processing systems. As such, there are no prerequisites for the student. An interest in the subject is expected. The projects require food journals, access to the pantry, trips to the produce market and grocery store, and interviews with professionals in the food industry, including dietitians and nutritionists.

Students will be reading nutritional panels on packed foods, measuring and weighing portion sizes, calculating sugar consumption, and researching ingredients in the projects as well. They must be able to research independently, "do the math" with a calculator or equivalent, take careful notes, and keep accurate notebooks and journals as part of the course.

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 1: WHAT IS THE FOOD PRODUCTS AND PROCESSING SYSTEM?

Assignment Titles

1. Course Overview
2. Food Processing and Preservation Through the Ages
3. Project: Take a Trip
4. Adding Value
5. Project: Making Chocolate
6. Sustainability and Interdependence
7. Quiz 1: Food Products and Processing
8. Supplying the Food Chain
9. Project: Field Trip to Local Produce Market
10. Ice Cream Processing and Farm to Fork
11. Project: How Peanut Butter Is Made
12. Global Food Production and a Growing World
13. Quiz 2: Farm to Fork and Local to Global Food Products and Processing Systems
14. Project: Special Project*
15. Test
16. Course Project Part 1: Making Your Favorite Food Better*
17. Glossary and Credits

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 2: CONSUMER-DRIVEN MARKETING AND FOOD PRODUCT DEVELOPMENT

Assignment Titles

1. Push and Pull Marketing
2. Project: Push Marketing Analysis with 10 Foods
3. Learning from Failure
4. Project: Failure to Launch
5. Consumer Food Trends and Marketing
6. Quiz 1: Consumer-Driven Food Marketing
7. From Commodity to Processed Food
8. Project: Processed Foods Made from Basic Commodities
9. Vertical Integration in Agriculture
10. Project: Deconstructing Processed Foods
11. A Food Product's Life Cycle and New Product Development
12. Quiz 2: Local and Global Product Development
13. Project: Special Project*
14. Test
15. Course Project Part 2: Bringing Your Food Product to Market*
16. Glossary and Credits

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 3: NUTRITION, FOOD CONSUMPTION, AND DIETARY TRENDS

Assignment Titles

1. FDA and Nutrition Labeling
2. Project: Keeping a Food Log for 24 Hours
3. Food Labeling and Dietary Guidelines
4. Project: Pizza Party by the Nutritional Numbers
5. Servings, Calories, and Nutrients
6. Quiz 1: Nutrition and Labeling Requirements
7. Overweight and Obesity Causes
8. Project: Monitoring Weight and Food Consumption in Your Family
9. Diet Changes and the MyPlate Dietary Guidelines
10. Project: Interview a Dietitian or Nutritionist
11. Advertising's Effect on Buying Choices
12. Quiz 2: Food Consumption and Dietary Trends
13. Project: Special Project*
14. Test
15. Course Project Part 3: Health Watch*
16. Glossary and Credits

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 4: AGRIBUSINESS MARKETING AND SALES

Assignment Titles

1. How Is My Food Processed?
2. Preserving Our Foods
3. Project: Investigating Ingredients in Food Products
4. Processed vs. Raw Foods
5. Project: Food Log for Whole and Processed Foods
6. Quiz 1: AFNR Marketing
7. Food Packaging History and Advancements
8. Advances in Food Technology
9. Project: The Next Big Thing in Food Technology
10. Genetically Modified Organisms in Food Production
11. Project: Food Log of GMOs in Your Diet
12. Quiz 2: Sales and AFNR Systems
13. Project: Special Project*
14. Test
15. Course Project Part 4: Think Globally*
16. Glossary and Credits

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 5: STANDARDS, REGULATIONS, AND SAFE FOOD PRODUCTION

Assignment Titles

1. Food Inspections and Foodborne Illness
2. Project: Who's Responsible for the Safety of Your Food?
3. USDA Inspections and Branding
4. Food Recall and Traceability
5. Project: Follow a Food Product Through a Recall
6. Quiz 1: Food Grading, Standards, and Inspections
7. Space Exploration: Its Earthly Impact on Food Safety
8. Project: Problem Spots Making a PB&J Sandwich
9. Hand Washing and Hygiene in Food Production
10. Project: Don Your Food Safety Inspector Hat at Home
11. Recall Management
12. Quiz 2: Food Safety Standards and Practices
13. Project: Special Project*
14. Test
15. Course Project Part 5: Food Safety and Quality Assurance with Your Food Product and Career*
16. Glossary and Credits

FOOD PRODUCTS AND PROCESSING SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Your Dream Career in Food Product and Processing Systems*
2. Course Review
3. Exam

(*) Indicates alternate assignment

Natural Resources Systems

Course Overview

People depend on natural resources. Regions, cultures, nations, and societies are shaped by how people use land, water, plants, and wildlife. The large and small ecosystems that make up the environment are complex. Each component of our ecosystem depends on another.

The purpose of this course is to provide students with an overview of the planet's natural resource systems. Students will explore and develop a basic understanding of how the systems relate to one another other. Students will consider the role people play in managing, using, protecting, and conserving natural resources. In addition, the course will provide information about many different careers that are available to students who are interested in natural resources and natural resource management.

Objectives

- Recognize the complex and multidisciplinary interrelationships of the natural resource system, including the relationship between humans and the environment.
- Summarize the challenges and issues facing our natural resource system.
- Construct ideas for addressing challenges and issues related to natural resource management and identify the different career paths related to natural resource management.
- Analyze and interpret basic environmental policy and discuss the role of government involvement in natural resources.
- Identify environmental stewardship practices and strategies for sustainable natural resource management.
- Develop the communication and critical thinking skills required for addressing complex environmental problems that have multiple perspectives and multiple vested interests.

Students should be familiar with general concepts about the environment. Students wishing to gain additional insight into many of the issues and challenges facing wildlife managers before beginning this course may benefit from reviewing the information provided by the U.S. Department of Agriculture at http://usda.gov/wps/portal/usda/usdahome?navid=CONSERVATION.

NATURAL RESOURCES SYSTEMS

UNIT 1: HUMANS AND NATURAL RESOURCES

Assignment Titles

1. Course Overview
2. A Brief History of Natural Resources
3. Do We Need Both Nonrenewable and Renewable Resources?
4. Project: Power Plant and Water Treatment Facilities in Your Community
5. The Science of Ecosystems
6. Project: Explore a Neighborhood Ecosystem
7 Quiz 1: Overview of Natural Resource Systems
8. The Environment as an Economic Resource
9. Project: Write Two Job Profiles in Natural Resource Systems
10. Market Failures
11. Project: My Everyday Externalities: Identifying Side Effects of Behavior
12. Approaches for Achieving a Balance Between the Economy and the Environment
13. Quiz 2: Managing Natural Resources
14. Project: Special Project*
15. Test
16. Course Project Part 1: History of Alternative Farming Method*
17. Glossary and Credits

NATURAL RESOURCES SYSTEMS

UNIT 2: FORESTS AND FOREST MANAGEMENT

Assignment Titles

1. What Is a Forest?
2. What's the Value of a Forest?
3. Project: My Earth
4. What's Happening to Forests?
5. Project: Forestry Ecology Program: Develop a Video Brochure
6. Quiz 1: Ecological Principles and Characteristics
7 Management of Forest Resources
8. Harvesting Forests and Approaches to Addressing Deforestation
9. Project: Help End Deforestation: A Brochure
10. Becoming a Part of the Management of Forests
11. Project: Career Day: Design a Poster
12. Quiz 2: Management Practices
13. Project: Special Project*
14. Test
15. Course Project Part 2: Summarizing Case Studies of Selected Method*
16. Glossary and Credits

NATURAL RESOURCES SYSTEMS

UNIT 3: WATER RESOURCES AND FISHERIES

Assignment Titles

1. Water Resources
2. Project: Sources of Fish: A Survey
3. Addressing Our Water Issues
4. Management of Water Resources
5. Project: Water Pollution: Explore Your Neighborhood
6. Quiz 1: Water Resources and Management
7. Fish as a Renewable Exhaustible Resource
8. Challenges and Issues with Fisheries
9. Project: A Presentation for a Town Hall Meeting
10. The Aquaculture Industry and Careers in Fisheries
11. Project: Aquaculture or Fisheries Career Profile
12. Quiz 2: Fisheries and Fisheries Management
13. Project: Special Project*
14. Test
15. Course Project Part 3: Modeling the Agricultural Method for a City*
16. Glossary and Credits

NATURAL RESOURCES SYSTEMS

UNIT 4: LAND, RANGELAND, AND WILDLIFE MANAGEMENT

Assignment Titles

1. Land Uses, Cover, and Changes
2. Rangelands and Croplands
3. Project: A Portfolio of What's on Your Plate
4. Sustainable Land Management
5. Project: Geo Map Your Neighborhood
6. Quiz 1: Lands and Rangelands
7. The Value of Species: Biodiversity and Extinction
8. Management of Species and Wildlife
9. Project: Map of Endangered Species
10. Following a Career Path Related to Wildlife
11. Project: Career Day: Design a Poster
12. Quiz 2: Wildlife Resources
13. Project: Special Project*
14. Test
15. Course Project Part 4: Solving Environmental Issues with This Method*
16. Glossary and Credits

NATURAL RESOURCES SYSTEMS

UNIT 5: THE ENVIRONMENT, ECONOMICS, SOCIETY, AND THE FUTURE

Assignment Titles

1. Balancing Economic Growth and Environmental Protection
2. Natural Resources and GDP
3. Project: GDP Around the World Poster
4. Natural Resources in Developed and Developing Countries
5. Project: LDC Special Report
6. Quiz 1: Global Resources, Global Challenges
7. Perspectives on the Future of Natural Resources
8. Ways to Make an Impact Today
9. Project: Mini-Documentary on Environmental Contests
10. Careers for Sustainable Solutions
11. Project: Sustainability Careers
12. Quiz 2: Green Behavior and Making a Positive Impact
13. Project: Special Project*
14. Test
15. Course Project Part 5: Identifying Resources*
16. Glossary and Credits

NATURAL RESOURCES SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Finalize Your Proposal*
2. Course Review
3. Exam

(*) Indicates alternate assignment

Plant Systems

Course Overview

Plant Systems is a semester-length high school elective that introduces students to the basics of plant biology, soil science, agriculture, and horticulture, along with the environmental management practices involved in each, including integrated pest management, biotechnology, growth techniques, and crop management. Students will learn the basic parts of a plant, how plants are scientifically classified, and how they interact with water, air, nutrients, and light to undergo the processes of photosynthesis and respiration. Plant reproduction, including pollination, germination, and dispersal of seeds, is also presented.

Objectives

- Explain the elements of both plant science and plant systems.
- Discuss current research in plant systems and in the growing of plants.
- Compare the different kinds of crops crucial to North American agriculture in terms of both purpose and biology.
- Implement an agricultural plan using the conservation methods of multiple cropping and integrated pest management.
- Understand the various ways plants grow from their roots and stems.
- Understand the difference between genetic engineering and cross-breeding.
- Explain the advantages and disadvantages of GMOs.
- Describe some current threats to agriculture that are not addressed by current precision technology.
- Describe the importance of high-yield farming in the 21st century.
- Compare the similarities and differences between sustainable agriculture, sustainable crop intensification, and conservation agriculture.
- Perform self-guided career planning using online resources.

PLANT SYSTEMS

UNIT 1: WHAT IS PLANT SCIENCE?

Assignment Titles

1. Course Overview
2. What Is Plant Science?
3. Project: Investigating Careers in the Plant Sciences
4. The Scientific Classification of Plants
5. Project: Understanding Phyla
6. Plant and Seed Identification
7. Quiz 1: Introduction
8. Soil Types
9. Project: Determining Soil Types
10. Soil Nutrient Management
11. Conservation Practices
12. Project: Putting Your State Soil into Practice
13. Quiz 2: Soil
14. Project: Special Project*
15. Test
16. Course Project Part 1: The CSA Concept: Interview a Farmer*
17. Glossary and Credits

PLANT SYSTEMS

UNIT 2: PLANT STRUCTURE AND FUNCTION

Assignment Titles

1. Plant Anatomy
2. Project: Illustrating the Features of Flowers
3. Seeds
4. Pollination and Plant Reproduction
5. Project: Pollination and Colony Collapse Disorder
6. Quiz 1: Plant Anatomy
7. Photosynthesis
8. Project: The Effects of Light on Plant Growth
9. Respiration
10. Biotechnology and Agriculture in Society
11. Project: Investigating Golden Rice
12. Quiz 2: Plant Physiology
13. Project: Special Project*
14. Test
15. Course Project Part 2: Develop a Farm Map*
16. Glossary and Credits

PLANT SYSTEMS

UNIT 3: CROP MANAGEMENT

Assignment Titles

1. Growing Climates of the United States
2. Yield Calculations and Pest Identification
3. Project: Integrated Pest Management for a Model Crop
4. Agricultural Technology
5. Project: Precision Agriculture in Your State: A Web Page Summary for the Chamber of Commerce
6. Quiz 1: Precision Agriculture
7. Crop Management and Pesticides
8. Project: Interview a Farmer about Crop Nutrient Management Plans
9. Yield Calculations
10. Crop Management and Stewardship of Natural Resources
11. Project: Sustainable Agriculture in Your State: A Research Study Profile
12. Quiz 2: Crop Management Plans
13. Project: Special Project*
14. Test
15. Course Project Part 3: Create a Crop Plan*
16. Glossary and Credits

PLANT SYSTEMS

UNIT 4: SPECIALTY CROPS

Assignment Titles

1. Greenhouses and Production Methods
2. Project: The Greenhouse Effect
3. Greenhouse Growth Techniques
4. Greenhouse Retail Products
5. Project: Schedule for a Bedding Plant-Mum-Poinsettia Greenhouse Operation
6. Quiz 1: Greenhouses
7. Orchards
8. Landscape Design
9. Project: Design Principles of Famous Gardens
10. Turfgrass
11. Project: Water Management for Golf Courses
12. Quiz 2: Landscape and Orchards
13. Project: Special Project*
14. Test
15. Course Project Part 4: Outline an Integrated Pest Management Plan*
16. Glossary and Credits

PLANT SYSTEMS

UNIT 5: PLANT SCIENCE CAREERS

Assignment Titles

1. Careers in Agronomy
2. Careers in Horticulture
3. Project: Interview a Master Gardener
4. Careers in Landscape Design
5. Project: Investigating Landscape Urbanism
6. Quiz 1: Training and Career Areas
7. Plant Science Employers
8. Project: Conducting a Job Shadow
9. Agricultural Economics
10. Agricultural Economics
11. Project: Agronomics: Studies from the Economic Research Service
12. Plant Science Career Outlooks
13. Quiz 2: Employers and Economics
14. Project: Special Project*
15. Test
16. Course Project Part 5: Create a Nutrient Management Plan*
17. Glossary and Credits

PLANT SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Create Your Website *
2. Course Review
3. Exam

(*) Indicates alternate assignment

Power, Structural, and Technical Systems

Course Overview

Power, Structural, and Technical Systems provides students with an understanding of the field of agriculture power and will introduce them to concepts associated with producing the food and fiber required to meet today's and tomorrow's needs. This understanding gives students the opportunity to explore agriculture machinery, as well as structures and technological concepts.

Students will understand the historical changes in agriculture and how agriculture has changed to meet the needs of the future world population. Students will be introduced to machinery, structures, biotechnology, and ethical and professional standards applicable to agriculture power.

Students will understand the technological innovations that have contributed to changing the face of agriculture. Computers and other technological tools have given farmers the ability to utilize precision agriculture. Students will gain an understanding of the professional career opportunities and responsibilities of growers across the country. Additionally, students can learn about some of the resources available to professionals in the agriculture industry.

Objectives

- Understand the field of agriculture power, structure and technology and the role that agriculture, food, and natural resources (AFNR) play in society and world economy.
- Understand the interaction among ANFR systems in the production, processing, and management of food, fiber, and fuel, along with sustainable use and stewardship of natural resources.
- Describe career opportunities and the means to achieve those positions.
- Analyze how issues, trends, technologies, and public policies impact systems in the Agriculture, Food, and Natural Resources Career Cluster.
- Summarize the importance of health, safety, and environmental management systems in AFNR organizations.

For topics in this course it is helpful for students to be familiar with general concepts of the world of agriculture, as well as the fundamentals of conducting research on websites. Students should be able to evaluate sources on the Web for validity. For some topics, students should be able to research the local community to locate specific businesses involved in mechanical repair.

If students are not acquainted with these topics, it is recommended that they familiarize themselves with methods of Web research, including evaluation of websites.

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 1: IMPORTANCE OF POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

Assignment Titles

1. Course Overview
2. Investigating Power, Structural, and Technical Systems Present in Agricultural Systems
3. Project: Agriculture through the Ages
4. Understanding Skills Needed for Professionals in the Power, Structural, and Technical Systems
5. Scientific Principles Associated with Agricultural Power, Structural, and Technical Systems
6. Project: Organic, No-Till, and Conventional Tillage in Farming
7. Quiz 1: Introduction
8. Identification of Tools and Equipment Used in Power, Structural, and Technical Systems
9. Project: Design Your Toolbox
10. Measuring and Layout of Projects
11. Safety and Associated Practices in Power, Structural, and Mechanical Systems
12. Project: Farm Safety Rules
13. Quiz 2: Equipment and Skills in Power, Structural, and Technical Systems
14. Project: Special Project*
15. Test
16. Course Project Part 1: Developing a Productive Farm*
17. Glossary and Credits

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 2: OPERATION AND MAINTENANCE OF EQUIPMENT AND POWER SYSTEMS

Assignment Titles

1. Importance of Maintenance in Power Equipment
2. Project: Visit a Mechanic
3. Principles of Operation in Engines and Motors
4. Project: Dust Bowl Argument
5. Tractor Safety and Maintenance
6. Quiz 1: Operation and Equipment of Power Systems
7. Importance of Maintenance in Small Power Equipment
8. Project: Visit a Shop for Job-Shadowing
9. Transmitting Power and Energy Produced into Usable Outputs
10. Project: Job-shadowing in a Large-Engine Repair Shop
11. Understanding Regulations of Materials and Safe Handling
12. Quiz 2: Operation and Equipment of Power Systems
13. Project: Special Project*
14. Test
15. Course Project Part 2: Developing Safety Policies and Procedures*
16. Glossary and Credits

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 3: SOURCES OF POWER AND ENGINES AND EQUIPMENT EFFICIENCY AND POWERTRAIN

Assignment Titles

1. Selecting Power Sources
2. Project: Greenhouse Gases Project
3. Evaluating Resources
4. Theory of How Power Is Produced by Engines and Motors
5. Project: Interview an Engine Repair Person
6. Quiz 1: Repairing Equipment and Power Systems
7. Transferring Power to Work
8. Identifying Power Transmissions and How They Work
9. Project: How Gears Work
10. Evaluation of Engine Power and Efficiency
11. Project: Purchasing a New Tractor
12. Quiz 2: Transferring Power and Efficiency
13. Project: Special Project*
14. Test
15. Course Project Part 3: Selection of Power Equipment*
16. Glossary and Credits

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 4: DESIGNING, CONSTRUCTING, AND MAINTAINING STRUCTURAL SYSTEMS

Assignment Titles

1. Designing Structures for Different Uses
2. Project: Comparison Shopping for Tools
3. Designing Structures for Different Animals and Uses
4. Basic Construction Techniques and Evaluating Structural Systems
5. Project: Internship with a Shed Company
6. Quiz 1: Designing and Planning Structures
7. Using Construction Equipment
8. Project: Construction Job Research
9. Safety Practices Associated with Construction Equipment
10. Common Structural Techniques Used to Design and Build Greenhouses
11. Project: Purchase a Greenhouse
12. Quiz 2: Construction and Maintenance of Structures
13. Project: Special Project*
14. Test
15. Course Project Part 4: A Modern Barn-Raising*
16. Glossary and Credits

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 5: IMPACT AND USE OF TECHNOLOGIES IN POWER AND STRUCTURAL SYSTEMS

Assignment Titles

1. Computers and Their Role in Agricultural Power, Structural, and Technical Systems
2. Data Management and Use in Agricultural Production
3. Project: Summary of Growing Conditions
4. Evaluating Technical Systems
5. Project: Fantasy Farm Spreadsheet
6. Quiz 1: Control and Monitoring Systems
7. Advanced Technology in Agricultural Power and Production Systems
8. Project: Design a New Plant
9. Biotechnology Impact in Agricultural Power and Production Systems
10. Project: Agriculture of the Future
11. Precision Technology Use in Power and Technical Systems
12. Quiz 2: Advanced Technologies
13. Project: Special Project*
14. Test
15. Course Project Part 5: Selecting High Technology Tools and Systems*
16. Glossary and Credits

POWER, STRUCTURAL, AND TECHNICAL SYSTEMS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Fitting the Systems Together—Farm Planning*
2. Course Review
3. Exam

(*) Indicates alternate assignment

ARCHITECTURE & CONSTRUCTION

Introduction to Careers in Architecture and Construction

Course Overview

The goal of this course is to provide students with an overview of careers in Architecture and Construction in order to assist with informed career decisions. This dynamic, rapidly evolving career cluster is comprised of three pathways (fields): Design and Pre-Construction (Architecture and Engineering); Construction (Construction and Extraction); and Maintenance and Operations (Installation, Maintenance, and Repair). The Architecture and Construction career cluster is defined as careers in building, designing, managing, maintaining, and planning the built environment.

The built environment is not limited to buildings and structures—or to urban environments. A much broader view of the built environment helps students gain a better and more holistic understanding of the impact of the Architecture and Construction industries. The built environment encompasses all zones of human activity—from natural conservation areas with minimal human intervention to highly dense areas with tall skyscrapers and intricate highway systems to suburban cul-de-sacs. The interrelated components that make up the built environment are as varied and unique as the professionals who help shape it.

Objectives

- Differentiate each Pathway within the Career Cluster and describe the careers in each pathway
- Locate and evaluate career information in order to make an informed decision about career goals
- Identify skills, abilities, and talents needed for careers in Architecture and Construction and analyze how these relate to interest profiles
- Describe and characterize key technical and creative requisites for each educational path that fits the student's primary area (or areas) of interest
- Analyze the impact of the "green economy" on careers in Architecture and Construction.
- Research and predict the growth of industries that comprise the Career Cluster; analyze the ways that technology, innovation, and creative thinking have impacted these industries
- Describe and differentiate key attributes of careers
- Argue how Architecture and Construction careers may change as the economy grows or shrinks
- Evaluate the impact and importance of the regulation of Architecture and Construction in the following areas: planning and zoning, environmental regulations, OSHA regulations, building codes, and regulations ensuring equal access such as the Americans with Disabilities Act (ADA)

This is an introductory course in careers in architecture and construction. As such, there are no prerequisites other than interest in the subject for the student. Students will need online access in order to locate the research materials they will need to review. Some course projects also require online research. Microsoft Office software or the equivalent is required since the student will create presentations using PowerPoint.

Certain projects suggest some minimal physical field work, but virtual alternatives are available should students lack access to the suggested physical sites.

Communications skills, personal skills in recall and observation, experience assessment, and self-analysis are part of certain projects. Some projects direct students to interact with others to some extent; this should be within reach for any student.

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 1: INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

Assignment Titles

1. Course Overview
2. Design and Pre-Construction: The Field at a Glance
3. Project: Exploring Nonprofit Construction
4. Construction Site Management
5. Project: Analyze a Local Construction Project
6. Maintenance and Operations
7. Quiz 1: Pathways: The Built Environment as an Interrelated System
8. Department of Labor O*NET Career Tools
9. Project: Maker Essay
10. Job Zones and Resources
11. Project: Learning to Teach Others About What You Know
12. The Bigger Picture: The Role of Architecture and Construction in the US Economy
13. Quiz 2: How You Can Shape the Built Environment
14. Project: Special Project*
15. Test
16. Course Project Part 1: Architecture and Construction: Industry and Careers in Focus*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 2: BUILDING THE FUTURE: THE ART AND SCIENCE OF BUILDINGS

Assignment Titles

1. The Architect and Engineer
2. Project: Visualization for Architects and Engineers
3. Education for Licensed Professions: Architects and Engineers
4. The Design-Build Revolution
5. Project: Design Professionals Doing Humanitarian Work
6. Quiz 1: The Architect and the Engineer
7. Residential Construction
8. Project: New Directions in Residential Construction
9. Commercial Construction
10. The Role of Innovation in the Built Environment
11. Project: Materials
12. Quiz 2: The Evolution of Buildings
13. Project: Special Project*
14. Test
15. Course Project Part 2: Understanding LEED Certification and Green Building: Preparing Your Building for LEED Certification*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 3: GREEN JOBS IN ARCHITECTURE AND CONSTRUCTION

Assignment Titles

1. Green Building
2. Regulation and Assessment of Green Building
3. Project: Find a LEED Certified Building and Analyze It
4. Research and Development and its Impact on Green Building and Construction
5. Project: Home Energy Audit Assignment
6. Quiz 1: The Green Economy
7. Green Economy
8. Green Jobs
9. Project: Preparing Your Own Emergency Kit
10. Green Certification and Green Skills
11. Project: Design a New School Locker
12. Quiz 2: Green Jobs
13. Project: Special Project
14. Test
15. Course Project Part 3: Courses of Study for Architecture and Construction Careers
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 4: THE ARTS AND THE BUILT ENVIRONMENT: JOBS FOR CREATIVES

Assignment Titles

1. Pre-Construction and Design Specialists
2. Project: Landscape Architecture in Large-Scale Action Essay
3. Interdisciplinary Work Within Specializations
4. Project: Drawing and Geometry: Sketching Exercise
5. The Role of Art, History, and Research in Design
6. Quiz 1: Pre-Construction and Design Specialists
7. Historical Research and Preservation in Architecture and Construction
8. Project: National Register of Historic Places Project
9. The Trades: The Almost-Lost Arts of Master Craftsmen
10. Project: Master Craftsmen Resources
11. The Future of the Past
12. Quiz 2: History and Tradition of the Building Arts
13. Project: Special Project*
14. Test
15 Course Project Part 4: Sustainable Development Presentation*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 5: BUILDING THE CITY

Assignment Titles

1. Planning
2. Project: Future City Design
3. Zoning
4. Project: Retrofitting Urban Sprawl Assignment
5. Overview of Prevailing Planning Trends
6. Quiz 1: Planning
7. Evolution of Civil Engineering
8. Project: Tinkercad 3D Modeling Assignment
9. Environmental and Civil Engineering
10. Project: The Well-Photographed Bridge Assignment
11. The Need for Resilient Infrastructure
12. Quiz 2: Civil Engineering
13. Project: Special Project*
14. Test
15. Course Project Part 5:Computer-Aided Design and You*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Now That You Know: Where Do You See Yourself in the Architecture and Construction Career Cluster?*
2. Review
3. Exam

(*) Indicates alternate assignment

Construction Careers

Course Overview

This course in Construction Technology introduces students to the basics of construction, building systems, engineering principles, urban planning, and sustainability. Students will learn the key techniques in building all types of buildings, as well as the key individuals involved in each step of the process. Many lessons present information on green building techniques and concepts that are becoming a standard part of the construction industry. Safety practices are emphasized in several lessons because construction is one of the most dangerous industries; students will learn that there is no way to be successful in construction without taking such issues seriously. Toward this end, the lessons also explore regulatory agencies and guidelines established for the purpose of protecting not only construction workers but also the occupants of a building.

The evolution of building types and materials informs a discussion on modern techniques and materials, as the technology developed through the field of building science makes advances allowing buildings to be more efficient, more comfortable, and more impervious to natural disasters. We consider traditional and sustainable building materials, which are sometimes one and the same. This includes lumber, masonry, glass, steel, tar, and asphalt. Concrete deserves special mention as the world's most common building material and its importance in a building's foundation. In terms of engineering concepts, we study how buildings and structures handle forces of compression, tension, and shear. Building processes include shell and core construction, curtain walls, heavy timber frame construction, light frame construction, different types of foundations, and different truss systems for roofs.

Highlighted careers include hands-on construction positions such as carpenter, ironworker, mason, and plumber, but also those involved in the design of a building, such as architects and engineers, and those involved in the regulatory aspects of the built environment, including urban planners and building inspectors. Toward that end, the development and adoption of model building codes are discussed, along with the work of the Occupational Safety and Health Administration (OSHA), which is the primary regulatory agency devoted to workplace safety. Mechanical engineers, civil engineers, historical preservationists, developers, and general contractors are some of the other professionals that influence the design and construction of buildings.

To better understand how a building impacts the environment, we study the formal process of life-cycle assessment, which considers how resources are created, maintained, used, and disposed of throughout the life of a building. The cradle-to-grave process of a building is discussed. How a foundation is laid, then how shell and core construction works, then the installation of systems—HVAC, electric, plumbing—including a roof, curtain walls, and cladding. We discuss how buildings are designed for efficient operation for the bulk of their life cycle, and finally how they are demolished. We discuss how a proper building envelope functions and how different cladding systems help prevent thermal transfer while allowing a building to breathe.

Urban planning and land use are increasingly part of the dialogue in which builders, developers, and construction workers are engaged. Every building is bound by zoning ordinances and building codes, which is an element all construction workers must understand in order to have sufficient insight into their jobs.

Two specialty construction fields that are becoming increasingly mainstream are green construction and historical preservation, driven by the U.S. Green Building Council's LEED rating system and the National Historical Preservation Act, respectively. We discuss the rise of green building systems, including solar roofs, green roofs, and gray-water systems, and the processes integral to historical preservation, which include lead and asbestos abatement, renovation, and adaptive reuse. These are growth areas for those interested in construction, and each offers individuals many options for specialization in cutting-edge techniques or in historical preservation techniques, both of which are highly valued in today's construction climate.

Objectives

- Describe the career opportunities available in construction and construction technology and the educational path for each profession or trade.
- Chart how a construction project proceeds from beginning to end, naming the stakeholders and workers necessary at each stage of the process.
- Explain the concept of life-cycle assessment and its role in sustainable construction.

- Compare the different techniques and materials involved in building a residence with those involved in building a commercial structure or civil engineering project.
- Evaluate and explain various laws, regulations, and professions designed to make construction sites safe for workers and buildings safe for their inhabitants.
- Summarize shell and core construction, beginning with an explanation of various types of foundations and by examining wood-frame construction versus steel-frame construction.
- Explain how a building functions as a system by describing the purpose of a building's envelope, roof, and cladding materials.
- Identify trends in sustainable construction, urban planning, and historical preservation.

This class has no prerequisites, but students should be interested in the built environment and skilled jobs that are very hands-on. Experience conducting online research is a plus, and having access to a digital camera of some sort is important for completing several of the lesson projects. Students will need a computer and reliable access to the Internet, as well as a dedicated notebook for use as a journal.

A couple of projects involve going out into the community and conducting interviews. Thus, good communication skills and a sense of professionalism are a plus. Knowledge of or experience with power tools, carpentry, or any skilled trades is useful but not necessary.

CONSTRUCTION CAREERS

UNIT 1: INTRODUCTION TO CAREERS IN CONSTRUCTION TECHNOLOGY

Assignment Titles

1. Course Overview
2. Construction Technology: Past, Present, and Future
3. Project: Site View, Elevation View, and Plan View of Your House
4. The Civil Engineer: Construction, Function, and Assessment
5. Project: Be a Structural Engineer
6. Contractors, Managers, and Foremen: Coordinating a Building Project
7. Quiz 1: From Plans to Permanence: How Buildings Get Made
8. Excavators, Masons, and Ironworkers
9. Plumbers, Electricians, and HVAC Professionals
10. Project: Create a Fact Sheet on Plumbing Tip: How to Fix a Running Toilet
11. Carpenters, Glaziers, and Other Tradespeople
12. Project: Using Carpentry Skills to Create a Corrugated Cardboard Shadow Box
13. Quiz 2: Building Systems and the Evolution of the Trades
14. Project: Special Project*
15. Test
16. Course Project Part 1:Design and Build Your Dream House*
17. Glossary and Credits

CONSTRUCTION CAREERS

UNIT 2: BUILDING LIFE-CYCLE ASSESSMENT AND REGULATION

Assignment Titles

1. Life-Cycle Assessment: Materials Manufacturing
2. Project: Analyze a Life-Cycle Assessment Case Study
3. Life-Cycle Assessment and Construction Methods
4. Life-Cycle Assessment: Demolition
5. Project: Construction and Demolition Materials in Single-Family Homes: Analyze an EPA Report
6. Quiz 1: Life-Cycle Assessment: from Cradle to Grave
7. Job-Site Safety and OSHA
8. Building Codes and Inspection
9. Project: Interview a Building Inspector
10. Urban Planning and Zoning
11. Project: Plan Your Own Town
12. Quiz 2: Building Codes and Regulation
13. Project: Special Project*
14. Test
15. Course Project Part 2:Your Dream House: Site Plan and Foundation*
16. Glossary and Credits

CONSTRUCTION CAREERS

UNIT 3: BUILDING MATERIALS AND METHODS OF CONSTRUCTION 1

Assignment Titles

1. Shell and Core Construction: Foundations
2. Project: Foundation Investigation: What's Beneath These World Landmarks
3. Shell and Core Construction: Concrete and Masonry
4. Project: How to Build a Concrete-Framed Building
5. Steel-Frame Construction
6. Quiz 1: Foundations and Shell and Core Construction
7. Heavy Timber-Frame Construction
8. Project: Joinery with Soap and Foam Board
9. Light-Frame Construction
10. The Business of Building
11. Project: Seattle's SR 99: The Alaskan Way Viaduct Replacement Tunnel
12. Quiz 2: Heavy- and Light-Frame Construction
13. Project: Special Project*
14. Test
15. Course Project Part 3:Your Dream House and Sustainable Design: Materials*
16. Glossary and Credits

CONSTRUCTION CAREERS

UNIT 4: BUILDING MATERIALS AND METHODS OF CONSTRUCTION 2

Assignment Titles

1. Roof Structures and Styles
2. Roofing Trusses and Materials
3. Project: The Triangle vs. The Rectangle
4. Green Roofs and Solar Roofs
5. Project: Exploring Cool Roofs
6. Quiz 1: The Roof: Engineering Principles and Materials
7. The Building Envelope
8. Types of Building Cladding
9. Project: Do-It-Yourself Cladding
10. Building Science
11. Project: Hurricane Sandy and Building Science
12. Quiz 2: The Envelope and External Finishes
13. Project: Special Project*
14. Test
15. Course Project Part 4: Your Dream House and Sustainable Design: Components of Green Building*
16. Glossary and Credits

CONSTRUCTION CAREERS

UNIT 5: GREEN TECHNOLOGY, SUSTAINABILITY, AND PRESERVATION

Assignment Titles

1. Sustainable Construction and Green Construction Codes
2. Project: Sustainable Shelter: The FEMA Trailer vs. the Katrina Cottage
3. Green and Not-So-Green Building Materials
4. Green Construction Jobs
5. Project: Interview a Green Builder
6. Quiz 1: Green Construction Technology
7. Historic Preservation
8. Adaptive Reuse
9. Project: Adaptive Reuse in Your Community
10. Preservation Trades Education and Safety
11. Project: Finding Work in the Field of Historic Preservation
12. Quiz 2: Historical Preservation and Construction
13. Project: Special Project*
14. Test
15. Course Project Part 5: Schedule Your Dream Home Build*
16. Glossary and Credits

CONSTRUCTION CAREERS

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Your Dream House: Putting It All Together*
2. Review
3. Exam

(*) Indicates alternate assignment

ARTS, A/V TECHNOLOGY & COMMUNICATIONS

Introduction to Careers in Arts, A/V Technology, and Communications

Course Overview

This introductory course provides comprehensive information on five separate areas of arts and communications as potential educational and career pathways. Students who are interested in careers across a broad spectrum of professional positions, including fine artist, telecommunications administrator, magazine editor, broadcast journalist, or computer graphics artist, will gain useful perspective on industry terminology, technology, work environment, job outlook, and guiding principles.

Each of the five course units covers a specific area in its two chapters. Unit One focuses on audiovisual (A/V) technology in film, the arts, and businesses such as advertising. Students learn about job opportunities in a variety of settings, and the training programs, degrees and experience they may need to qualify for them. Unit Two covers the performing arts, including careers both on and offstage. Unit Three examines the exciting field of visual arts in depth, with discussions of artistic design principles, animation design, the work and training of multimedia artists, and developments in the burgeoning field of special effects and animation in studios worldwide. Unit Four enters the world of printing technology and print publishing, including digital media. Students study technological evolution and advancements in printing since the invention of paper. A timeline of predominantly US journalism gives students a glimpse into magazine editing, digital printing technology, broadcast journalism, and the legal and ethical issues of news reporting today. Finally, in Unit Five, the telecommunications industry is examined, as students learn more about careers in networking, phone technology, and communications, and the training or certification needed for various specific positions.

Objectives

- Analyze the impact of the news media on society.
- Discuss the job responsibilities of various careers within the performing arts.
- Analyze the principles of animation and how and why imagery moves on the screen.
- Describe various A/V technology careers and their job requirements.
- Analyze various careers in printing technology, including educational and training requirements.
- Argue how art history influences modern visual arts.
- Outline the principles of design and assess their influence in all aspects of the visual arts.
- Demonstrate technical skills and the use of various equipment and tools used in audio/video production.
- Demonstrate the importance of mastering software tools used in digital art.
- Describe how art directors differ from fine artists.
- Describe key positions in film production and explain the duties and responsibilities of each position.
- Evaluate the influence of digital technology on the work of visual artists.
- Evaluate the economic outlook of careers in A/V technology and film.
- Examine the career opportunities and requirements in performing arts.
- Examine the educational requirements of various careers in A/V technology in film.
- Examine the interdependent relationship between editorial and technical elements in the news media.
- Explain skills needed to operate equipment and tools used in technical positions.
- Explain the dynamics of art created by collaborative teams compared to that of an individual multimedia artist.
- Explore career pathways in the production and distribution of media.
- Identify careers in fine arts and how to supplement income with artistic skills.
- Summarize the effects of technological advances on the news media and the communications industry.
- Summarize features of transmission lines and network connectivity.

As this course targets students interested in potential careers in the arts, some artistic ability or experience is assumed for those specific career pathways. However, there are many technical and writing careers examined and presented in this course as well, so the course offers a wealth of information for all students interested in working in arts management, in printing publishing, in news, in communications fields such as advertising, marketing, or sales, and in telecommunications.

Most of the careers and professional fields outlined in this course stress the need to understand terminology, the roles of others, and the importance of working as a team. Students need to consider interpersonal skills, and should be able to discuss or consider workplace issues including ethical and legal responsibilities when working with others. Combining training and work experience during post-secondary education is a winning pathway in many of the careers evaluated. The course explores viable options and gives students opportunities to research specifics for their own plans.

Students need an aptitude for independent research, creative and critical thinking skills, and the ability to understand technical vocabulary and procedures at a foundational level, as they are presented in the lessons.

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 1: AUDIO/VIDEO TECHNOLOGY AND FILM

Assignment Titles

1. Course Overview
2. A/V Technology - Through the Years
3. Project: A Moment in Film or Audio History
4. A/V Technology at Work
5. Project: Research Careers in Your Dream Field
6. A/V Technology - Careers and Education
7. Quiz 1: Careers in Audio/Video Technology
8. Careers in Film: Development and Pre-Production
9. Project: Screenwriting 101
10. Careers in Film: The Production Phase
11. Careers in Film: Post-Production
12. Project: Filmmaking: Then and Now
13. Quiz 2: Careers in A/V Technology in Film
14. Project: Special Project*
15. Test
16. Course Project Part 1: A/V Tech and You*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 2: PERFORMING ARTS

Assignment Titles

1. Performing Arts in the Past
2. Performing Arts in the Present
3. Project: Creative Fundraising Online
4. Overview of Production Managers in the Performing Arts
5. Project: Academic Programs in Production Management
6. Quiz 1: Overview of Performing Arts
7. Playwrights, Screenwriters and Directors
8. Actors, Dancers and Musicians
9. Project: Actors' Career Pathways
10. Designers: Set, Costume, Lighting and Sound
11. Project: Set and Clothing Design Styles: 1970s and Today
12. Quiz 2: Careers in A/V Technology in Film
13. Project: Special Project*
14. Test
15. Course Project Part 2: Your Pathway to Performing Arts*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 3: VISUAL ARTS

Assignment Titles

1. Principles of Design and Motion in Visual Arts
2. Project: Analyze a Work of Art
3. The Art Director
4. Project: And the Art Direction Award Goes to...
5. Being a Fine Artist
6. Quiz 1: Foundations of Visual Arts through Art Direction and Fine Arts
7. Multimedia Artists in the Workplace
8. Project: Your Dream Job as a Multimedia Artist
9. Keeping Up with Technology
10. Project: The Latest Thing in Digital Art Technology
11. Working Alone, in Collaboration, and in Teams
12. Quiz 2: Multimedia and the Emergence of Digital Art
13. Project: Special Project*
14. Test
15 Course Project Part 3: Are You an Artist?*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 4: PRINTING TECHNOLOGY, JOURNALISM, AND BROADCASTING

Assignment Titles

1. Printing Technology Through the Years
2. Project: Printing with an Old Technology
3. Digital Technology at Work
4. Project: Digital Print Project
5. Printing Technology: Careers and Education
6. Quiz 1: Introduction to Careers in Printing Technology
7. Journalism in the 20th Century
8. Project: A Major Moment in Journalism
9. Editing in the Media
10. Journalism and Broadcast Careers
11. Project: Reporter, News Anchor, or Technician?
12. Quiz 2: Introduction to Journalism and Broadcasting
13. Project: Special Project*
14. Test
15 Course Project Part 4: Your Career in the Printing or News Industry*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 5: TELECOMMUNICATIONS SYSTEMS

Assignment Titles

1. Regulations in the Telecommunications Industry
2. Project: Web Security Now and in the Future
3. Telecommunications Timeline from Telephone to Videoconference
4. Telecommunications Transmission Methods
5. Project: Explain the Cloud to Your Mom
6. Quiz 1: Overview of Telecommunications Systems
7. The Changing Nature of Telecommunications Technology
8. Project: Future Telecom Trends
9. Telecommunication Careers
10. Project: Choose a Work Environment, Find a Job
11. Training and Certification in Telecommunications Careers
12. Quiz 2: Overview of Careers in Telecommunications
13. Project: Special Project*
14. Test
15. Course Project Part 5: Telecommute to Your Dream Job!*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Describing Plans for Exhibition or Distribution*
2. Review
3. Exam

(*) Indicates alternate assignment

A/V Technology and Film Careers

Course Overview

This course discusses careers in audio/visual (AV) technology and film, and provides students with background about the required skills, education, equipment, and technology in this industry. Students will understand the collaborative team effort of many different professionals who make films, videos, audio, and TV programming. The course begins with an introduction to the history and development of AV technology and film, with subsequent units focusing on specific sectors of the industry and the stages for producing film and media. The concluding unit focuses on the finishing stages for exhibition, distribution, and reaching a market. In addition, the course will provide information about many different careers that are available to students who are interested in AV technology and film.

Objectives

- apply understanding of the technical and artistic elements of various careers
- analyze the importance of health, safety and environmental management systems, policies, and procedures common in arts, AV technology, and communications activities and facilities
- analyze the lifestyle implications and physical demands required in the arts, AV technology, and communications workplace
- evaluate the legal and ethical responsibilities required in the arts, AV technology, and communications workplace
- describe the career opportunities and means to achieve those opportunities in each of the arts, AV technology, and communications pathways.
- evaluate technological advancements and tools that are essential to occupations within the arts, AV technology, and communications career cluster.
- analyze the technical, artistic, critical thinking, and creative skills that are required to have successful careers in a competitive arts and communications environment

For topics in this course, it is helpful to students to be familiar with general concepts about the entertainment, broadcast, and information technology industries, as well as the basic skills for conducting research on websites.

If students are not familiar with these topics, it is important for them to familiarize themselves with online resources for audio, film, and technology concepts by visiting such sites as aes.org, or aicp.com. These websites will provide an introduction to audio production and filmmaking.

A/V TECHNOLOGY AND FILM CAREERS

UNIT 1: THE HISTORY AND PRACTICES OF A/VTECHNOLOGY AND FILM

Assignment Titles

1. Course Overview
2. The History of Sound and Film
3. The Development of the A/V Industries and Emergence of Corporations
4. Project: Mini-Documentary on a Hollywood Studio
5. Technological Advances in Film and Sound into Modern Era
6. Project: Diagramming a Piece of Film
7. Quiz 1: The History and Development of AV Technology and Film
8. Basic Tools, Techniques, and Equipment for Production
9. Basic Techniques for Synchronizing Audio and Video
10. Project: Design a Multimedia Website for a Film Museum
11. Policy and Regulations in Film, TV, and Media Creation
12. Project: Short Video Report: Analyze a Commercial or TV Program
13. Quiz 2: Principles and Practices in AV Technology and Film
14. Project: Special Project*
15. Test
16. Course Project Part 1: Developing a Film Treatment or Storyboard*
17. Glossary and Credits

A/V TECHNOLOGY AND FILM CAREERS

UNIT 2: EQUIPMENT AND TOOLS IN A/V TECHNOLOGY AND FILM

Assignment Titles

1. Audio Production: Basic Tools and Techniques
2. Fundamentals of Electronics, Acoustics, Sound, and Video
3. Project: Audio Documentary: History of Analog and Digital Audio
4. Tools, Technology, and Equipment to Produce in Audio and Video Formats
5. Project: Illustrate an Audio Software User's Guide
6. Quiz 1: Audio Equipment and Technology
7. Tools, Technology, and Equipment to Produce in Video and Film
8. Basic Operation and Set up of Camera and Lighting
9. Project: Short Video Tutorial: How to Light an Interview
10. Systems and Techniques for Post-production
11. Project: Report: Video/Film Editing Software Products
12. Quiz 2: Video Equipment and Technology
13. Project: Special Project*
14. Test
15. Course Project Part 2: Writing a Pre-Production Plan Based on Your Storyboard or Treatment*
16. Glossary and Credits

A/V TECHNOLOGY AND FILM CAREERS

UNIT 3: PRE-PRODUCTION PLANNING AND A/V & FILM TECHNICAL SUPPORT

Assignment Titles

1. Pre-Planning for Production
2. Scripts, Screenplays, and Treatments
3. Project: Write a Script or Screenplay
4. Pre-Planning: Tools, Technology, and Equipment
5. Project: Write Pre-Production Checklists
6. Quiz 1: The Importance of Pre-Production Planning
7. Scripts, Screenplays, and Treatments and How They Inform Production
8. Project: Design a Storyboard
9. Equipment and Techniques for Video and Film
10. Pre-Planning Techniques and Requirements for Post-Production
11. Project: Write Instructions for Setting Bars and Tone
12. Quiz 2: Pre-Production Planning: Equipment and Technology
13. Project: Special Project*
14. Test
15 Course Project Part 3:Production Plan*
16. Glossary and Credits

A/V TECHNOLOGY AND FILM CAREERS

UNIT 4: APPLYING EQUIPMENT AND TECHNOLOGY IN THE PRODUCTION STAGE

Assignment Titles

1. Production
2. Project: Produce a Plan for a Production
3. The Ways People Work Together During Production
4. Technical Support Functions and Visual Technical Staff During Production
5. Project: Develop a Gaffer Kit
6. Quiz 1: Performing Tasks and Applying Skills During Production
7. The Role and Function of the Management Team and Production Tasks
8. Camera, Sound, and Lighting, and Techniques and Process
9. Project: Make a Multimedia Presentation
10. Technicians and Support Roles During Production
11. Project: Make a How-To Video or Instruction Guide
12. Quiz 2: Video Equipment and Technology
13. Project: Special Project*
14. Test
15 Course Project Part 4:Post-Production Plan*
16. Glossary and Credits

A/V TECHNOLOGY AND FILM CAREERS

UNIT 5: THE POST-PRODUCTION PHASE OF A/V TECHNOLOGY AND FILM

Assignment Titles

1. Post-production
2. Post-Production Teams: Editors and Others Working Together
3. Project: Produce a Tutorial to Identify the Parts an Editor's Program Timeline
4. Applying High-Level Skills Using Equipment in Post-production
5. Project: Write a Report about Royalty-Free Music Options for Post-production
6. Quiz 1: The Post-Production Process
7. Video and Film Editing
8. Project: Create a Workflow and Organizational System for an Editing Session
9. Sound Editing
10. Finishing Phases for Exhibition and Distribution
11. Project: Create a Video or Report about Color Grading
12. Quiz 2: Post-Production Equipment and Technology
13. Project: Special Project*
14. Test
15 Course Project Part 5: Produce the Short Film, Video, or Multimedia Presentation*
16. Glossary and Credits

A/V TECHNOLOGY AND FILM CAREERS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Describing Plans for Exhibition or Distribution*
2. Review
3. Exam

(*) Indicates alternate assignment

BUSINESS MANAGEMENT AND ADMINISTRATION

Business Law

Course Overview

This course is designed to provide students with the knowledge of some of the vital legal concepts that affect commerce and trade, after first gaining some familiarity with how laws are created and interpreted. Students will then be introduced to the types of businesses that can be created to engage in commerce as well as the contractual and liability considerations that can impact a business. Laws that affect how a business is regulated will also be reviewed, particularly the impact of administrative rules and regulations on a business. Global commerce and international agreements, treaties, organizations, and courts that can affect business will be discussed to get a better sense of what it means to "go global" with a business.

Consumer and environmental protections will be explained as well as bankruptcy options, should a business go insolvent. Lastly, no business exists without experiencing some kind of dispute or another, and so we will review the options that exist for dispute resolution and alternative dispute resolution to provide a better understanding of how best to deal with such matters.

Objectives

- Develop a general overview of the legal system in the United States.
- Understand the types of businesses and corporations that exist.
- Develop insight into the formation of contracts.
- Learn about torts and liability considerations regarding torts.
- Develop an understanding of ethics and civil and criminal procedures.
- Develop an appreciation of the administrative law process along with the Commerce Clause and its effect on employment law.
- Comprehend the information about intellectual property law and e-commerce.
- Understand the global picture of international agreements and sources of international law, international trade, the UN and key organs and commissions, and the international courts created by treaties.
- Gain insight into consumer, environmental, and bankruptcy laws that can affect an individual and his or her business.
- Learn how to resolve disputes that may arise in the transaction of business through traditional or alternative means.

While there are no formal requirements for this course, it is important to understand that this is a challenging course requiring your best critical-thinking skills. The ability to conduct research, make lateral connections, and consider options not clearly outlined is a function of those who successfully practice the law. This course uses scenarios and case studies to apply the concepts offered and encourages creative (but legal and ethical) thinking. For the student who is considering a career in the law, this course is a good primer.

BUSINESS LAW

UNIT 1: ROLE OF LAW AND ITS IMPACT ON BUSINESS

Assignment Titles

1. Course Overview
2. Sources of Law: the Legislative and the Executive Branches
3. Project: Drafting a Bill
4. Sources of Law: the Constitution and the Judicial Branch
5. Project: A Supreme Court Case
6. The Bill of Rights and Fundamental Guarantees
7. Project: Comparing the Bill of Rights with the Universal Declaration of Human Rights (United Nations)
8. Quiz 1: Sources Of Law and The Bill Of Rights
9. Sole Proprietorships and Agency
10. Project: Starting a Business
11. Partnerships
12. Project: Partnerships
13. Corporations
14. Project: Understanding the Tender Offer
15. Quiz 2: Corporations
16. Special Project*
17. Test
18. Course Project – Part 1: Role of Law and Its Impact on Business*
19. Glossary and Credits

BUSINESS LAW

UNIT 2: LEGAL CONSIDERATIONS IN BUSINESS LAW

Assignment Titles

1. Contracts: Basic Elements of Contracts
2. Project: Identifying Internet Agreements
3. Contracts: Uniform Commercial Code
4. Project: Buyers, Sellers, and Warranties
5. Contract Defenses
6. Project: Defensible Defenses
7. Quiz 1: Contracts
8. Torts: Intentional Torts
9. Project: Review the Lemonade Stand Fact Pattern
10. Torts: Negligence
11. Project: Lulu the Runaway Dog
12. Torts: Strict Liability and Nuisance
13. Project: You be the Author: Write Your Own Newspaper Articles
14. Quiz 2: Torts
15. Special Project*
16. Test
17. Course Project – Part 2: Legal Considerations in Business Law*
18. Glossary and Credits

BUSINESS LAW

UNIT 3: REGULATING A BUSINESS

Assignment Titles

1. Ethics and the Law: Crimes Against Persons
2. Project: Know your State's Penal or Criminal Code and Create Your Own Law
3. Ethics and the Law: Crimes Against Property
4. Project: Know Your White Collar Crimes
5. Criminal Procedure
6. Project: Create Your Own Crime
7. Quiz 1: Ethics and The Law – Criminal And Civil Procedure
8. Introduction to Administrative Law
9. Project: Federal Agencies and Their Functions
10. Administrative Law and Adjudication
11. Project: Search the Headlines for News Stories on Federal Agencies and their Functions
12. Employment, Regulation, and Discrimination in the Workplace
13. Prepare Scenarios Using Gidgits Galore
14. Quiz 2: Administrative Law, The Commerce Clause, and Employment Law
15 Special Project*
16. Test
17. Course Project – Part 3: Regulating a Business*
18. Glossary and Credits

BUSINESS LAW

UNIT 4: GLOBAL COMMERCE

Assignment Titles

1. Intro to Intellectual Property: Patents
2. Project: Developing a Patent
3. Intro to Intellectual Property: Trademarks and Copyrights
4. Project: Applying for a Trademark
5. Electronic Commerce
6. Project: Privacy Issues
7. Quiz 1: Intellectual Property and E-Commerce
8. Globalization and Sources of International Law
9. Project: Look Up a Treaty
10. International Trade, GATT and the WTO
11. Project: The WTO Addresses Criticisms Against the Organization
12. International Treaties and the UN, UN Organs and Commissions, and International Courts
13. Project: International Courts and Adjudication
14. Quiz 2: Globalization and International Law
15 Special Project*
16. Test
17. Course Project – Part 4: Global Commerce*
18. Glossary and Credits

BUSINESS LAW

UNIT 5: PROTECTIONS AND RESOLUTIONS

Assignment Titles

1. Consumer Law
2. Project: Consumer Protection in Action
3. Environmental Law
4. Project: Global Issues: The Future We Want?
5. Business Protection (Bankruptcy)
6. Project: Bankrupt Your Business
7. Quiz 1: Consumer Law, Environmental Law And Bankruptcy Law
8. Dispute Resolution
9. Project: Create a Business Dispute and Resolve It
10. Alternative Dispute Resolution
11. Project: Create an Employment Dispute and Resolve it through Arbitration
12. Career Opportunities in Business Law
13. Project: Career Assessment
14. Quiz 2: Dispute Resolution and Alternative Dispute Resolution
15 Special Project*
16. Test
17. Course Project – Part 5: Protections and Resolutions*
18. Glossary and Credits

BUSINESS LAW

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project – Part 6: Pitching Your Product
2. Review
3. Exam

(*) Indicates alternate assignment

Career Management

Course Overview

Career management is a semester-length high school elective course that assists students in their preparation for career selection. The course is designed to improve workforce skills needed in all careers including:

- communication
- leadership
- teamwork
- decision making
- problem solving
- goal setting
- time management

Students will complete activities that help identify personal interests, aptitudes, and learning styles. Students will use results of self-assessments to determining careers that may prove personally satisfying.

Students will complete an in-depth career research activity that can be repeated for each future career decision. Students will also create a career portfolio as they work through the curriculum.

CAREER MANAGEMENT

UNIT 1: WHAT IS WORK?

Assignment Titles

1.	Course Overview	16.	Project: Basic Employability Skills*
2.	The Purpose of Work	17.	Problem Solving
3.	Personal Benefits Of Work	18.	Project: Problem Solving*
4.	Wages and Employment Benefits	19.	Lifelong Learning and Technology
5.	Project: Time Sheet	20.	Career Clusters
6.	Project: Earning Statement	21.	Project: Career Clusters Research Tri-fold
7	Lifestyle Goals	22.	Quiz 2: Elements of Work
8.	Project: Lifestyle Budget	23.	Alternate Quiz 2—Form A: Elements of Work*
9.	Societal Benefits of Work	24.	Alternate Quiz 2—Form B: Elements of Work*
10.	Quiz 1: What is Work?	25.	Special Project*
11.	Alternate Quiz 1—Form A: What is Work?*	26.	Review
12.	Alternate Quiz 1—Form B: What is Work?*	27.	Test
13.	Basic Work Qualifications	28.	Alternate Test—Form A*
14.	Work Environment	29.	Alternate Test—Form B*
15.	Basic Employability Skills	30.	Glossary and Credits

CAREER MANAGEMENT

UNIT 2: SELF-ASSESSMENT

Assignment Titles

1.	Your Interests	15.	Project: Giving and Receiving Directions
2.	Skills and Aptitudes	16.	Teamwork and Collaboration
3.	Project: Extended Activity – Play Web-based Aptitude, Skill, and Value Game*	17.	Project: Teamwork*
		18.	Career Clusters
4.	Project: Interests and Aptitudes	19.	Project: Career Clusters*
5.	Personality Traits and Values	20.	Quiz 2: Developing Interpersonal Skills
6.	Project: Extended Activity – Inherited Values*	21.	Alternate Quiz 2—Form A: Developing Interpersonal Skills*
7.	Learning Styles		
8.	Project: Complete a Transferable and Self-Management Skills Inventory	22.	Alternate Quiz 2—Form B: Developing Interpersonal Skills*
9.	Quiz 1: Assessing Yourself	23.	Special Project*
10.	Alternate Quiz 1—Form A: Assessing Yourself*	24.	Review
11.	Alternate Quiz 1—Form B: Assessing Yourself*	25.	Test
12.	Listening	26.	Alternate Test—Form A*
13.	Speaking	27.	Alternate Test—Form B*
14.	Writing	28.	Glossary and Credits

CAREER MANAGEMENT

UNIT 3: CAREER RESEARCH

Assignment Titles

1. Project: Predict Career Information
2. Career Skills, Tasks, and Tools
3. Project: Career Skills, Tasks and Tools*
4. Career Education, Training and Qualifications
5. Career Wages and Benefits
6. Career Outlook
7. Project: Extended Activity: Career Outlook*
8. Quiz 1: Research Criteria
9. Alternate Quiz 1—Form A: Research Criteria*
10. Alternate Quiz 1—Form B: Research Criteria*
11. Internet Research
12. Library and Print Resources
13. Additional Research Resources
14. Evaluate and Use Multiple Resources
15 Quiz 2: Research Sources and Skills
16. Alternate Quiz 2—Form A: Research Sources and Skills*
17. Alternate Quiz 2—Form B: Research Sources and Skills*
18. Project: Career Research Project
19. Project: Portfolio Project Careers
20. Project: Portfolio Project Post-Secondary Education
21. Career Clusters
22. Project: Career Clusters*
23. Special Project*
24. Review
25. Test
26. Alternate Test—Form A*
27. Alternate Test—Form B*
28. Glossary and Credits

CAREER MANAGEMENT

UNIT 4: PLANNING FOR YOUR CAREER

Assignment Titles

1. Workplace Etiquette
2. Project: Work Poem*
3. Workplace Trends
4. Emerging Careers
5. Adjusting to Workplace Trends
6. Self-improvement
7. Quiz 1: Workplace Considerations
8. Alternate Quiz 1—Form A: Workplace Considerations*
9. Alternate Quiz 1—Form B: Workplace Considerations*
10. Decision-Making Steps
11. Goal Setting
12. Project: Setting Goals
13. Conflict Management
14. Thinking Skills
15. Project: Thinking Skills
16. Extracurricular Activities
17. Quiz 2: Decision Making
18. Alternate Quiz 2—Form A: Decision Making*
19. Alternate Quiz 2—Form B: Decision Making*
20. Project: Portfolio Project Academics
21. Project: Portfolio Project Activities
22. Career Clusters
23. Project: Career Clusters*
24. Special Project*
25. Review
26. Test
27. Alternate Test—Form A*
28. Alternate Test—Form B*
29. Glossary and Credits

CAREER MANAGEMENT

UNIT 5: PREPARING FOR YOUR CAREER

Assignment Titles

1. Résumé
2. Project: Résumé*
3. Cover Letter
4. Project: Cover Letter*
5. Job Application
6. Project: Job Application*
7. Professional Online Presence
8. Project: Professional Presence*
9. Quiz 1: Create Employment Documents
10. Alternate Quiz 1—Form A: Create Employment Documents*
11. Alternate Quiz 1—Form B: Create Employment Documents*
12. Finding Job Leads
13. What To Expect During An Interview
14. Researching Potential Employers
15 Interview Behavior/Skills
16. Interview Follow-up
17. Quiz 2: Contacting Employers
18. Alternate Quiz 2—Form A: Contacting Employers*
19. Alternate Quiz 2—Form B: Contacting Employers*
20. Special Project*
21. Review
22. Test
23. Alternate Test—Form A*
24. Alternate Test—Form B*
25. Glossary and Credits

CAREER MANAGEMENT

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam—Form A*
4. Alternate Exam—Form B*

(*) Indicates alternate assignment

Office Applications I

Course Overview

Office Applications 1 is a semester-length, high school elective that explores the use of application skills in Microsoft® Word®, Publisher®, and PowerPoint® 2010. Students will use these applications to design, develop, create, edit, and share business documents, publications, and presentations. This course provides key knowledge and skills in the following Microsoft Office® applications:

1. Microsoft Word: Students are provided with an introduction to advanced skills in Microsoft Word that range from simply developing an understanding of the various uses of Word to more complex explorations of mail merge, tab stops, reference resources, and additional features available in backstage view.
2. Microsoft Publisher: Students learn to create publications, insert and edit publication items, and view, review, and share those publications.
3. Microsoft PowerPoint: Students will learn how to create presentations, enter and modify content, modify and deliver presentations, and collaborate and share PowerPoint presentations.

Objectives

- Create, modify, save, and format styles, text, font, pages, and folders in Microsoft Word.
- Demonstrate use of the Cut, Copy, and Paste commands and the Show/Hide button while editing documents.
- Show how to use Spell Check, Find and Replace, and AutoCorrect in the Word application.
- Know how to track changes and add comments in a document.
- Demonstrate how to insert, format, modify, and edit elements of a Word document.
- Demonstrate knowledge of Microsoft Word advanced skills.
- Understand the basics of references in Word.
- Modify document properties including templates.
- Recognize how to navigate, modify, edit, and review elements of the Microsoft Publisher application.
- Recall how to print and share a publication electronically.
- Demonstrate knowledge of how to open, modify, insert, create, present, and save elements of a PowerPoint presentation.

Students must be computer literate and have Internet access. Students should have basic research skills, as well as the ability to conduct online searches and access recommended websites. Word processing and presentation software is required to produce projects.

OFFICE APPLICATIONS I

UNIT 1: MICROSOFT® WORD® BEGINNING SKILLS

Assignment Titles

1. Course Overview
2. Microsoft Word and the Documents it can Create
3. Navigating the Word Screen
4. Open, Enter Text, Save and Print
5. Quiz 1: Word Introduction
6. Alternate Quiz 1: Form A: Word Introduction*
7. Alternate Quiz 1: Form B: Word Introduction*
8. Font: Basic Editing Features
9. Font Styles and the Clipboard
10. Project: Microsoft Word Document Formatting
11. Quiz 2: Formatting Font
12. Alternate Quiz 2: Form A: Formatting Font*
13. Alternate Quiz 2: Form B: Formatting Font*
14. Paragraph Formatting Features
15. Page Setup Features
16. Backgrounds and Themes
17. Project: Microsoft Word Page and Paragraph Formatting
18. Quiz 3: Formatting Paragraphs and Pages
19. Alternate Quiz 3: Form A: Formatting Paragraphs and Pages*
20. Alternate Quiz 3: Form B: Formatting Paragraphs and Pages*
21. Supplemental Lesson*
22. Special Project*
23. Review
24. Test
25. Alternate Test: Form A*
26. Alternate Test: Form B*
27. Glossary and Credits

OFFICE APPLICATIONS I

UNIT 2: MICROSOFT® WORD® INTERMEDIATE SKILLS

Assignment Titles

1. Inserting Images into Documents
2. Inserting Shapes, SmartArt and Text Boxes
3. Special Parts in the Word Application
4. Project: Inserting and Modifying Content
5. Quiz 1: Word Intermediate Skills
6. Alternate Quiz 1: Form A: Word Intermediate Skills*
7. Alternate Quiz 1: Form B: Word Intermediate Skills*
8. Inserting Tables
9. Organizing Content in Tables
10. Project: Tables
11. Quiz 2: Working with Tables
12. Alternate Quiz 2: Form A: Working with Tables*
13. Alternate Quiz 2: Form B: Working with Tables*
14. Spell Check and Find and Replace
15. Insert Comments and Track Changes
16. Autocorrect Options
17. Project: Review Tab Skills
18. Quiz 3: Autocorrect Options
19. Alternate Quiz 3: Form A: Autocorrect Options*
20. Alternate Quiz 3: Form B: Autocorrect Options*
21. Project: Collaborating on a Word Document*
22. Project: Supplemental Projects*
23. Special Project*
24. Review
25. Test
26. Alternate Test: Form A*
27. Alternate Test: Form B*
28. Glossary and Credits

OFFICE APPLICATIONS I

UNIT 3: MICROSOFT® WORD® ADVANCED SKILLS

Assignment Titles

1. Merging to Create Labels
2. Merging to Create Letters
3. Project: Creating a Merge
4. Quiz 1: Word Advanced Skills
5. Alternate Quiz 1: Form A: Word Advanced Skills*
6. Alternate Quiz 1: Form B: Word Advanced Skills*
7. Endnotes and Footnotes
8. Hyperlinks
9. Table of Contents
10. Project: Inserting Special Report Features
11. Quiz 2: References
12. Alternate Quiz 2: Form A: References*
13. Alternate Quiz 2: Form B: References*
14. Share, Protect, and Modify Document Properties
15. Using and Creating a Template
16. Project: Creating a document template
17. Quiz 3: Backstage View
18. Alternate Quiz 3: Form A: Backstage View*
19. Alternate Quiz 3: Form B: Backstage View*
20. Project: Unit Simulation*
21. Project: Supplemental Materials*
22. Special Project*
23. Review
24. Test
25. Alternate Test: Form A*
26. Alternate Test: Form B*
27. Glossary and Credits

OFFICE APPLICATIONS I

UNIT 4: MICROSOFT® PUBLISHER® APPLICATION

Assignment Titles

1. Opening and Navigating Publisher
2. Designing Pages
3. Inserting Text
4. Project: Open Publisher, Browse, and Select a Template
5. Quiz 1: Publisher
6. Alternate Quiz 1: Form A: Publisher*
7. Alternate Quiz 1: Form B: Publisher*
8. Graphics
9. Tables and Building Blocks
10. Project: Inserting Enhancements
11. Viewing a Publication
12. Reviewing a Publication
13. Sharing and Printing Publications
14. Project: Modify and Share a Publication
15. Quiz 2: Publications
16. Alternate Quiz 2: Form A: Publications*
17. Alternate Quiz 2: Form B: Publications*
18. Project: Design, Edit and Share a Publication
19. Project: Supplemental Activities
20. Special Project*
21. Review
22. Test
23. Alternate Test: Form A*
24. Alternate Test: Form B*
25. Glossary and Credits

OFFICE APPLICATIONS I

UNIT 5: MICROSOFT® POWERPOINT® APPLICATION

Assignment Titles

1. PowerPoint Layout and Modifying Views
2. Entering Text and Formatting Slides
3. Quiz 1: PowerPoint Layout and Views
4. Alternate Quiz 1: Form A: PowerPoint Layout and Views*
5. Alternate Quiz 1: Form B: PowerPoint Layout and Views*
6. Images, WordArt, and SmartArt
7. Charts and Tables
8. Project: Simulation: Creating a Presentation
9. Quiz 2: Charts and Tables
10. Alternate Quiz 2: Form A: Charts and Tables*
11. Alternate Quiz 2: Form B: Charts and Tables*
12. Transitions and Animations
13. Set up Show and Timings
14. Presentation Tools
15. Saving, Printing, Sharing, and Protecting a Presentation
16. Project: Simulation: Modify, Share, and Deliver a Show
17. Quiz 3: Modify, Share, Deliver a Show
18. Alternate Quiz 3: Form A: Modify, Share, Deliver a Show*
19. Alternate Quiz 3: Form B: Modify, Share, Deliver a Show*
20. Project: Simulation: Design and Create a Presentation
21. Project: Supplemental Activities
22. Special Project*
23. Review
24. Test
25. Alternate Test: Form A*
26. Alternate Test: Form B*
27. Glossary and Credits

OFFICE APPLICATIONS I

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Review
2. Final Exam
3. Alternate Final Exam: Form A*
4. Alternate Final Exam: Form B*

(*) Indicates alternate assignment

Office Applications II

Course Overview

Office Applications 2 is a semester-length, high school elective course that explores the use of application skills in Microsoft® Excel® and Microsoft® Access®. Students will use these applications to design, develop, create, edit, and share business spreadsheet and database documents. This course provides key knowledge and skills in the following areas:

1. Introduction to advanced skills in Microsoft® Excel® ranging from basic spreadsheet terminology to exploring data entry, formatting, formulas, functions, charts, graphics, and additional features available in backstage view
2. Skills in Microsoft® Access®, ranging from basic relational database terminology to creating and modifying tables, forms, queries, and reports

Objectives

- Recognize the elements of an Excel spreadsheet.
- Demonstrate use of Excel navigation and protection tools.
- Know how to modify, edit, save, create, and format Excel spreadsheets.
- Use tools to manage Excel worksheets.
- Define the rules for creating formulas and functions in Excel worksheets.
- Demonstrate how to create, modify, and edit charts and shapes in Microsoft Excel.
- Demonstrate knowledge of database design.
- Manage the Access Environment.
- Create an Access database.
- Create, modify, and edit Access forms, queries, and reports.

Students must be computer literate and have Internet access. Students should have basic research skills, as well as the ability to conduct online searches and access recommended websites. Word processing and presentation software might be required to produce projects.

OFFICE APPLICATIONS II

UNIT 1: MICROSOFT EXCEL SPREADSHEETS BASICS

Assignment Titles

1. Course Overview
2. What is a Spreadsheet and What Are Its Uses?
3. Spreadsheet Design and the Microsoft Excel Screen
4. Quiz 1: Overview of Spreadsheet Basics
5. Alternate Quiz 1: Form A: Overview of Spreadsheet Basics*
6. Alternate Quiz 1: Form B: Overview of Spreadsheet Basics*
7. Navigating in a Worksheet
8. Microsoft Excel Workbook Views
9. Microsoft Excel Window Views
10. Project: Managing the Worksheet Environment
11. Quiz 2: Spreadsheet Basics
12. Alternate Quiz 2: Form A: Spreadsheet Basics*
13. Alternate Quiz 2: Form B: Spreadsheet Basics*
14. Workbook Properties
15. Saving and File Formats
16. Sharing Worksheet Data with Other Users
17. Managing Comments
18. Printing Worksheets and Workbooks
19. Project: Saving and Printing Microsoft Excel Files
20. Quiz 3: Managing File Settings
21. Alternate Quiz 3: Form A: Managing File Settings*
22. Alternate Quiz 3: Form B: Managing File Settings*
23. Supplemental Lesson 1: Financial Terms*
24. Supplemental Lesson 2: Financial Statements*
25. Special Project*
26. Review
27. Test
28. Alternate Test: Form A*
29. Alternate Test: Form B*
30. Glossary and Credits

OFFICE APPLICATIONS II

UNIT 2: CREATING MICROSOFT EXCEL SPREADSHEETS

Assignment Titles

1. Microsoft Excel Data Types
2. Entering and Editing Cell Data
3. Selecting, Filling, Moving, and Copying Cell Data
4. AutoFill
5. Project: Stock Market Project Part 1 - Researching and Recording Stock Prices
6. Quiz 1: Data Entry
7. Alternate Quiz 1: Form A: Data Entry*
8. Alternate Quiz 1: Form B: Data Entry*
9. Cell Formats
10. Editing Cells, Rows, and Columns
11. Managing Worksheets
12. Project: Stock Market Project 2 - Formatting a Spreadsheet
13. Quiz 2: Formatting Cells and Worksheets
14. Alternate Quiz 2: Form A: Formatting Cells and Worksheets*
15. Alternate Quiz 2: Form B: Formatting Cells and Worksheets*
16. Order of Operations
17. Microsoft Excel Formulas
18. Types of Cell References in Formulas
19. Project: Stock Market Project 3 - Entering Formulas
20. Quiz 3: Creating Formulas
21. Alternate Quiz 3: Form A: Creating Formulas*
22. Alternate Quiz 3: Form B: Creating Formulas*
23. Functions in Microsoft Excel
24. Function Wizard and Linking Formulas
25. Analyzing Data by Sorting and Filtering
26. Project: Stock Market Project 4 - Entering Functions
27. Quiz 4: Utilizing Functions and Data Commands
28. Alternate Quiz 4: Form A: Utilizing Functions and Data Commands*
29. Alternate Quiz 4: Form B: Utilizing Functions and Data Commands*
30. Project: Budget Project - Career Search
31. Project: Budget Project - Housing Research
32. Project: Budget Project - Vehicle Research
33. Project: Budget Project - Utilities, Vacation, and Miscellaneous Expense Research*
34. Project: Budget Project - Final
35. Special Project*
36. Review
37. Test
38. Alternate Test: Form A*
39. Alternate Test: Form B*
40. Glossary and Credits

OFFICE APPLICATIONS II

UNIT 3: MICROSOFT EXCEL GRAPHICAL REPRESENTATIONS

Assignment Titles

1. Why Use Graphical Representations of Data?
2. Creating Charts
3. Quiz 1: Creating Charts in Microsoft Excel
4. Alternate Quiz 1: Form A: Data Entry*
5. Alternate Quiz 1: Form B: Data Entry*
6. Formatting Charts
7. Enhancing Charts with Illustrations
8. Formatting Illustrations
9. Project: Stock Market Project Part 5 - Creating and Enhancing Charts
10. Quiz 2: Enhancing Microsoft Excel Charts
11. Alternate Quiz 2: Form A: Enhancing Microsoft Excel Charts*
12. Alternate Quiz 2: Form B: Enhancing Microsoft Excel Charts*
13. Creating Picture Charts
14. Sparklines
15. Project: Stock Market Project Part 6 â€“ Creating Advanced Charts
16. Quiz 3: Advanced Charting Options
17. Alternate Quiz 3: Form A: Advanced Charting Options*
18. Alternate Quiz 3: Form B: Advanced Charting Options*
19. Project: Research and Chart Product Price Comparisons*
20. Project: Chart Budget Expenses*
21. Special Project*
22. Review
23. Test
24. Alternate Test: Form A*
25. Alternate Test: Form B*
26. Glossary and Credits

OFFICE APPLICATIONS II

UNIT 4: MICROSOFT PUBLISHER APPLICATION

Assignment Titles

1. What is a Database and Its Uses?
2. Database Design
3. Field Names, Data Types, and Properties
4. Project: Designing a Customer Information Database
5. Quiz 1: Database Design
6. Alternate Quiz 1: Form A: Database Design*
7. Alternate Quiz 1: Form B: Database Design*
8. The Access Screen
9. Navigating in Table Datasheets, Forms, and Reports
10. Working in the Navigation Pane
11. Save Options and Compact and Repair
12. Project: Managing the Access Environment
13. Quiz 2: Managing the Access Environment
14. Alternate Quiz 2: Form A: Managing the Access Environment*
15. Alternate Quiz 2: Form B: Managing the Access Environment*
16. Creating an Access Database and Table
17. Entering Data
18. Modifying a Table
19. Importing Data from an Excel File
20. Sorting and Filtering
21. Creating Relationships
22. Project: Creating Customer Information Database
23. Quiz 3: Creating an Access Database
24. Alternate Quiz 3: Form A: Creating an Access Database*
25. Alternate Quiz 3: Form B: Creating an Access Database*
26. Project: Designing an Address List Database*
27. Project: Creating an Address List Database*
28. Project: Designing and Creating an Inventory Database*
29. Special Project*
30. Review
31. Test
32. Alternate Test: Form A*
33. Alternate Test: Form B*
34. Glossary and Credits

OFFICE APPLICATIONS II

UNIT 5: MICROSOFT ACCESS FORMS, QUERIES, AND REPORTS

Assignment Titles

1. Creating Forms
2. Editing the Design of a Form
3. Creating Multi-table Forms
4. Editing Multi-table Forms
5. Project: Address List Forms
6. Quiz 1: Microsoft Access Forms
7. Alternate Quiz 1: Form A: Microsoft Access Forms*
8. Alternate Quiz 1: Form B: Microsoft Access Forms*
9. Creating Simple Queries
10. Creating Advanced Queries
11. Creating Multi-table Queries
12. Calculating Totals in a Query
13. Creating Calculated Fields in a Query
14. Project: Address List Queries
15. Quiz 2: Microsoft Access Queries
16. Alternate Quiz 2: Form A: Microsoft Access Queries*
17. Alternate Quiz 2: Form B: Microsoft Access Queries*
18. Creating Reports
19. Editing the Design of a Report
20. Sorting and Filtering Records in a Report
21. Creating Multi-table Reports
22. Editing the Design of a Multi-Table Report
23. Project: Address List Reports
24. Quiz 3: Microsoft Access Reports
25. Alternate Quiz 3: Form A: Microsoft Access Reports*
26. Alternate Quiz 3: Form B: Microsoft Access Reports*
27. Project: Creating Forms for the Address List Database*
28. Project: Creating Queries for the Address List Database*
29. Project: Creating Reports for the Address List Database*
30. Special Project*
31. Review
32. Test
33. Alternate Test: Form A*
34. Alternate Test: Form B*
35. Glossary and Credits

OFFICE APPLICATIONS II

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Review
2. Test
3. Alternate Final Exam: Form A*
4. Alternate Final Exam: Form B*

(*) Indicates alternate assignment

Principles of Business and Finance

Course Overview

This course will introduce students to the fundamental structure of the American economy, the complexities of the global economy, and the principles, practices, and strategies associated with starting, managing, or simply working for a business.

Through a combination of lessons and projects, students will trace a trajectory of their potential role in the American economy as consumers, laborers, and executives. With lessons on everything from marketing to writing formal business correspondence, from the basic structures and legal definitions of business to the operations and importance of financial institutions, students will emerge from this course with a thorough introductory understanding of the business world.

Students will perform research, conduct interviews, and write papers on various topics designed to enrich their understanding of the American business environment. They will also navigate an interactive and creative project that spans the length of the course and asks students to engage their learning, imaginations and individual career motivation with the course material.

The course begins with an exploration of the structure of businesses and the roles and responsibilities of those who seek to lead and manage these enterprises. From this baseline, students are introduced to topics of particular relevance in our emerging global business environment including: the technology that fuels business success, the strength of free market economies, the cyclical nature of the economy and business, hard asset and financial management, and the personal skills necessary to become a member of the business community.

Objectives

- Understand the components of establishing a business.
- Explore the issues of investment capital, legal and ethical issues, and budgeting.
- Learn about the people side of business: human resources, group dynamics, leadership.
- Acquire information on business communications.
- Explore their role in the business world and how to present themselves successfully.

Students should have access to spreadsheet and Microsoft Word software. PowerPoint or other presentation software would also be helpful to allow them to learn how to give presentations through this medium.

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 1: THE BUSINESS ORGANIZATION

Assignment Titles

1. Course Overview
2. Introduction to Principles of Business
3. Project: NAICS!
4. Business Structures
5. Business Ethics
6. Project: Business Ethics
7. Quiz 1: Structure and Philosophy
8. Human Resources
9. Project: Creating a Job Application
10. Management and Leadership
11. Project: Manager of the Year
12. Entrepreneurship
13. Project: Entrepreneurship
14. Quiz 2: Leaders and Staffers
15. Special Project*
16. Test
17. Course Project—Part 1: The Enterprise*
18. Glossary and Credits

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 2: TECHNOLOGY: GATEWAY TO INTERNATIONAL BUSINESS OPPORTUNITIES

Assignment Titles

1. Business Technology
2. Project: Promoting and Selling Technology
3. Use of Technology in Business
4. Project: Use of Technology in Business
5. Business Financial Management Technology
6. Quiz 1: Infrastructures
7. International Business
8. Project: Expansion
9. Business Etiquette at Home and Abroad
10. Project: Business Etiquette At Home and Abroad
11. Global Marketing
12. Quiz 2: Going Global
13. Special Project*
14. Test
15. Course Project—Part 2: Infrastructure and Further Market Definition*
16. Glossary and Credits

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 3: ECONOMICS AND BUSINESS

Assignment Titles

1. The Market-based Economy
2. Project: Understanding Supply and Demand
3. Business Economics: Wants vs. Needs
4. Project: Identifying YOUR Wants and Needs
5. Unlimited Wants vs. Limited Resources
6. Project: Unlimited Wants vs. Limited Resources
7. Quiz 1: Markets and Movement
8. Money and Asset Management
9. Project: Record Keeping: Money and Asset Management
10. Finance Options: Credit and Banking
11. Project: How do you...?
12. Strategic Business Planning
13. Quiz 2: Managing Business Capital
14. Special Project*
15. Test
16. Course Project—Part 3: The Root of the Enterprise*
17. Glossary and Credits

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 4: MARKETING, MARKETS, SALES AND CONSUMERS

Assignment Titles

1. Marketing and Advertising
2. Project: Marketing and Advertising
3. Marketing in the 21st Century
4. Project: Marketing in the 21st Century
5. Advertising in the 21st Century
6. Project: Can this Ad Be Saved?
7. Quiz 1: The 4 Ps: Product, Pricing, Placement and Promotion
8. Sales Techniques and Careers
9. The Consumer
10. Project: Who's Protecting You and How Do They Do It
11. Group Dynamics
12. Project: Team Process
13. Quiz 2: Products (And Services) Need People
14. Special Project*
15. Test
16. Course Project—Part 4: On Sale*
17. Glossary and Credits

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 5: THE LANGUAGE OF BUSINESS AND EXPRESSING YOUR CAREER INTERESTS

Assignment Titles

1. Methods of Business Communication
2. Business Letters and Memos
3. Project: Business Letters and Memos
4. Business Presentations
5. Project: Business Presentation and Delivery
6. Quiz 1: Formality and Expediency
7. Your Role in Business Today ... and the Future
8. Career Choices
9. Project: Your Career Options
10. Get Out There!
11. Project: Getting Out There
12. Quiz 2: Creating Career Opportunities
13. Special Project*
14. Test
15. Course Project—Part 5: On Sale*
16. Glossary and Credits

PRINCIPLES OF BUSINESS AND FINANCE

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project—Part 6: Putting it all Together*
2. Review
3. Exam

(*) Indicates alternate assignment

Small Business Entrepreneurship

Course Overview

This semester-long course is designed to provide the skills needed to effectively organize, develop, create, and manage your own business, while exposing you to the challenges, problems, and issues faced by entrepreneurs. Throughout this course, you will be given the chance to see what kinds of opportunities exist for small business entrepreneurs and become aware of the necessary skills for running a business. You will become familiar with the traits and characteristics that are found in successful entrepreneurs, and you will see how research, planning, operations, and regulations can affect small businesses. You will learn how to develop plans for having effective business management and marketing strategies.

Small Business Entrepreneurship will teach you basic principles of entrepreneurship and business ethics. You'll look at the major steps relevant to starting a new business. These steps include financing, marketing, and managing. Knowing how to analyze a business plan will help you develop one, while at the same time making it easier for you to understand the reasons businesses have to write one. Small Business Entrepreneurship is designed to give you an overview on running a business from start to finish.

Objectives

- Understand the basic aspects of entrepreneurship.
- Recognize the legal environment of a small business.
- Describe basic economic principles.
- Understand scarcity and forecasting.
- Identify different kinds of costs.
- Explain the principles of financing.
- Identify kinds of financial records.
- Know the sources of financing.
- Explain target markets.
- Analyze market research and competition.
- Describe marketing mix.
- Recognize the roles of management.
- Construct a business plan.

Students must be computer literate and have Internet access. Students should have basic research skills, as well as the ability to conduct online searches and access recommended websites. Word processing and presentation software may be required to produce projects.

SMALL BUSINESS ENTREPRENEURSHIP

UNIT 1: OVERVIEW OF SMALL BUSINESS ENTREPRENEURSHIP

Assignment Titles

1. Course Overview
2. What Is Entrepreneurship?
3. Entrepreneurial Traits
4. Project: Characteristics of Successful Entrepreneurs
5. Education, Aptitudes, and Skills
6. Goals
7 Personal Interests
8. Quiz 1: Basic Aspects of Entrepreneurship
9. Alternate Quiz 1 - Form A: Basic Aspects of Entrepreneurship*
10. Alternate Quiz 1 - Form B: Basic Aspects of Entrepreneurship*
11. Ethics
12. Project: Ethics
13. Legal Forms of Business Ownership
14. Business Risks
15. Project: Business Risks
16. Sources of Assistance
17. Roles of Government
18. Quiz 2: Legal Environment of a Small Business
19. Alternate Quiz 2 - Form A: Legal Environment of a Small Business*
20. Alternate Quiz 2 - Form B: Legal Environment of a Small Business*
21. Unit Project: Business Ventures - Part 1
22. Special Project*
23. Review
24. Test
25. Alternate Test - Form A*
26. Alternate Test - Form B*
27. Glossary and Credits

SMALL BUSINESS ENTREPRENEURSHIP

UNIT 2: ECONOMICS

Assignment Titles

1. What Is the Role and Importance of Small Business Entrepreneurship in the Economy?
2. Project: How Entrepreneurs Improve the Economy
3. Supply and Demand
4. Pricing and Production
5. Project: Supply and Demand Graph
6. Equilibrium
7. Project: Equilibrium Graph
8. Quiz 1: Basic Economic Principles
9. Alternate Quiz 1 - Form A: Basic Economic Principles*
10. Alternate Quiz 1 - Form B: Basic Economic Principles*
11. Scarcity
12. Economic Measurement
13. Project: Economic Forecast
14. Quiz 2: Scarcity and Forecasting
15. Alternate Quiz 2 - Form A: Scarcity and Forecasting*
16. Alternate Quiz 2 - Form B: Scarcity and Forecasting*
17. Fixed and Variable Costs
18. Opportunity Costs
19. Project: Opportunity Costs
20. Profit Motive
21. Quiz 3: Costs
22. Alternate Quiz 3 - Form A: Costs*
23. Alternate Quiz 3 - Form B: Costs*
24. Unit Project: Business Ventures - Part 2
25. Special Project*
26. Review
27. Test
28. Alternate Test - Form A*
29. Alternate Test - Form B*
30. Glossary and Credits

SMALL BUSINESS ENTREPRENEURSHIP

UNIT 3: FINANCING

Assignment Titles

1. Start-Up Costs
2. Costs of Goods Sold
3. Operating Expenses
4. Gross Income, Net Income, and Break-Even Point
5. Quiz 1: Principles of Financing
6. Alternate Quiz 1 - Form A: Principles of Financing*
7. Alternate Quiz 1 - Form B: Principles of Financing*
8. Income Statement
9. Project: Income Statement
10. Balance Sheet
11. Project: Balance Sheet
12. Profitability and Projecting Cash Flow
13. Project: Financial Records
14. Quiz 2: Financial Records
15. Alternate Quiz 2 - Form A: Financial Records*
16. Alternate Quiz 2 - Form B: Financial Records*
17. Sources of Financing
18. Assess Collateral
19. Project: Financing Sources
20. Interest Rate and Monthly Payments
21. Quiz 3: Sources of Financing
22. Alternate Quiz 3 - Form A: Sources of Financing*
23. Alternate Quiz 3 - Form B: Sources of Financing*
24. Unit Project: Business Ventures - Part 3
25. Special Project*
26. Review
27. Test
28. Alternate Test - Form A*
29. Alternate Test - Form B*
30. Glossary and Credits

SMALL BUSINESS ENTREPRENEURSHIP

UNIT 4: MARKETING

Assignment Titles

1. Analyze a Market's Customers
2. Target Market
3. Project: Target Market
4. Quiz 1: Target Markets
5. Alternate Quiz 1 - Form A: Target Markets*
6. Alternate Quiz 1 - Form B: Target Markets*
7. Steps of Market Research
8. Uses for Market Research
9. Project: Current Event - Market Research
10. Project: Assessing Competitors' Strengths and Weaknesses
11. Industry Characteristics
12. Quiz 2: Market Research and Competition
13. Alternate Quiz 2 - Form A: Market Research and Competition*
14. Alternate Quiz 2 - Form B: Market Research and Competition*
15. Marketing Terminology
16. Marketing Functions
17. 4P's and 7P's
18. Project: Marketing Mix
19. Project: Promotion
20. Marketing Plan
21. Quiz 3: Marketing Mix
22. Alternate Quiz 3 - Form A: Marketing Mix*
23. Alternate Quiz 3 - Form B: Marketing Mix*
24. Unit Project: Business Ventures - Part 4
25. Special Project*
26. Review
27. Test
28. Alternate Test - Form A*
29. Alternate Test - Form B*
30. Glossary and Credits

SMALL BUSINESS ENTREPRENEURSHIP

UNIT 5: MANAGEMENT AND BUSINESS PLANS

Assignment Titles

1. Functions of Management
2. Project: Leadership Styles
3. Organization Structure
4. Project: Organizational Chart
5. Regulations to Protect Employees
6. Quiz 1: Management
7. Alternate Quiz 1 - Form A: Management*
8. Alternate Quiz 1 - Form B: Management*
9. Business Plan
10. Project: Business Plan
11. Project: Business Plan Sources
12. Project: Analyze a Business Plan - Part 1
13. Project: Analyze a Business Plan - Part 2
14. Project: Analyze a Business Plan - Part 3
15. Project: Analyze a Business Plan - Part 4
16. Quiz 2: Business Plan
17. Alternate Quiz 2 - Form A: Business Plan*
18. Alternate Quiz 2 - Form B: Business Plan*
19. Unit Project: Business Ventures - Part 5
20. Special Project*
21. Review
22. Test
23. Alternate Test - Form A*
24. Alternate Test - Form B*
25. Glossary and Credits

SMALL BUSINESS ENTREPRE-NEURSHIP

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam - Form A*
4. Alternate Exam - Form B*

(*) Indicates alternate assignment

Technology and Business

Course Overview

Technology and Business is a year-long, high school elective that teaches students technical skills, effective communication skills, and productive work habits needed to make a successful transition into the workplace or postsecondary education. In this course, students gain an understanding of emerging technologies, operating systems, and computer networks. In addition, they create a variety of business documents, including complex word-processing documents, spreadsheets with charts and graphs, database files, and electronic presentations.

This course provides key knowledge and skills in the following areas:

1. Emerging Technologies
2. Operating Systems
3. Word Processing
4. Spreadsheets
5. Databases
6. Communication Skills
7. Telecommunications
8. Electronic Presentations
9. Computer Networks
10. Project Management

By the end of the course, the student should be able to do the following:

- Select the appropriate technology to address business needs.
- Describe and compare types of operating systems.
- Use the computer's operating system to execute work responsibilities.
- Identify the purpose and style of various business documents.
- Create complex word-processing documents with columns, bulleted lists, tables, and graphs.
- Improve speed and accuracy of keyboarding.
- Use spreadsheets to calculate, graph, solve business problems, and make predictions.
- Perform data-management procedures using database technology.
- Demonstrate communication skills for obtaining and conveying information.
- Send and receive information using electronic mail, following appropriate guidelines.
- Describe and identify components of the telecommunications industry.
- Create and deliver an effective presentation following presentation guidelines.
- Describe the components required to establish a network.
- Identify the information management requirements and business needs of an organization.
- Use project-management tools and processes to manage a business project successfully.

TECHNOLOGY AND BUSINESS

UNIT 1: BUSINESS TECHNOLOGY

Assignment Titles

1. Course Overview
2. Hardware versus Software
3. Current Business Technology
4. Equipment Maintenance
5. Quiz 1: Overview of Business Technology
6. Alternate Quiz 1—Form A: Overview of Business Technology*
7. Alternate Quiz 1—Form B: Overview of Business Technology*
8. Business Solutions Case Studies
9. Emerging Technology
10. Project: Defining Technical Terms
11. Quiz 2: Business Solutions
12. Alternate Quiz 2—Form A: Business Solutions*
13. Alternate Quiz 2—Form B: Business Solutions*
14. Report: Technology in Business
15. Special Project*
16. Review
17. Test
18. Alternate Test—Form A*
19. Alternate Test—Form B*
20. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 2: COMPUTER OPERATING SYSTEMS

Assignment Titles

1. What Is an Operating System?
2. Utilities
3. Quiz 1: An Introduction to Operating Systems
4. Alternate Quiz 1—Form A: An Introduction to Operating Systems*
5. Alternate Quiz 1—Form B: An Introduction to Operating Systems*
6. Mac
7. Windows
8. Linux
9. Quiz 2: Types of Operating Systems
10. Alternate Quiz 2—Form A: Types of Operating Systems*
11. Alternate Quiz 2—Form B: Types of Operating Systems*
12. Getting Started—Exploring the Desktop
13. Using the Interface
14. File Management
15. Quiz 3: Using the Operating System
16. Alternate Quiz 3—Form A: Using the Operating System*
17. Alternate Quiz 3—Form B: Using the Operating System*
18. Project: Customize Your Desktop
19. Special Project*
20. Review
21. Test
22. Alternate Test—Form A*
23. Alternate Test—Form B*
24. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 3: WORD PROCESSING

Assignment Titles

1. Keyboarding Pretest
2. Keyboarding Exercises
3. Number Keypad
4. Project: Timed Typing Tests*
5. Quiz 1: Keyboarding Skills
6. Alternate Quiz 1—Form A: Keyboarding Skills*
7. Alternate Quiz 1—Form B: Keyboarding Skills*
8. Writing and Editing a Business Document
9. Project: Creating a Memo
10. Business Letters
11. Project: Creating a Business Letter
12. Résumés
13. Project: Creating a Résumé
14. Brochures and Newsletters
15 Project: Creating a Newsletter
16. Research Papers
17. Project: Formatting a Research Paper
18. Business Reports
19. Project: Creating a Business Report
20. Quiz 2: Creating Business Documents
21. Alternate Quiz 2—Form A: Creating Business Documents*
22. Alternate Quiz 2—Form B: Creating Business Documents*
23. Special Project*
24. Review
25. Test
26. Alternate Test—Form A*
27. Alternate Test—Form B*
28. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 4: SPREADSHEETS

Assignment Titles

1. Entering Data
2. Formatting
3. Editing Data
4. Shortcuts
5. Quiz 1: Spreadsheet Basics
6. Alternate Quiz 1—Form A: Spreadsheet Basics*
7. Alternate Quiz 1—Form B: Spreadsheet Basics*
8. Formulas
9. Project: Using Simple Formulas
10. Advanced Formulas
11. Project: Using Advanced Formulas
12. Quiz 2: Spreadsheet Formulas
13. Alternate Quiz 2—Form A: Spreadsheet Formulas*
14. Alternate Quiz 2—Form B: Spreadsheet Formulas*
15. Project: Creating a Personal Budget
16. Project: Estimating Income Taxes
17. Creating Graphs
18. Project: Business Spreadsheets
19. Project: Balance Sheets and Profit-and-Loss Statements
20. Quiz 3: Spreadsheet Applications
21. Alternate Quiz 3—Form A: Spreadsheet Applications*
22. Alternate Quiz 3—Form B: Spreadsheet Applications*
23. Special Project*
24. Review
25. Test
26. Alternate Test—Form A*
27. Alternate Test—Form B*
28. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 5: DATABASES

Assignment Titles

1. Comparing Databases and Spreadsheets
2. Understanding Database Terms
3. Project: Creating a Database
4. Working with Data and Records
5. Project: Creating a Database
6. Quiz 1: Database Basics
7. Alternate Quiz 1—Form A: Database Basics*
8. Alternate Quiz 1—Form B: Database Basics*
9. Using Databases to Search and Query
10. Project: Working with Queries
11. Project: Using a Database to Generate Mailings*
12. Importing and Exporting Data
13. Data Analysis
14. Project: Data Warehouse*
15 Project: Using a Database to Create a Business Report*
16. Quiz 2: Database Features
17. Alternate Quiz 2—Form A: Database Features*
18. Alternate Quiz 2—Form B: Database Features*
19. Special Project*
20. Review
21. Test
22. Alternate Test—Form A*
23. Alternate Test—Form B*
24. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 6: SEMESTER REVIEW AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam—Form A*
4. Alternate Exam—Form B*

TECHNOLOGY AND BUSINESS

UNIT 7: COMMUNICATION SKILLS

Assignment Titles

1. Communication Skills
2. Electronic Communication Skills
3. Project: Revising E-mail Messages
4. Quiz 1: Overview of Effective Communication Skills
5. Alternate Quiz 1—Form A: Overview of Effective Communication Skills*
6. Alternate Quiz 1—Form B: Overview of Effective Communication Skills*
7. Workplace Skills, Habits, and Attitudes
8. Active Listening
9. Constructive Feedback
10. Project: Employee Action Plan
11. Quiz 2: Desirable Workplace Skills, Habits, and Attitudes
12. Alternate Quiz 2—Form A: Desirable Workplace Skills, Habits, and Attitudes*
13. Alternate Quiz 2—Form B: Desirable Workplace Skills, Habits, and Attitudes*
14. Finding Reliable Internet Resources
15 Paraphrasing and Summarizing
16. Organizing Information
17. Quiz 3: Using Written Information
18. Alternate Quiz 3—Form A: Using Written Information*
19. Alternate Quiz 3—Form B: Using Written Information*
20. Report: Business Skills
21. Special Project*
22. Review
23. Test
24. Alternate Test—Form A*
25. Alternate Test—Form B*
26. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 8: TELECOMMUNICATIONS TECHNOLOGY

Assignment Titles

1. The Parts and the Pieces
2. Case Studies
3. Quiz 1: The Telecommunications Industry – An Overview
4. Alternate Quiz 1—Form A: The Telecommunications Industry – An Overview*
5. Alternate Quiz 1—Form B: The Telecommunications Industry – An Overview*
6. E-mail
7. Beyond E-mail
8. E-mail Ethics and Work Habits
9. Netiquette
10. Evaluating Telecommunication Technologies
11. Project: Analyze It
12. Quiz 2: Using and Choosing Telecommunication Technology
13. Alternate Quiz 2—Form A: Using and Choosing Telecommunication Technology*
14. Alternate Quiz 2—Form B: Using and Choosing Telecommunication Technology*
15 Special Project*
16. Review
17. Test
18. Alternate Test—Form A*
19. Alternate Test—Form B*
20. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 9: PRESENTATION TECHNOLOGY

Assignment Titles

1. What is Presentation Technology?
2. How is Presentation Technology Used?
3. Quiz 1: An Introduction to Presentation Technology
4. Alternate Quiz 1—Form A: An Introduction to Presentation Technology*
5. Alternate Quiz 1—Form B: An Introduction to Presentation Technology*
6. Working with Text
7. Working with Graphics
8. Working with Special Effects
9. Quiz 2: Presentation Guidelines
10. Alternate Quiz 2—Form A: Presentation Guidelines*
11. Alternate Quiz 2—Form B: Presentation Guidelines*
12. Content
13. Layout
14. Putting It All Together
15 Quiz 3: Presentation Planning
16. Alternate Quiz 3—Form A: Presentation Planning*
17. Alternate Quiz 3—Form B: Presentation Planning*
18. Project: Creating a Presentation
19. Special Project*
20. Review
21. Test
22. Alternate Test—Form A*
23. Alternate Test—Form B*
24. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 10: COMPUTER NETWORKS

Assignment Titles

1. What is Project Management?
2. Project Management Tools
3. Quiz 1: Introduction to Project Management
4. Alternate Quiz 1—Form A: Introduction to Project Management*
5. Alternate Quiz 1—Form B: Introduction to Project Management*
6. Initiating and Planning a Project
7. Project: Initiating a Project
8. Executing and Closing a Project
9. Project: Project Meeting
10. Career Paths in Information Technology
11. Quiz 2: Managing a Project
12. Alternate Quiz 2—Form A: Managing a Project*
13. Alternate Quiz 2—Form B: Managing a Project*
14. Special Project*
15 Review
16. Test
17. Alternate Test—Form A*
18. Alternate Test—Form B*
19. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 11: PROJECT MANAGEMENT

Assignment Titles

1. What is Presentation Technology?
2. How is Presentation Technology Used?
3. Quiz 1: An Introduction to Presentation Technology
4. Alternate Quiz 1—Form A: An Introduction to Presentation Technology*
5. Alternate Quiz 1—Form B: An Introduction to Presentation Technology*
6. Working with Text
7. Working with Graphics
8. Working with Special Effects
9. Quiz 2: Presentation Guidelines
10. Alternate Quiz 2—Form A: Presentation Guidelines*
11. Alternate Quiz 2—Form B: Presentation Guidelines*
12. Content
13. Layout
14. Putting It All Together
15 Quiz 3: Presentation Planning
16. Alternate Quiz 3—Form A: Presentation Planning*
17. Alternate Quiz 3—Form B: Presentation Planning*
18. Project: Creating a Presentation
19. Special Project
20. Review
21. Test
22. Alternate Test—Form A*
23. Alternate Test—Form B*
24. Glossary and Credits

TECHNOLOGY AND BUSINESS

UNIT 12: SEMESTER REVIEW AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam—Form A*
4. Alternate Exam—Form B*

TECHNOLOGY AND BUSINESS

UNIT 13: COURSE REVIEW AND EXAM

Assignment Titles

1. Review
2. Exam
3. Alternate Exam—Form A*
4. Alternate Exam—Form B*

(*) Indicates alternate assignment

EDUCATION & TRAINING

Introduction to Careers in Education and Training

Course Overview

The Introduction to Careers in Education and Training course will introduce students to the field of education and training, and the opportunities available for early-childhood care, primary school, secondary school, higher education, vocational training, and adult and continuing education. The students will gain an understanding of the career options available in teaching, administrative work, and support services. They will also explore the education and background experience needed to succeed in these careers.

Students will learn about the evolution of the modern educational system in the United States, and the policies and laws that govern educational institutions. They will also discover the similarities and differences between the ethical and legal obligations of working with adults versus working with children.

Students will learn about the skills needed to be effective communicators. They will also learn how to differentiate between different types of learning theories, and they will explore how to implement current principles from educational psychology into the classroom.

Students will also learn how to create a safe and healthy learning environment. They will discover the federal laws and agencies that set health-and-safety standards, and they will learn how these regulations are enforced in the workplace.

The objective of this course is to introduce the student to the field of education and training, and to explain the career opportunities that are available in this field.

Objectives

- Apply communication skills with students, parents, and other groups to enhance learning and a commitment to learning.
- Demonstrate critical-thinking skills while processing educational communications, perspectives, policies, and/or procedures.
- Categorize risks to safety, health, and the environment in education and training settings.
- Demonstrate group-collaboration skills to enhance professional education and training practice.
- Analyze ethical and legal policies of professional education and training practice.
- Describe legal rights that apply to individuals and practitioners within education and training settings.
- Define state and federal professional development requirements to maintain employment and to advance in an education and training career.
- Apply organizational skills and logic to enhance professional education and training practice.
- Demonstrate group-management skills that enhance professional education and training practice.

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 1: EDUCATION AND TRAINING: HISTORICAL PERSPECTIVES, INTRODUCTION AND CRITICAL SKILLS

Assignment Titles

1. Course Overview
2. Historical Foundations of Education and Training
3. Project: What Did Children Learn
4. Current Trends and Social, Political, and Economic Goals of Education and Training
5. Overview of Careers in Education and Training
6. Project: Create a Job Advertisement
7. Quiz 1: Education and Training: Historical Perspectives, Introduction, and Critical Skills
8. Communication Skills 101
9. Project: Evaluate Communication Skills
10. Overcoming Communication Barriers
11. Educational Funding Opportunities to Improve Schools
12. Project: Write an Educational Grant Proposal
13. Quiz 2: Communication Skills in Education and Training
14. Project: Special Project*
15. Test
16. Course Project Part 1:You are the Teacher*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 2: LEARNING STYLES AND COLLABORATIVE LEARNING

Assignment Titles

1. Learning and Learning Theories
2. Project: Write a Classroom Activity
3. How To Encourage Students To Want To Learn
4. How To Encourage Students to Think about Their Thinking
5. Project: Develop Your Metacognitive Skills
6. Quiz 1: Cognition and Learning
7. Group Dynamics
8. Project: Diagram your Groups
9. When Teachers and Students Learn Together
10. Careers in Instructional Design
11. Project: Write a Resume for an Instructional Designer
12. Quiz 2: Collaborative Learning and Group Skills in Education and Training
13. Project: Special Project*
14. Test
15. Course Project Part 2: Design a Student Activity*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 3: EDUCATIONAL POLICY AND HUMAN RESOURCE DEVELOPMENT

Assignment Titles

1. Careers in Educational Research and Policy
2. Project: Investigate Career Options
3. Federal Policies on Primary and Secondary Education
4. Federal Policies on Adult Education
5. Project: Create an Informational Poster
6. Quiz 1: Perspectives in Educational Policy
7. Conflict Management and Resolution
8. Project: Design a Conflict Resolution Pamphlet
9. Meeting Models
10. Careers in Human Resources Development
11. Project: Design Your Undergraduate Curriculum
12. Quiz 2: Human Resource Development
13. Project: Special Project*
14. Test
15. Course Project Part 3: Resolve Potential Conflicts*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 4: ETHICAL AND LEGAL POLICIES OF CAREERS IN EDUCATION AND TRAINING

Assignment Titles

1. Legal Responsibilities of Working with Children and Adolescents
2. Project: The People Behind the Laws
3. Ethical Responsibilities in Education and Training
4. Careers in Social Work, Psychology, and School Counseling
5. Project: Interview a Professional
6. Quiz 1: Ethical and Legal Responsibilities of Working with Children and Adolescents
7. Laws Governing Higher Education
8. Project: Research a School's Financial Aid Options
9. Ethics in Higher Education
10. Careers in Higher Education
11. Project: Biography of a College President
12. Quiz 2: Ethical and Legal Responsibilities of Working with Adults
13. Project: Special Project*
14. Test
15 Course Project Part 4: Research Local, State, and Federal Education Laws*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 5: HEALTH AND SAFETY IN EDUCATION AND TRAINING

Assignment Titles

1. Health and Safety Regulations in Early Child-care Settings
2. Project: Create an Informational Brochure
3. Health and Safety Regulations in Kâ€“12 Schools
4. Careers in Health and Safety in Schools
5. Project: Write a School Newspaper Article that Highlights the Contributions of School Health and Safety Personnel
6. Quiz 1: Health and Safety in the School Setting
7. Health and Safety Regulations in the Workplace
8. Project: Create an Informational Poster
9. Training for Health and Safety in the Workplace
10. Careers in Health and Safety
11. Project: Create a Chart Comparing Careers in Health and Safety
12. Quiz 2: Health and Safety in the Workplace
13. Project: Special Project*
14. Test
15 Course Project Part 5: Design a Safe and Healthy Learning Space*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Write an Educational Grant Proposal *
2. Review
3. Exam

(*) Indicates alternate assignment

Teaching and Training Careers

Course Overview

This course introduces students to the art and science of teaching. It provides a thorough exploration of pedagogy, curriculum, standards and practices, and the psychological factors shown by research to affect learners. In five units of study, lessons, and projects, students engage with the material through in-depth exploration and hands-on learning, to prepare them for teaching and training careers. Students are given many opportunities to be the teacher or trainer, and to explore the tasks, requirements, teaching strategies, and research-based methods that are effective and high-quality.

Unit One provides foundational information on the evolution of education, educational formats, learning theories and theorists, and the interconnectedness of knowledge areas in teaching and training careers. In Unit Two, students become teachers, creating courses and lesson plans to standards, in their exploration of instructional design and planning. They investigate resources and types of materials teachers select, use, and create.

Unit Three focuses on classroom strategies, as students role-play in simulations to devise methods of handling classroom issues and engage individual learners. They assess student and teacher performance through assessments themselves, examining the effectiveness of various methods. Unit Four focuses on the importance of a positive environment, as evidenced through research, and students identify elements that achieve this outcome. Students contrast inclusion-based education with previous instructional models from educational history. Unit Five completes the 30 lesson segments with student investigation of data collection; rankings; student records; and how data is collected, compiled, used, and stored. Students research outreach methods and accountability regulations and practices, to see how data use affects community standing and relationships, policy reform, and school reputation.

Students complete the course with a comprehensive knowledge of what is required in educational qualifications, preparing for, obtaining, and excelling in a teaching and training career they are encouraged to determine for themselves. They gain an informed awareness of research-based methods, effective strategies, the needs of individual learners, and the challenges teachers and trainers face in today's educational landscape.

Objectives

- Categorize uses of statistics, evaluations, and reports.
- Compare learning styles and effective tools.
- Compare presentation and preparation attributes of teaching with other professions.
- Compare training and teaching goals and learning strategies.
- Identify components or types of lesson segments.
- Argue the importance of engaged learners and a positive environment.
- Describe the benefits of inclusive classrooms .
- Describe the importance of well-planned lessons for holding attention.
- Describe knowledge areas in training in contrast to teaching.
- Describe learning theory and theorists.
- Describe research on individual learners and school readiness.
- Describe teaching styles and lesson planning.
- Differentiate training pedagogy from that of teaching.
- Evaluate the needs of individual learners.
- Identify teacher-parent interactions.
- Identify the value of effective teaching styles.
- Summarize the effectiveness of balanced lesson flow.
- Summarize the evolution of learning theories.
- Summarize factors important to adult learning.
- Summarize factors in classroom environments that affect learning.
- Summarize the theory of multiple intelligences.
- Summarize ways in which materials assist individual learners.
- Summarize Worldviews in learning theory.

TEACHING AND TRAINING CAREERS

UNIT 1: FOUNDATIONS OF PEDAGOGY

Assignment Titles

1. Course Overview
2. Educational Knowledge Areas
3. Project: Your Pet Theory
4. Learning Theories and Student Experiences
5. The Difference Between Teaching and Training
6. Project: Training Day
7 Quiz 1: History, Learning Theories and Theorists
8. Defining Instructional Standards
9. Project: Pick a Subject and Plan a Class to Standards
10. Assessing Instructional Standards
11. Individual Learning in Standardized Classrooms
12. Project: Classroom Anecdotes as Research
13. Quiz 2: Standards and Standardized Learning
14. Project: Special Project*
15. Test
16. Course Project Part 1: Your Educational Approach*
17. Glossary and Credits

TEACHING AND TRAINING CAREERS

UNIT 2: PLANNING AND PREPARING A LESSON

Assignment Titles

1. Creating the Lesson Plan
2. Project: Build Your Lesson Plan
3. Revising Lesson Plans for Effectiveness
4. Project: Revise Your Lesson Plan
5. Using Bloom's Taxonomy
6. Quiz 1: The Lesson Plan
7. Choosing and Using Resources: Textbooks
8. Project: Find a Great Textbook for Your Class
9. Resources: Teacher-Created Materials
10. Project: Explore Teacher-Created Materials
11. Resources: Evaluating the Source
12. Quiz 2: Curriculum Resources
13. Project: Special Project*
14. Test
15. Course Project Part 2:Your Daily Plan as a Teacher*
16. Glossary and Credits

TEACHING AND TRAINING CAREERS

UNIT 3: DELIVERING AND ASSESSING

Assignment Titles

1. Teaching Skills for Effective Lessons
2. Project: Think Fast!
3. Lesson Components for Success
4. Project: Rethink Your Lesson Plan for Successes
5. Active Learning Strategies
6. Quiz 1: Teaching Styles
7. Focus on Assessments
8. Project: Research Assessment Requirements in Your State
9. Types of Assessments
10. Creating Assessment Activities
11. Project: Create an Awesome Assessment
12. Quiz 2: Assessments
13. Project: Special Project*
14. Test
15. Course Project Part 3: You're the Teacher, What's Your Style?*
16. Glossary and Credits

TEACHING AND TRAINING CAREERS

UNIT 4: MANAGING THE LEARNING ENVIRONMENT

Assignment Titles

1. Schools in the Community
2. Project: A Moment in School History
3. Developmentally Appropriate Materials
4. Creating Positive School Environments
5. Project: Create a Positive Environment
6. Quiz 1: School Environments in the Community
7. The Inclusive Classroom
8. Project: The Non-Inclusive Classroom: A Cautionary Tale
9. Improving Learning Environments
10. Inclusion of Multiple Intelligences
11. Project: Multiple Intelligences in Action
12. Quiz 2: Inclusive Classroom Strategies
13. Project: Special Project*
14. Test
15 Course Project Part 4: Meet the Principal: You!*
16. Glossary and Credits

TEACHING AND TRAINING CAREERS

UNIT 5: DATA AND USE IN SCHOOL RELATIONS

Assignment Titles

1. Keeping Track of Performance
2. Project: School Report Cards and Rankings Check
3. Data Collection Systems
4. Project: Data Collection Systems Hunt
5. How Data Affects Policy in Education
6. Quiz 1: Data Collection in Schools
7. Education Advocacy
8. Project: You're the Advocate
9. Teacher-Parent Communication
10. Accountability in Education
11. Project: Accountability Project
12. Quiz 2: Education Outreach
13. Project: Special Project*
14. Test
15. Course Project Part 5: Peer Evaluations*
16. Glossary and Credits

TEACHING AND TRAINING CAREERS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Putting it All Together*
2. Review
3. Exam

(*) Indicates alternate assignment

FINANCE

Introduction to Careers in Finance

Course Overview

The Introduction to Careers in Finance course provides the fundamentals of the financial services industry in the United States and explores the jobs and career opportunities that the industry offers.

Unit 1 introduces the financial services industry and the financial systems that operate in the US and internationally.

Unit 2 examines securities markets and investment companies, looks at how companies evaluate and mitigate risk, and discusses the valuation of stocks and bonds.

Unit 3 discusses the roles and responsibilities of corporate finance and accounting, analysis of financial statements, capital budgeting, and capital structure.

Unit 4 focuses on banking services, including how the industry is organized and regulated and how risks are managed.

Unit 5 looks at the insurance industry, including how it is organized and regulated, how it addresses risks, and the career opportunities it offers.

Objectives

- Explain the financial system.
- Evaluate career opportunities in financial services.
- Describe the role of intermediaries in finance.
- Examine and define the key agencies governing US banking and securities industries.
- Characterize the impact of international finance on US financial system regulations.
- Review the attributes of a well-functioning financial system.
- Evaluate the role of regulatory bodies in ensuring compliance with regulations.
- Identify the importance of transparency in the financial system.
- Identify different types of securities and markets.
- Describe how diversification works with risk and return.
- Discuss how to analyze a bond for investment purposes.
- Describe, compare, and apply the main techniques used for equity valuation.
- Analyze the methods used to assess the value of a futures contract.
- Discuss the roles and responsibilities of corporate finance.
- Create a framework to understand the analysis of financial statements.
- Describe how money grows over time when invested through compounding.
- Identify issues affecting the cost of capital.
- Describe the elements of a company's capital structure.
- Explain how a company can use its profits to increase its value.
- Describe the nature, structure, and functions of banking firms.
- Explain how banks mitigate their risks.
- Describe the role of the Federal Reserve in supporting banks.
- Summarize the nature and types of risks faced by businesses and how they use insurance to manage those risks.
- Explain nontraditional risks and how companies address them.
- Summarize the types of jobs and careers offered by insurance companies.
- Discuss the role of state insurance commissioners in regulating insurance companies.

Students will need access to the Internet to conduct research for the lesson assignments. They will also need a paper or electronic notebook to record their "Reflections" or "Notebook" responses from the lessons and their assignments.

INTRODUCTION TO CAREERS IN FINANCE

UNIT 1: FINANCE OVERVIEW AND FINANCIAL SERVICES

Assignment Titles

1. Course Overview
2. Introduction to the Financial Services Industry
3. Project: Exploring Careers in Financial Services
4. Financial System and Financial Intermediaries
5. Project: Exploring Stock Market Fraud
6. Dynamics of Financial Services Systems
7. Quiz 1: Market Organization and Structure
8. Traits for a Healthy Financial System
9. Project: Mortgage Meltdown
10. Financial Regulation and Compliance
11. Project: The Fiscal Cliff
12. International Finance
13. Project: When Financial Services Fail to serve the Consumer
14. Quiz 2: Constantly Changing Financial Systems
15. Project: Special Project*
16. Test
17. Course Project Part 1: Find the Right Company*
18. Glossary and Credits

INTRODUCTION TO CAREERS IN FINANCE

UNIT 2: SECURITIES ANALYSIS AND INVESTMENTS

Assignment Titles

1. Securities Markets and Investment Companies
2. Project: When It All Goes Wrong on Wall Street
3. Risk and Return, Efficient Diversification
4. Introduction to the Financial Services Industry
5. Project: Risk Analysis
6. Quiz 1: Basics of Securities Analysis
7. Bond Valuation
8. Project: Evaluating Bonds
9. Equity Valuation
10. Project: Researching Stock Valuations
11. Options and Futures Valuation
12. Quiz 2: Securities Valuation
13. Project: Special Project*
14. Test
15. Course Project Part 2: Explore Jobs and Careers*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN FINANCE

UNIT 3: PRINCIPLES OF CORPORATE FINANCE

Assignment Titles

1. Introduction to Financial Statement Analysis
2. Project: Financial Statement Analysis
3. Financial Statement Analysis
4. Project: Application of Ratio Analysis
5. The Time Value of Money
6. Quiz 1: The Finance Function and Financial Reporting and Analysis
7. Capital Budgeting and the Cost of Capital
8. Financial Leverage and Capital Structure Policy
9. Project: Financial Condition of the Energy Industry
10. Dividends and Payout Policy
11. Project: Effects of the Mortgage Meltdown
12. Quiz 2: Capital Structure
13. Project: Special Project*
14. Test
15. Course Project Part 3: Prepare a Learning Plan*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN FINANCE

UNIT 4: BANKING SERVICES

Assignment Titles

1. Organization and Structure of the Banking Industry
2. Project: Bitcoin: A New Approach to Currency
3. Banking Regulation
4. Project: Exploring the Dodd-Frank Act
5. Bank Financial Statements and Performance
6. Project: Bank Solvency and Risk Measures
7. Quiz 1: Introduction to Banking
8. Managing Liability and Liquidity Risk
9. Managing Deposit Insurance: Bank Capital and Capital Regulation
10. Project: Bailing Out Troubled Banks
11. Asset-backed Securities, Loan Sales, and Derivatives
12. Project: Bank Financial Positions
13. Quiz 2: Bank Risk Management
14. Project: Special Project*
15 Test
16. Course Project Part 4: Understand Risk*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN FINANCE

UNIT 5: RISK MANAGEMENT AND INSURANCE

Assignment Titles

1. The Role of Insurance in Addressing Risk
2. Project: Keystone: Yes or No?
3. Introduction to Risk Management
4. Project: Risk Assessment and Mitigation
5. Advanced Topics In Risk Management
6. Quiz 1: Risk Management
7. Careers in Insurance
8. Financial Operations of Insurance
9. Project: Advising the Client on an Annuity.
10. Government Regulation of Insurance
11. Project: Client Advice for Health Care Compliance
12. Quiz 2: Insurance
13. Project: Special Project*
14. Test
15. Course Project Part 5: Be Aware of Regulations*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN FINANCE

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Look to the Future*
2. Review
3. Exam

(*) Indicates alternate assignment

Banking Services Careers

Course Overview

The Introduction to Careers in Finance course provides the fundamentals of the financial services industry in the United States and explores the jobs and career opportunities that the industry offers.

Unit 1 introduces the financial services industry and the financial systems that operate in the US and internationally.

Unit 2 examines securities markets and investment companies, looks at how companies evaluate and mitigate risk, and discusses the valuation of stocks and bonds.

Unit 3 discusses the roles and responsibilities of corporate finance and accounting, analysis of financial statements, capital budgeting, and capital structure.

Unit 4 focuses on banking services, including how the industry is organized and regulated and how risks are managed.

Unit 5 looks at the insurance industry, including how it is organized and regulated, how it addresses risks, and the career opportunities it offers.

Objectives

- Explain the financial system.
- Evaluate career opportunities in financial services.
- Describe the role of intermediaries in finance.
- Examine and define the key agencies governing US banking and securities industries.
- Characterize the impact of international finance on US financial system regulations.
- Review the attributes of a well-functioning financial system.
- Evaluate the role of regulatory bodies in ensuring compliance with regulations.
- Identify the importance of transparency in the financial system.
- Identify different types of securities and markets.
- Describe how diversification works with risk and return.
- Discuss how to analyze a bond for investment purposes.
- Describe, compare, and apply the main techniques used for equity valuation.
- Analyze the methods used to assess the value of a futures contract.
- Discuss the roles and responsibilities of corporate finance.
- Create a framework to understand the analysis of financial statements.
- Describe how money grows over time when invested through compounding.
- Identify issues affecting the cost of capital.
- Describe the elements of a company's capital structure.
- Explain how a company can use its profits to increase its value.
- Describe the nature, structure, and functions of banking firms.
- Explain how banks mitigate their risks.
- Describe the role of the Federal Reserve in supporting banks.
- Summarize the nature and types of risks faced by businesses and how they use insurance to manage those risks.
- Explain nontraditional risks and how companies address them.
- Summarize the types of jobs and careers offered by insurance companies.
- Discuss the role of state insurance commissioners in regulating insurance companies.

Students will need access to the Internet to conduct research for the lesson assignments. They will also need a paper or electronic notebook to record their "Reflections" or "Notebook" responses from the lessons and their assignments.

BANKING SERVICES CAREERS

UNIT 1: DESCRIPTION OF THE BANKING INDUSTRY

Assignment Titles

1. Course Overview
2. Overview of the Federal Reserve System
3. The Money Supply and Monetary Policy
4. Project: Fed Decision Making
5. Banking Regulations and Oversight
6. Project: Factors of a CAMELS Rating
7. Quiz 1: The Federal Reserve
8. Overview of Bank Charters
9. State-Chartered Versus Federally-Chartered Banks
10. Project: Open a New Bank
11. Credit Unions
12. Project: Compare and Contrast
13. Quiz 2: Types of Financial Institutions
14. Project: Special Project*
15. Test
16. Course Project Part 1: Introduction of Your Product or the Improvement to a Product*
17. Glossary and Credits

BANKING SERVICES CAREERS

UNIT 2: BANK PERFORMANCE

Assignment Titles

1. Overview of Bank Performance
2. Specific Criteria for Measuring Bank Performance
3. Project: Bank Analysis
4. Customers and Bank Performance and Profitability
5. Project: Bank Ranking Analysis
6. Quiz 1: Maximizing Bank Performance
7. Overview of Financial Reports
8. Project: Reviewing a Federal Reserve Report
9. Income Statements and Balance Sheets
10. Reporting Financial Information
11. Project: Investigating Bank Violations
12. Quiz 2: Financial Information and Laws and Regulations
13. Project: Special Projec*t
14. Test
15. Course Project Part 2: Choosing a Charter*
16. Glossary and Credits

BANKING SERVICES CAREERS

UNIT 3: BANK PRODUCTS

Assignment Titles

1. Checking Accounts
2. Project: Checking Account Comparison
3. Savings Operations
4. Project: Research Savings Options
5. Banks and Technology
6. Project: Bank Comparisons
7. Quiz 1: Deposit Accounts and e-Banking
8. Overview of Lending Products
9. The Lending Process
10. Project: Research a Loan
11. Finding the Right Loan and Bank to Meet Your Needs
12. Project: Find the Best Loan
13. Quiz 2: Lending
14. Project: Special Project*
15. Test
16. Course Project Part 3: Bank Services*
17. Glossary and Credits

BANKING SERVICES CAREERS

UNIT 4: CUSTOMER RELATIONSHIPS

Assignment Titles

1. Overview of Personal Financial Planning
2. Services Offered by Banks
3. Project: Financial Planning Services
4. Technology, Personal Financial Planning, and Customer Retention
5. Project: Explore Personal Finance Software
6. Quiz 1: Personal Financial Planning
7. Overview of CSR
8. Project: Researching CSR
9. Being Involved to Increase Profitability
10. Designing the CSR Program
11. Project: CSR Investigation
12. Quiz 2: The Bank and the Community
13. Test
14. Course Project Part 4: Corporate Social Responsibility Strategy*
15 Glossary and Credits

BANKING SERVICES CAREERS

UNIT 5: BANKING AND CONSUMERS

Assignment Titles

1. The Role of Bank Employees
2. Project: What Do Bank Employees Do?
3. Bank Employees and their Customers
4. Project: New Bank Customer Service Code
5. Building Relationships and Earning a Profit
6. Quiz 1: Overview of Bank Employees
7. Career Opportunities
8. Project: Exploring Careers in a Bank
9. Skills, Experience, and Education
10. Project: Job Research
11. Bank Career Trends
12. Quiz 2: Bank Employee Careers
13. Test
14. Course Project Part 5: Finding Key Employees*
15 Glossary and Credits

BANKING SERVICES CAREERS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Planning For the Trends*
2. Review
3. Exam

(*) Indicates alternate assignment

GOVERNMENT & PUBLIC ADMINISTRATION

Introduction to Careers in Government and Public Administration

Course Overview

The Introduction to Government and Public Administration course will provide students with an overview of American politics and public administration, including how political institutions and public management systems at the local, state, and federal levels exercise supervisory authority and maintain accountability.

Students will learn about the foundations of the U.S. government, the separation of powers, the federal civil service system, and the relationship between the government and state and local officials.

They will also learn about governmental powers of the states and of local governments, such as education, law enforcement, and transportation.

Students will learn about politics in the United States and the electoral process, political attitudes and opinions, and American political parties.

They will also learn about the structure of U.S. federal governmental institutions, the nature of bureaucracy, and the functions of the executive, legislative, and judicial branches of government.

Students will also learn about policy making in American government, including discussions of foreign and defense policies.

After completing this course, the student will have a fundamental understanding of U.S. government and public administration. They will be able to explain the history and structure of the government, how the government functions and relates to state and local governments, and how the government creates and enforces public policies.

After completing the course, students will be able to:

Objectives

- Explain the missions, responsibilities, and type of government agencies.
- Describe the federal civil service and the importance of intergovernmental cooperation.
- Identify ideas behind the federal system, including how the federal government interacts with state and local governments.
- Explain the political party system
- Discuss the electoral process and the role of mass media.
- Compare and contrast the three branches of U.S. federal government—executive, legislative, and judicial.
- Describe the policy making process and the differences between types of public policies.

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 1: ADMINISTRATIVE AND POLITICAL SYSTEMS IN THE UNITED STATES

Assignment Titles

1. Course Overview
2. Foundations of U.S. Government and Democracy
3. Project: The Founding Fathers
4. A History of U.S. Public Administration
5. The Modern Civil Service
6. Project: Cabinet-level Departments
7. Quiz 1: History and Constitutional Foundations of Democratic Governance
8. Public Service Roles and Responsibilities
9. Career Development in Federal Agencies
10. Project: Workforce Development Planning
11. Promoting Inter-Agency Coordination
12. Project: The Hometown Federal Government
13. Quiz 2: The Federal Career Service
14. Project: Special Project*
15. Test
16. Course Project Part 1: The Foundations of the U.S. Government*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 2: OVERLAPPING POWERS OF GOVERNMENTS

Assignment Titles

1. Understanding Federal, State, and Local Roles and Responsibilities
2. Federalism and Separation of Powers
3. Project: Organize a Debate on Federalism
4. Contemporary Intergovernmental Relations
5. Project: Will You Collect Social Security?
6. Quiz 1: Federalism and Intergovernmental Relationships
7. Number, Size, and Scope of Governments
8. Project: Conduct a Mock Public Hearing
9. Sources of Revenue and Spending Priorities
10. Project: Create a Video or Report about a Local Agency
11. Job Performance
12. Quiz 2: Employment Opportunities with Local and State Governments
13. Project: Special Project*
14. Test
15. Course Project Part 2: Separation of Powers Between the States and Federal Government*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 3: POLITICS, ELECTIONS, AND DEMOCRATIC PARTICIPATION

Assignment Titles

1. Formation of Public Opinion
2. The American Voter
3. Project: Make Two Data Graphics About Social Media for Public Engagement
4. Participation and Political Parties
5. Project: Write and Design a Voter Guide
6. Quiz 1: Public Opinion, Political Parties, and Interest Groups
7. Political Campaigns, Financing Elections, and Role of Social Media
8. Project: Interview with a Politician
9. Voter Turnout and the Electoral College
10. Project: Election Day
11. Redistricting, Reapportionment, and Gerrymandering
12. Quiz 2: Campaigns, Elections, and the Role of Mass Media
13. Project: Special Project*
14. Test
15 Course Project Part 3: The American Voter*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 4: GOVERNMENTAL INSTITUTIONS: EXECUTIVE, LEGISLATIVE, AND JUDICIAL

Assignment Titles

1. Changing Role of the Chief Executive
2. Project: Rewriting History Report
3. The Executive Bureaucracy
4. Joint Control of Executive Agencies
5. Project: Freedom of Information
6. Quiz 1: Executive Branch Responsibilities and Restraints
7. Congressional Authority
8. Legislative and Budget Processes
9. Project: Making a Law
10. Judicial Review
11. Project: Understanding the State Court System
12. Quiz 2: The Legislative and Judicial Branches: Congress and the Courts
13. Project: Special Project*
14. Test
15 Course Project Part 4: How the Executive Branch Interacts with the Legislative Branch*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 5: PUBLIC POLICY AND PROGRAM IMPLEMENTATION

Assignment Titles

1. Domestic and Social Policies
2. Project: Analyze a Policy
3. Regulatory Policies
4. Fiscal and Monetary Policies
5. Project: How the Federal Reserve Implements Monetary Policy
6. Quiz 1: Putting Government Policies into Action
7. Making Foreign and Defense Policy
8. Project: Negotiating a Treaty
9. Protecting the United States
10. Presidential Direction in Foreign and Defense Policy
11. Project: A Job in the State Department
12. Quiz 2: Protecting the Homeland: U.S. Foreign and Defense Policy
13. Project: Special Project*
14. Test
15 Course Project Part 5: Domestic Policy Issues*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN GOVERNMENT AND PUBLIC ADMINISTRATION

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Serving the People: The Final Product *
2. Review
3. Exam

(*) Indicates alternate assignment

National Security Careers

Course Overview

This course discusses careers in national security. It provides you with the history, background, and recent advances in this field. Millions of people work in national security positions, from military enlisted personnel, writers, politicians, photographers, and law enforcement personnel to agents, investigators, scientists, and administrative personnel. Just about any career you can imagine is available in national security.

In Unit 1, students learn that the term national security means much more than just U.S. military, the CIA, or the FBI. National security includes the actions of the president, Congress, law enforcement, and many agencies working together to ensure the safety of the United States and our allies. The unit covers the major departments and agencies responsible for national security. It also presents the history, laws, and policies that guide these groups. In many cases, these laws and policies directly affect the lives of most Americans.

Unit 2 presents the policymakers and agencies that make up the national security bureaucracy. It outlines the national security roles of the president, presidential cabinet and advisors, the 17 national security agencies, and Congress. Oversight and funding are also discussed in this unit.

Unit 3 provides information on the history and national security roles of the U.S. armed forces. It covers the Army, Air Force, Navy, Marines, National Guard, and Coast Guard. Technological advancements are presented, as well as careers within these branches of the military.

Unit 4 covers intelligence agencies and federal law enforcement. It covers the roles, responsibilities, and legal limitations of intelligence and law enforcement. Intelligence gathering (operations) and analysis are presented, including careers with various intelligence and law enforcement agencies.

Unit 5 discusses national security challenges in the 21st century. Rising threats such as terrorism, rogue nations, and weapons of mass destruction are presented. The unit also explores chemical, biological, nuclear, and radiological weapons examples and threats.

Objectives

- Analyze and interpret the theories behind various national security policies.
- Understand the duties of the various career paths in the national security field.
- Recognize and be able to apply the different laws and regulations affecting national security policies.
- Develop the interpersonal, conflict resolution, communication. and critical-thinking skills that are required for successful careers in an ever-changing economic, technological, political, and social environment.
- Understand how various agencies interact to ensure the safety of the United States.
- Demonstrate an understanding of military, intelligence, and law enforcement practices.
- Apply analytical methods to understand the process of gathering and utilizing intelligence to detect threats to national security.
- Understand the evolution of national security in the United States.
- Recognize the importance of technology as part of the overall process of providing national security.
- Develop an appreciation for the variety of roles and responsibilities associated with a career in a national security organization.

NATIONAL SECURITY CAREERS

UNIT 1: INTRODUCTION TO LEGAL, POLITICAL, AND HISTORICAL ASPECTS OF NATIONAL SECURITY

Assignment Titles

1. Course Overview
2. What Is National Security?
3. Laws Guiding National Security
4. Project: National Security Laws Chart
5. Philosophies of National Security
6. Project: Isolationism vs. Interventionism Venn Diagram
7. Quiz 1: Theories, Laws, and Politics of National Security
8. U.S. National Security Policy Before 1898
9. Project: U.S. Diplomacy, Foreign Policy, and National Security Timeline (1607-1898)
10. America's Rise as a World Power
11. Project: U.S. Rise as World Power After 1898
12. The Legacy of the Cold War and War on Terror
13. Quiz 2: History of National Security Policy and Modern Concerns
14. Project: Special Project*
15. Test
16. Course Project Part 1: Investigate a National Security Career*
17. Glossary and Credits

NATIONAL SECURITY CAREERS

UNIT 2: THE NATIONAL SECURITY BUREAUCRACY

Assignment Titles

1. The Role and Responsibility of the President in National Security
2. Project: President's National Security Response Analysis
3. U.S. Executive Departments
4. Project: Executive Department National Security Issues and Solutions Chart
5. Presidential Advisors
6. Quiz 1: The Executive Branch
7. Roles and Responsibilities of the U.S. Senate and House of Representatives
8. Project: Roles of Congress: Similarities and Differences
9. Congressional Committees, Oversight, and Appropriations
10. Project: Personal Reaction to Congressional Committee Work
11. Declaring War and Authorization for Use of Force
12. Quiz 2: The Legislative Branch
13. Project: Special Project*
14. Test
15. Course Project Part 2: An Interview of National Security Personnel*
16. Glossary and Credits

NATIONAL SECURITY CAREERS

UNIT 3: THE ARMED FORCES

Assignment Titles

1. The U.S. Military
2. The Impact of Technology on Combat and Non-Combat Operations
3. Project: Military Technologies and Combat Operations
4. Military Careers and Benefits
5. Project: Personal Military Career Plan
6. Quiz 1: The United States Army, Navy, Marine Corps, and Air Force
7. History, Organization, and Role of the National Guard
8. Project: The National Guard in Your State
9. Roles of the Coast Guard
10. Project: Coast Guard Missions Chart
11. National Guard and Coast Guard Careers
12. Quiz 2: The National Guard, Air National Guard, and Coast Guard
13. Project: Special Project*
14. Test
15. Course Project Part 3: National Security Career Chart*
16. Glossary and Credits

NATIONAL SECURITY CAREERS

UNIT 4: INTELLIGENCE AND LAW ENFORCEMENT AGENCIES

Assignment Titles

1. Understanding the Reality of Intelligence Operations
2. Project: Film Critique: Spy Movie
3. The Impact of Technology on Intelligence Gathering
4. Project: Declassified Intelligence Technologies Research
5. Legal Constraints and Accountability of Intelligence Agencies
6. Quiz 1: Intelligence Agencies
7. Organization of Federal Law Enforcement Agencies
8. Project: Federal Law Enforcement Interview
9. Federal Law Enforcement Operations
10. Federal Law Enforcement Career Paths
11. Project: Federal Law Enforcement Career Plan
12. Quiz 2: Law Enforcement Agencies
13. Project: Special Project*
14. Test
15 Course Project Part 4: Storyboard of a National Security Scenario & Response*
16. Glossary and Credits

NATIONAL SECURITY CAREERS

UNIT 5: NATIONAL SECURITY CHALLENGES IN THE 21ST CENTURY

Assignment Titles

1. Identifying Terrorist Organizations
2. Preventing Acts of Terrorism
3. Project: Reaction to Terrorism Prevention
4. Responding to Acts of Terrorism
5. Project: Response to a Terrorist Attack
6. Quiz 1: Terrorism and Non-State Actors
7. Understanding the History and Policies Regarding Weapons of Mass Destruction
8. Project: WMD: History, Uses, and Regulations
9. Recognizing Nuclear Weapons Proliferation
10. Project: Nuclear WMD Research
11. The Threat of Chemical, Biological, Nuclear, and Radiological (CBNR) Weapons
12. Quiz 2: Weapons of Mass Destruction
13. Project: Special Project*
14. Test
15. Course Project Part 5: Create a Multimedia Presentation*
16. Glossary and Credits

NATIONAL SECURITY CAREERS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Give a Multimedia Presentation *
2. Review
3. Exam

(*) Indicates alternate assignment

HEALTH SCIENCE

Introduction to Careers in the Health Sciences

Course Overview

This course is an overview of health careers and overriding principles central to all health professions. Units include:

- science and technology in human health
- anatomy, physiology, and disease development
- privacy, ethics, and safety in health care
- communication and teamwork in the health care environment
- health careers; creating a diverse workforce of lifelong learners

The course provides a foundation for further study in the field of health science. When students complete the course, they will be able to discuss the potential career choices and have an understanding of basic concepts that apply to many different career choices.

The student will:

- evaluate the history of health care with respect to current developments
- compare and contrast methods of communication within the health care community
- examine the roles and responsibilities of individuals as members of a health care team
- compare career options in health care with respect to educational requirements and licensure
- examine issues relating to workforce diversity and access to health care
- distinguish between ethical and unethical practices in health care
- analyze potential and existing workplace hazards that can compromise health care worker safety, and the safety of patients and coworkers
- evaluate the impact of science and technology on health care
- understand how to organize and structure work individually and in teams for effective performance and attainment of goals
- understand how to interact with others in ways to demonstrate respect for individual and cultural differences and for the attitudes and feelings of others
- understand the role of antibodies in the body's response to infection
- examine role of the skin in providing nonspecific defenses against infection
- analyze the organization of the body and functions and interactions of organ systems

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 1: SCIENCE AND TECHNOLOGY

Assignment Titles

1.	Course Overview	9.	Advances in Medical Imaging
2.	Medicine From Ancient Times Through the Middle Ages	10.	Innovations in Transplantation
3.	Medicine in the 17th and 18th Centuries	11.	Project: Genetics
4.	The Rise of Modern Medicine	12.	Project: How Technology is Used in Medicine
5.	Project: Ancient vs. Modern Medical Practices	13.	Quiz 2
6.	Project: Different Health Career Possibilities	14.	Special Project*
7	Quiz 1	15.	Test
8.	Molecular Technology: Gene Chips	16.	Course Project Part - 1: 21st Century Skills*
		17.	Glossary and Credits

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 2: ANATOMY AND PHYSIOLOGY IN HEALTH AND DISEASE

Assignment Titles

1. Microscopic and Macroscopic Organization of the Body
2. Organ Systems and Their Functions
3. Human Physiology
4. Project: Systems of The Human Body
5. Project: Research of Disease or Disorder
6. Quiz 1
7. The Pathophysiology of Cancer
8. Pathophysiology of Diabetes
9. Tuberculosis: A Worldwide Health Problem
10. Project: Creating a Care Plan
11. Project: Creating a Training Aid
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 2: 21st Century Skills*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 3: PRIVACY, ETHICS, AND SAFETY

Assignment Titles

1. The Patient's Bill of Rights
2. HIPAA
3. Ethics in Health Care
4. Project: The Patient's Bill of Rights Scenario
5. Project: Ethics and Morals
6. Quiz 1
7. Hazards and Exposures
8. OSHA Standards
9. Safety in the Workplace
10. Project: Disposing of Biological Waste
11. Project: Real World Examples
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 3: 21st Century Skills*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 4: COMMUNICATION AND TEAMWORK IN THE HEALTH CARE ENVIRONMENT

Assignment Titles

1. The Health Care Hierarchy â€“ A Thing of the Past
2. Project: Pre-lesson Activity Continued
3. The Evolution of Health Care Teams
4. Project: Research Health Care Teams
5. A Model of Success: Geriatric Teams
6. Quiz 1
7. Communication with Team Members
8. Project: Strategies For Effective Communication
9. Communication with Patients
10. Project: Mind Map of The Three Types of Communication
11. Communication with the General Public
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 4: 21st Century Skills*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 5: HEALTH CAREERS: CREATING A DIVERSE WORKFORCE OF LIFELONG LEARNERS

Assignment Titles

1. Academic Preparation for Careers in Health Science
2. Project: Planning Ahead
3. Licensure and Certification
4. Keeping up with Advances in your Field
5. Project: Exploring Careers
6. Quiz 1
7. Professional Organizations
8. Project: Comparing and Contrasting Health Science Careers
9. Finding the Right Career for You
10. Project: Writing a Health Science Job Description
11. Finding the Right School to Attend
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 5: 21st Century Skills*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN THE HEALTH SCIENCES

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: 21st Century Skills*
2. Review
3. Exam

(*) Indicates alternate assignment

Careers in Allied Health

Course Overview

Allied health is the term for the area of healthcare (and health care professions) that provide support and care services other than specific doctoring and nurse care. At times, the line between allied health and "non-allied health" may seem to be separated by level of degree/education, although this isn't always true.

Allied health career paths can be divided into general roles like diagnostic (testing to see what's wrong), technical (taking care of technology aspects), therapeutic (moving the patient toward healing) and direct patient care (caring for the patient in other ways), although there is some overlap in a few roles. There are a few hundred potential jobs and dozens of potential settings that one could work in.

The career field is important for several reasons. First, the care and support that allied health professionals provide is integral to the health care system. In addition it's estimated that these professionals make up more than half of the entire health care field. This representation within the industry shows how very important the various roles are.

In this course, we will focus on select allied health careers, studying a variety of different levels, responsibilities, settings, education needs and amounts of patient contact. We will look at things like the degree or training needed for each job, the environment one would work in, how much money the position could make, and the facts of the actual working day.

Then, within each job group, we will explore important aspects that are applicable to the entire field of allied health, such as behaving ethically, working as a team, keeping patients safe and free from infections and germs, honoring diverse needs of diverse patients, and following laws and policies.

The last unit will then include several activities that allow the student to seriously engage with their career exploration and selection.

Objectives

- learn about allied health careers, academic preparation, lifestyle, skills needed, licensing and credentialing, employment potential, and continuing education.
- explore ethical and legal challenges in the healthcare field.
- understand the role of allied health care professionals in the overall health care environment and the importance of teamwork in patient care.
- examine the importance of cultural, social, and ethnic diversity in the healthcare workforce and environment.
- learn legal/regulatory guidelines addressing patient and medical information and understand the issues related to confidentiality.
- learn about safety measures and regulatory requirements.

Since this course leans heavily on reporting and research, students should already know how to choose appropriate resources (especially online), and how to properly cite those resources.

CAREERS IN ALLIED HEALTH

UNIT 1: INTRODUCTION TO ALLIED HEALTH CAREERS

Assignment Titles

1.	Course Overview	9.	Project: Ethics and Responsibilities of EMTs
2.	What is Allied Health?	10.	Surgical Technologists
3.	Project: Educational Pathway (education, testing, and credentials)	11.	Perfusionist
		12.	Project: Exploring Allied Health Careers
4.	Exploring the Allied Health Competency Model	13.	Quiz 2: First Responders and Emergency Personnel
5.	Project: Evaluating Your Competencies	14.	Special Project*
6.	Who's the Hero? An Allied Health Story	15.	Test
7	Quiz 1: Introduction	16.	Course Project Part - 1: Establishing Your Blog*
8.	First Responders: EMT/Paramedic	17.	Glossary and Credits

CAREERS IN ALLIED HEALTH

UNIT 2: ART AND TECHNOLOGY

Assignment Titles

1. Medical Arts & Special Skills: Medical Illustrator
2. Project: Medical Illustration/Emergency Medicine Career Comparison
3. Medical Arts & Special Skills: Orthotists and Prosthetists
4. Project: Communication Research and Report
5. Medical Arts & Special Skills: Art Therapist
6. Quiz 1: Medical Arts and Special Skills
7. Therapists and Technologists: Respiratory Therapists and Cystic Fibrosis
8. Therapists and Technologists: Radiologic Technologist and Situs Inversus
9. Project: Cystic Fibrosis Report
10. Therapists and Technologists: Polysomnographic Technologists and Sleep Apnea
11. Project: Polysomnographic Technologist (PT) Scenario
12. Quiz 2: Therapists and Technologists
13. Special Project*
14. Test
15. Course Project Part - 2: Situs Inversus*
16. Glossary and Credits

CAREERS IN ALLIED HEALTH

UNIT 3: EXERCISE SCIENCE AND PATIENT EVALUATION

Assignment Titles

1. Exercise as Medicine and the Exercise Physiologist
2. Project: Day in the Life
3. Kinesiotherapy and the U.S. Veteran returning from Afghanistan
4. Project: Research on VA and Their Services
5. Fitness Instructor and the New Year's Resolution
6. Quiz 1: Exercise Science
7. Audiologists and the Hip Hop Concert
8. Project: The Hip Hop Mogul
9. Electro-neurodiagnostic (END) Technologist and the Epileptic Patient
10. Project: Epilepsy Research paper
11. Cardiovascular Technologist
12. Quiz 2: Evaluating the Patient
13. Special Project*
14. Test
15. Course Project Part - 3: Blogging about an Echocardiogram*
16. Glossary and Credits

CAREERS IN ALLIED HEALTH

UNIT 4: HEALTH INFORMATICS AND HEALTH ADMINISTRATION

Assignment Titles

1. Health Informatics, Data Acquisition, and Medical Coding
2. Project: Medical Coding Ethics
3. Dental Informatics
4. Telemedicine and Mobile Computing Informatics
5. Project: Online Symptom Analysis
6. Quiz 1: Health Informatics and Medical Coding
7. Introduction to Healthcare Management
8. Introduction to the Hospital Administrator Role
9. Project: Creating an Organizational Chart
10. Applications, Activities and Case Studies in Hospital and Health Care Management
11. Project: Developing Comparison of Healthcare Funding
12. Quiz 2: Hospital Administrator/Health Care Management
13. Special Project*
14. Test
15. Course Project Part - 4: Blogging on Medical Ethics*
16. Glossary and Credits

CAREERS IN ALLIED HEALTH

UNIT 5: COUNSELING, DIETETICS AND CHOOSING A CAREER IN ALLIED HEALTH

Assignment Titles

1. Genetic Counseling- An Introduction to the Career
2. Bioinformatics and the Human Genome
3. Project: Mapping Genes
4. Prenatal Counseling and Anomalies, Choice, Ethics, Science
5. Project: Cystic Fibrosis Testing and Ethical Decisions
6. Quiz 1: Genetic Counseling
7. Dietetics and Nutrition: Intro to the Career
8. Project: The Debate Between the Nutritionist and Dietician
9. Diet and the Body
10. Project: Choose My Plate
11. Career Exploration Activities
12. Project: The Case Study
13. Quiz 2: Dietetics and Nutrition
14. Special Project*
15. Test
16. Course Project Part - 5: Personal Trainer and* Dietician Consulting
17. Glossary and Credits

CAREERS IN ALLIED HEALTH

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: Final Blogging Project *
2. Review
3. Exam

(*) Indicates alternate assignment

Forensics: Using Science to Solve a Mystery

Course Overview

This course is the overview of modern-day forensic science careers at work using science concepts to collect and analyze evidence and link evidence to the crime and suspects in order to present admissible evidence in courts of law. Modern-day forensic science practices have come into being thanks to the contribution of science and legal professions seeking ways to study crime scenes and criminal activities in an effort to stop crime. Of particular interest in this course are the various applications of medicine in the field of forensic science.

This course identifies science concepts and critical thinking in the area of forensic science. Following the presentation of the concepts, students are encouraged to conduct online research exploring examples and applying the concepts just learned. Links to case studies and interactive learning tools are supplied along with high-quality research sites. Projects are assigned throughout the course that allow students to actively apply the information just learned. These projects include simulated crime-scene investigation, actual DNA separation, development of a cybersecurity plan, and the identification of specific forensic skills used during the course of a very large murder case.

The focus of this course is to assist students in making career choices. Secondary school students who complete this course will have gained an awareness of the diversity of careers available in the forensic field. In addition, attention is drawn to many similar careers in medicine and computer science. Included in this overview of careers is the consideration of job descriptions and availability, educational and training requirements, licensing and certification, and typical annual salaries. Students who take this class will become equipped to make more informed career choices in regards to the forensic and medical science fields. At the same time, students will survey the history and scope of present-day forensic science work.

In this course, students will fulfill the following objectives:

- Compare and contrast the professions in the field of forensic science in terms of job descriptions, educational and training requirements, licensing and certification, and legal and ethical considerations.
- Examine the history of forensic science and the contributions of physical evidence, fingerprints, ballistics, animation, and molecular techniques in solving crimes and identifying victims and perpetrators.
- Assess the contributions of medical professionals in the development of forensics as a science.

There is a great deal of research and related online study incorporated into this course. The student will be at a great disadvantage if the suggested work is not completed. It is recommended that the student have successfully completed a secondary-level course in biology and have a good background in physical science.

An updated computer system including a good firewall as well as popup and virus protection is highly recommended. The following are the technology recommendations:

- high-speed Internet and functional sound system
- a presentation software program such as PowerPoint
- aupdated word-processing capabilities
- a good firewall and anti-virus protection

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 1: HISTORY OF FORENSICS SCIENCE AND DNA ANALYSIS

Assignment Titles

1. Course Overview
2. Science Goes to Court
3. History of Physical Evidence Investigation Methods
4. Project: Creating a Timeline, Part One
5. Identity Is Key
6. Project: Creating a Timeline, Part Two
7. Quiz 1: The History and Development of Forensic Science
8. History of DNA Analysis and Forensics
9. Project: Investigating Careers in Genomics
10. DNA at Work in Forensics
11. Project: Creating a DNA Digital Gallery
12. DNA Ethics and Legalities
13. Quiz 2: DNA Analysis and Forensics
14. Special Project*
15. Test
16. Course Project: The Biography of a Crook Turned Spy*
17. Glossary and Credits

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 2: CSI AND FORENSIC MEDICAL AND DENTAL PROFESSIONALS

Assignment Titles

1. Role of CSI Crime Scene Investigation
2. Project: Processing the Scene
3. Evidence Collection and Processing
4. Project: Protecting the Crime Scene and Evidence
5. Documenting a Crime
6. Quiz 1: Crime Scene Investigator
7. Medical Examiner and Forensic Pathologist
8. Project: Forensic Pathology
9. Odontology
10. Project: Teeth as Evidence
11. Forensic Psychiatry
12. Quiz 2: Medical and Dental Professionals in Forensics
13. Special Project*
14. Test
15. Course Project: The Canine Caper*
16. Glossary and Credits

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 3: FORENSIC BIOLOGIST, FORENSIC CHEMIST, PHYSICAL ANTHROPOLOGIST

Assignment Titles

1. Forensic Biology
2. Project: Forensic Genetics Using Technology
3. Entomology
4. Project: Using Insects to Solve a Case
5. Chemistry
6. Quiz 1: Forensic Biologist and Forensic Chemist
7. Anthropology
8. Project: An Anthropologist's Field Trip
9. Osteology and Archeology
10. Project: The Secret in the Cellar
11. Taphonomy
12. Quiz 2: Forensic (Physical) Anthropologist
13. Special Project*
14. Test
15. Course Project: The Burning Star*
16. Glossary and Credits

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 4: FORENSIC TOXICOLOGIST, COMPUTER FORENSICS AND FORENSIC ENGINEERING

Assignment Titles

1. Toxicology
2. Project: The Uncommon Scents Incident
3. Alcohol
4. Project: Solve an Alcohol Case
5. Drugs
6. Quiz 1: Forensic toxicologist
7. Computer Forensics
8. Project: Online Crime and Establishing Personal Security
9. Legal and Ethical Issues of Computer Forensics
10. Project: Solving a Real Crime with a Real Computer Forensic Investigator
11. Forensic Engineer
12. Quiz 2: Computer Forensics and Forensic Engineering
13. Special Project*
14. Test
15. Course Project: Developing a Cyber-security Plan for a Medical Clinic*
16. Glossary and Credits

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 5: ADDITIONAL CAREERS IN FORENSICS

Assignment Titles

1. What is Forensic Nursing?
2. Project: Forensic Intake Forms
3. History of Forensic Nursing
4. Human Trafficking
5. Project: Violence Against Women Act
6. Quiz 1: Forensic Nursing
7. Linguistics
8. Project: Communications Training
9. Forensic Animation, Art, Photography
10. Project: Decision Making
11. Career Opportunities in Forensic Science
12. Project: What I Have Learned About Career Paths
13. Quiz 2: Forensic Linguistics, Animation, Art, and Photography, and Choosing a Career
14. Special Project*
15. Test
16. Course Project: Count the Forensic Careers*
17. Glossary and Credits

FORENSICS: USING SCIENCE TO SOLVE A MYSTERY

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Project: Choosing A Career*
2. Review
3. Exam

(*) Indicates alternate assignment

Nursing: Unlimited Possibilities and Unlimited Potential

Course Overview

Each year the Gallup Poll conducts a survey of the American public to determine the ten most respected professions in the country. Since 2001, registered nurses have topped that list.

More registered nurses (2.7 million in 2010) work in healthcare than any other professional position; at the same time, a national shortage of qualified nurses exists and is projected to become significantly worse by 2020. As new nursing positions become available and a significant number of registered and licensed practical nurses approach retirement age, there are opportunities for recent graduates of accredited nursing programs throughout the country.

However, in an era of new medical technology and increased specialization in patient care, healthcare administrators are becoming more discerning; offers of employment are extended to recent graduates of accredited baccalaureate nursing programs in far greater numbers than those offered to licensed practical nurses or registered nurses who successfully completed a hospital-based diploma program as well as those with an associate degree in nursing from a community college or professional school.

This course provides students opportunities to compare and contrast the various academic and clinical training pathways to an entry-level position in nursing and to explore the growing number of opportunities for professional advancement given the proper preparation and experience.

In June 2012, the U.S. Supreme Court upheld the majority of provisions in the Affordable Care Act, which will extend health insurance benefits to an additional thirty-two million residents of this country and represents the most significant changes in healthcare since the introduction of Medicare and Medicaid. Nurses will continue to play a pivotal role in the care and treatment of these patients as well as have opportunities to make significant contributions to a new definition of healthcare.

Partially in response to these rapid changes in healthcare, the Robert Wood Johnson Foundation and the National Academies' Institute of Medicine conducted a thorough study of the current state of nursing as well as the profession's role in the future. This study, *The Future of Nursing*, has grown into a national initiative to redefine nursing education and scope of practice.

In this course, students will have several opportunities to learn about the expanding scope of professional practice for registered nurses and better understand the important changes proposed in the education and ongoing professional development of nurses.

A project at the end of this course will assist students in focusing their ambition and commitment to nursing service by better defining their available educational and clinical training opportunities.

Objectives

- Compare and contrast a variety of careers in nursing on the basis of academic preparation, scope of practice, training, licensure, patient contact, management/administrative responsibilities, and lifestyle.
- Examine nursing skills common to all nursing professions and explore skill sets that are specific to a nursing specialty or discipline.
- Calculate dosage given age, gender, anthropometric data and specific medication.
- Examine the history of the nursing profession and its contributions to health care through time.
- Evaluate case studies for scientific content and issues of ethics, privacy, and legal limitations to practice.

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 1: THE NURSING PROFESSION

Assignment Titles

1. Course Overview
2. History of Nursing
3. Registered Nursing
4. Project: Careers in Nursing
5. LPN, CNA, HHA
6. Project: Caveat Emptor
7. Quiz 1: Introduction
8. The Nursing Code of Ethics
9. Project: Defining the Members of a Healthcare Team
10. Role of the Nurse as Part of a Health Care Team
11. Project: Case Study: The Nursing Code of Ethics
12. Professionalism in Nursing
13. Project: Presentation on a Career as a Registered Nurse
14. Quiz 2: Ethics and Professionalism in Nursing
15. Special Project*
16. Unit Test
17. Course Project - Part 1: Selecting Your Research Topic*
18. Glossary and Credits

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 2: PRIMARY NURSING POSITIONS

Assignment Titles

1. Palliative and Hospice Nursing
2. Project: Observing Pain and the Effects of Chronic Illness
3. Certified Nurse Midwife
4. Critical Care Nursing
5. Project: Service Learning
6. Quiz 1: Primary Nursing Positions, Part I
7. Nurse Anesthetist
8. Project: Analyzing Anesthesia
9. Nurse Practitioner
10. Project: What's Your Position?
11. Nurse Educator
12. Project: Why Not Nursing?
13. Quiz 2: Primary Nursing Positions, Part 2
14. Special Project*
15. Unit Test
16. Course Project - Part 2: Identifying Resources*
17. Glossary and Credits

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 3: NURSING SPECIALTIES

Assignment Titles

1. OR Nursing and the Humanitarian Mission
2. Project: More about Médecins Sans Frontières
3. Pediatric Nursing
4. Project: Read
5. Psychiatric Nursing
6. Quiz 1: Operating Room Nurse, Pediatrics, and Psychiatry
7. Correctional Nursing
8. Project: Case Study: What Constitutes Appropriate Care?
9. Oncology Nurse and the Child with Leukemia
10. Project: On Trial: Clinical Oncology Trials
11. Orthopedic Nurse and the Pedestrian
12. Quiz 2: Nursing Specialties: Correctional, Oncology and Orthopedic Nursing
13. Special Project*
14. Unit Test
15. Course Project - Part 3: Developing a Survey*
16. Glossary and Credits

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 4: MORE NURSING SPECIALTIES

Assignment Titles

1. Careers in Nursing - AIDS Care Nurse
2. Project: Myths and Misconceptions about HIV/AIDS
3. Cardiac Rehabilitation Nurse: Heart Transplant
4. Project: Developing a Cardiac Rehabilitation Program
5. Ambulatory Nursing and Patient Independence
6. Quiz 1: Nursing Specialties: AIDS Care, Cardiac Rehabilitation, and Ambulatory Nurse
7. Infection Control and the Nosocomial Infection
8. Project: Writing a News Story
9. Occupational Health Nurse and the Brazilian Blowout Standards Correlation
10. Project: The Safety Film
11. Gastroenterology/Endoscopy Nurse
12. Quiz 2: Nursing Specialties: Infection Control, Occupational Health and Gastroenterology/Endoscopy
13. Special Project*
14. Unit Test
15. Course Project - Part 4: A Case Study*
16. Glossary and Credits

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 5: NURSING CAREER ALTERNATIVES

Assignment Titles

1. Flight Nurse
2. Project: Help! Rating Air Ambulance Service Providers
3. Forensic Nurse
4. Project: Elder Abuse PSA
5. Travel Nurse
6. Quiz 1: Nursing Career Alternatives: Flight Nurse, Forensic Nurse and Travel Nurse
7. Holistic Nurse
8. Project: Investigating Therapies
9. Nurse Researcher
10. Finding the Right Nursing Career
11. Project: Finding the Right Nursing Career
12. Quiz 2: Nursing Career Alternatives: Holistic Nurse, Research Nurse, and Finding the Right Career in Nursing
13. Special Project*
14. Unit Test
15. Course Project - Part 5: Organizing Your Presentation*
16. Glossary and Credits

NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: Your Final Presentation *
2. Review
3. Exam

(*) Indicates alternate assignment

Physicians, Pharmacists, Dentists, Veterinarians and Other Doctors

Course Overview

This course focuses on preparation for physician-level careers, including dental, veterinary and pharmaceutical, along with a look into the Physician Assistant and alternative medicine systems. This course will also introduce the topics of diversity, and the move toward an emphasis on social and cultural skills in medicine, in addition to academic ability.

These careers are usually the lead in the health care system, directing the care of their patients, whether that is through primary care, direct care, pharmaceuticals, or, if the patients happen to be animals! Generally, requiring a longer course of study and an advanced degree delineates these careers. Their programs are quite often competitive at the entry level.

In this course, we will focus on the preparation for entry to practice, along with navigating the field once you are in it (working as part of a team, dealing with patients, etc). In order to help you to best choose your career path, we will study different roles, responsibilities, settings, education needs and amounts of patient contact. We will look at things like the degree or training needed for each job, the environment one would work in, how much money the position could make, and the facts of the actual working day.

Then, within each job group, we'll explore important aspects that are applicable to the entire health field, such as behaving ethically, keeping patients safe and free from infections and germs, and following laws and policies. This course will also focus on diversity, and the need for social and cultural skills in medicine, in addition to academic ability.

Lastly, some lessons will cover specific medical procedures and many will cover ongoing issues within the medical establishment, such as staffing shortages, new developments, and common arguments or disagreements. In addition to typical medical roles, we will look at veterinary roles, public health roles, and alternative medicine.

The last unit will then include career exploration activities that will help you to make some choices and start preparing your pathway to a professional career.

Objectives

- compare and contrast the professional degrees and fields of medicine on the basis of academic preparation, scope of practice, training, licensure, philosophy, lifestyle, and career options.
- explore the history of medical professions from ancient times to modern day practice.
- evaluate case studies for scientific content and issues of ethics, privacy, and legal limitations to practice
- create a personal plan for a professional career path.

Since this course leans heavily on reporting and research, students should already know how to choose appropriate resources (especially online), and how to properly cite those resources.

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 1: PHYSICIANS, PHARMACISTS, DENTISTS, VETS AND OTHER DOCTORS

Assignment Titles

1. Course Overview
2. Planning for a Career as a Medical Professional: Academics
3. Project: Successful Test Taking
4. Planning for a Career as a Medical Professional: Volunteerism and Community Service
5. Project: Mentor Letter
6. Planning for a Career as a Medical Professional: Success and Positive Thinking; It's No Accident
7. Quiz 1: Planning for a Career as a Medical Professional
8. A Few Important Things You Should Know NOW: The Trap of Social Media
9. Project: Social Media Action Plan Chart
10. A Few Important Things You Should Know NOW: Credit, Cell Phones and Other Bills
11. A Few Important Things You Should Know NOW: Integrity, Honesty, and Character
12. Project: DEA Licensing
13. Quiz 2: A Few Important Things You Should Know NOW!
14. Special Project*
15. Test
16. Course Project - Part 1: Marketing Research and Analysis*
17. Glossary and Credits

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 2: PHYSICIAN AND PHYSICIAN ASSISTANT

Assignment Titles

1. Physicians: The M.D., Medical Doctor
2. Project: Crohn's Disease Research
3. Physicians: The D.O., Doctor of Osteopathy
4. Project: Board Specialty Research
5. Physicians: Primary Care, Family Practice, and Other Medical Specialties
6. Project: AMA's Code of Medical Ethics
7. Quiz 1: Physicians
8. Physician Assistant: History, Education, and Scope of Practice
9. Project: Physician Assistant Career History Timeline
10. Physician Assistant: Primary Care in Rural and Urban Settings
11. Project: Physician Assistant Day in the Life
12. Physician Assistant: Day in the Life, Part II
13. Project: The PA Code of Ethics
14. Quiz 2: Physician Assistant
15. Special Project*
16. Test
17. Course Project - Part 2: Case Study on Crohn's Disease*
18. Glossary and Credits

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 3: DENTISTS AND PHARMACISTS

Assignment Titles

1. Dentistry: History and Career Introduction
2. Project: Ethical Issues in Dentistry
3. Dentistry: Introduction to Oral Health and Its Connection to Heart Disease
4. Dentistry: General Dentistry, Public Health and Specialties
5. Project: Gaps in Dental Care
6. Quiz 1: The Dental Profession
7. Pharmacists: Becoming a Pharmacist, Intro to the Career
8. Project: Pharmacy Math
9. Pharmacists: Pharmacists and Ethics
10. Pharmacists: Career Paths for the Pharmacist
11. Project: Pharmacists' Role Compare and Contrast
12. Quiz 2: Pharmacists
13. Special Project*
14. Test
15. Course Project - Part 3: Stitches*
16. Glossary and Credits

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 4: OPTOMETRY AND VETERINARY MEDICINE

Assignment Titles

1. Becoming an Optometrist
2. Project: Optometry Career Chart
3. New Frontiers in Eye Care
4. Project: Write Your Own Test
5. A Day in the Life of an Optometrist
6. Quiz 1: Optometry
7. Becoming a Veterinarian
8. Project: Ethics for Veterinarians
9. Veterinary Specialties
10. Project: Cosmetic Surgery for Animals
11. One Health: Zoonotic Diseases and Public Health
12. Project: Researching an Outbreak
13. Quiz 2: Veterinary Medicine
14. Special Project*
15. Test
16. Course Project - Part 4: Case Study of a Disease Outbreak*
17. Glossary and Credits

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 5: COMPLEMENTARY AND ALTERNATIVE MEDICINE

Assignment Titles

1. History and Intro into Oriental Medicine
2. Project: Comparing and Contrasting Fields of Medicine
3. Principles and Theories
4. Project: Diagnosing Patient Case Study
5. Techniques and Applications
6. Quiz 1: Acupuncture/Oriental Medicine
7. The Field of Naturopathy and the Naturopathic Doctor
8. Project: Critiquing Naturopaths
9. Integrative Medicine
10. Project: Creating a Personal Wheel of Health
11. Career Exploration
12. Project: Case Study
13. Quiz 2: Naturopathic
14. Special Project*
15. Test
16. Course Project - Part 5: Integrative Medicine*
17. Glossary and Credits

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: The Finale*
2. Review
3. Exam

(*) Indicates alternate assignment

Public Health: Discovering the Big Picture in Health Care

Course Overview

In this course, we discuss the multiple definitions of public health and the ways that these definitions are put into practice. We explore the five core disciplines and the ways that they interact to reduce disease, injury and death in populations. By understanding the roles of public health, we are able to gain a greater appreciation for its importance and the various occupations that one could pursue within the field of public health. Unit 1 introduces the definition of public health and provides a description that allows you to differentiate public health from other health care fields. The five core disciplines and the interactions between local, state, and federal organizations are also discussed. The history of public health concludes the introductory unit. Unit 2 focuses on specific information regarding the core disciplines of behavioral science and emergency preparedness and response. Unit 3 takes a detailed look at epidemiology and biostatistics. Unit 4 relates to environmental and occupational health issues. Finally, Unit 5 describes global health and the future of public health.

Because of public health's broad and multi-faceted nature, it is important to understand the details and the overall interactions and importance that make the field essential to modern society. There are many disciplines that work together on different levels within public health. Each public health worker contributes to the overall function of the field itself. By entering the field of public health, you will play an integral part in improving the health and lives of a large number of people. The contributions of public health to society have shaped our modern world and will continue to do so in the future.

In this course, students will learn to:

- Define public health.
- Compare and contrast the scope of the various professions within public health.
- Formulate a solution to current problems of public health.
- Examine the role of public health in determining health policy.

There are no formal prerequisites to this course. However, it is assumed the student will have access to the Internet and associated resources and will understand how to conduct research using the Internet. It is important the student learn how to discern correct and quality information on the web. Students will need to conduct personal interviews as part of their projects.

PHYSICIANS, PHARMACISTS, DENTISTS, VETERINARIANS AND OTHER DOCTORS

UNIT 1: THIS IS PUBLIC HEALTH

Assignment Titles

1. Course Overview
2. What is Public Health?
3. The Five Core Disciplines of Public Health
4. Project: Research Public Health Issues
5. The Public Health System and Infrastructure
6. Project: Research Public Health Agencies Response to Public Health Issues
7. Quiz 1: Introduction to Public Health
8. The History of Public Health
9. Project: Early Years of Public Health
10. Public Health Milestones in the Eighteenth and Nineteenth Centuries
11. Project: Create Public Health Time Line
12. Public Health in the 20th Century
13. Quiz 2: The History of Public Health
14. Special Project*
15. Test
16. Course Project Part - 1: Health Services Administrator*
17. Glossary and Credits

PUBLIC HEALTH: DISCOVERING THE BIG PICTURE IN HEALTH CARE

UNIT 2: HEALTH EDUCATION AND BEHAVIORAL SCIENCE

Assignment Titles

1. Promoting Public Health and Public Health Education
2. Project: Developing a Public Service Announcement
3. Public Health Enemy #1: Tobacco
4. Public Health Enemy #2: Obesity
5. Project: Marketing Bad Habits
6. Quiz 1: Health Education (Health Promotion) & Behavioral Science
7. Coordinating Response on a National, State, and Local Level
8. The Threat of Bioterrorism
9. Project: Researching Bioterrorism Agents
10. Hurricane Katrina
11. Project: Researching Hurricane Katrina
12. Quiz 2: Public Health Emergency Preparedness and Response
13. Special Project*
14. Test
15. Course Project Part - 2: Health Educator or Outreach Provider*
16. Glossary and Credits

PUBLIC HEALTH: DISCOVERING THE BIG PICTURE IN HEALTH CARE

UNIT 3: EPIDEMIOLOGY, BIO STATISTICS AND OUTBREAK INVESTIGATION

Assignment Titles

1. Epidemiology: The Foundation of Public Health
2. Project: Creating a Timeline for Legionnaire's or Lung Cancer
3. Epidemiologic Methods and the Importance of Biostatistics
4. Project: Clinical Trials
5. Ethical and Legal Considerations in Epidemiology
6. Quiz 1: Epidemiology and Biostatistics
7. Principles of Infectious Diseases
8. Project: Researching and Presenting Infectious Diseases
9. Prevention and Treatment
10. Project: Microbe Game
11. Outbreak Investigation
12. Quiz 2: Disease Control and Outbreak Investigation
13. Special Project*
14. Test
15. Course Project Part - 3: Epidemiologist or Laboratory Personnel*
16. Glossary and Credits

PUBLIC HEALTH: DISCOVERING THE BIG PICTURE IN HEALTH CARE

UNIT 4: THE CDC, ENVIRONMENTAL AND OCCUPATIONAL HEALTH

Assignment Titles

1. CDC: Description and Historical Perspective
2. Project: Global Disease Campaigns
3. CDC and Public Health Promotions
4. Project: Family Health History
5. CDC and Emergency Response
6. Quiz 1: The Centers for Disease Control and Prevention (CDC)
7. Importance of a Clean Environment
8. Project: Health Effects of Air Pollutants
9. Population Growth as a Health Issue
10. Project: Population Research and Comparison
11. Occupational Exposure
12. Quiz 2: Environmental and Occupational Health
13. Special Project*
14. Test
15. Course Project Part - 4: Environmental Health Employee*
16. Glossary and Credits

PUBLIC HEALTH: DISCOVERING THE BIG PICTURE IN HEALTH CARE

UNIT 5: GLOBAL HEALTH, THE WORLD HEALTH ORGANIZATION (WHO) AND FUTURE PUBLIC HEALTH CHALLENGES

Assignment Titles

1. Global Health: We are One World
2. Project: Global Health Organization
3. The Role of the World Health Organization (WHO)
4. Project: Researching Internet Drug Stores
5. Public Health in Russia
6. Quiz 1: Global Health and The WHO
7. Pandemic Flu and Emergency Preparedness
8. Project: Pandemics
9. Other Challenges in Public Health in the 21st Century
10. Project: Healthy ME!
11. Exploring your Career Opportunities in Public Health
12. Project: Public Health Career Exploration
13. Quiz 2: Future Challenges and Finding the Right Career in Public Health
14. Special Project*
15. Test
16. Course Project Part - 5: A Public Health Care Provider*
17. Glossary and Credits

PUBLIC HEALTH: DISCOVERING THE BIG PICTURE IN HEALTH CARE

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: The Final Interview *
2. Review
3. Exam

(*) Indicates alternate assignment

Scientific Discovery and Development

Course Overview

This course teaches students about careers in laboratory science while simultaneously instructing them on major concepts in the biological sciences. The curriculum is quite comprehensive and is spread over five units:

- Unit One begins with a history of clinical laboratory science, which covers two lessons. These lessons lay the groundwork by explaining how clinical laboratories evolved and became professionalized and how scientific discoveries and breakthroughs fueled the development of the laboratory while the sub-disciplines in biology were also advancing. The science covered in the first unit includes immunology, the circulatory system, and the blood-bank system.
- Unit Two touches on the circulatory system and gives more detailed instruction on microbiology and the subfields within it.
- Unit Three covers cells and tissues and includes discussion of cell division as well as basic genetics.
- Unit Four launches into research. A brief history of the philosophy of science is provided to students, along with an explication of the scientific method. The unit goes on to teach the difference between basic and applied research. This unit also covers three major areas in bioresearch: biotechnology, nanotechnology, and pharmaceutical research and development.
- Unit Five culminates with research in the social science that is something of a hybrid, since the topics cross over into science. Emphasis is put on the interdisciplinary nature of this type of research. The last few lessons in the unit raise the controversial issues of embryonic stem-cell research and the problems raised by outsourcing clinical research. The final lesson gives students a chance to catch their breath and do some exercises that can help them find a career path they are interested in.

The writer has taken pains to make the course interesting and relevant. You will notice that many of the introductory sections use cutting edge scientific breakthroughs, facts, stories, and anecdotes. Liberal use has been made of The Immortal Life of Henrietta Lacks. Richard Dawkins has also been tapped, along with the latest popular news about mitochondrial DNA and similar subjects. The course writer also keeps the level of content high while at the same time writing in an accessible and understandable style so that students can grasp the material. Still, it is a lot of material to grasp, and no doubt they will benefit from additional instruction that may be provided by their teacher. Students should come away from this course with a solid understanding of what goes on in a laboratory. Some of the science material will be new to some students, and for advanced students, some of the material may be review. But for the majority of students, the science content will be interesting and challenging.

Objectives

- Compare and contrast a variety of careers in the clinical laboratory and in research and development as to job description, education, training, certification, and licensure, and work environment
- Evaluate the legal and ethical considerations inherent to professions in the clinical laboratory and in research and development
- Summarize the pros and cons of controversial issues in medical research, such as stem cell research and the double standards for human subjects research in developing countries, and formulate a position based on a variety of sources
- Review human anatomy and physiology as it pertains to the circulatory system and immunology, as well as basic cell biology, and genetics
- Describe the major historical events in the development of the field of clinical laboratory science as we know it today

Scientific Discovery Course Requirements

Students will need an Internet connection, pen and paper, and a computer that they can use every day. It would be helpful if the teacher spends some time teaching or reviewing the skill of Internet research—specifically, how to separate the wheat from the chaff. The course makes liberal use of Internet websites and encourages students to do so as well. Projects are a mix of formats, including some dry labs, but many of them will be challenging, and students will need to do research to complete them. (If the teacher has access to a wet lab, some of the projects can be adapted; the teacher may also want to augment the course with his or her own wet labs if a lab is available.)The course includes quite a bit of writing, including formal essay and research paper writing. Again, it would be helpful for the teacher or a librarian to go over the basics of paraphrasing, quoting, rules about avoiding plagiarism, and the like. Students will need to choose a stylebook. The MLA or APA stylebook would probably be most appropriate. APA is often used for the sciences.

Students should have access to a biology and anatomy textbook, at a minimum. They do not need to carry textbooks around, but they should be able to use textbooks as an additional resource when they need further explanation or clarification. Of course, their teacher will also be a resource.

This course probably would work best with students who have already had a course in basic biology. However, that is not an absolute prerequisite.

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 1: INTRODUCTION TO LABORATORY SCIENCE

Assignment Titles

1. Course Overview
2. History of Clinical Laboratory Science
3. Project: Back in the Day
4. Clinical Laboratory Science after 1945
5. Project: The State of My State's Clinical Laboratories
6. Clinical Laboratory Scientist
7. Quiz 1: History and Clinical Laboratories
8. Clinical Laboratory Technologist
9. Clinical Laboratory Technician
10. Project: Television Dramas and Medical Laboratory Technology
11. Blood Bank Technology Specialist
12. Project: Creating a Clinical Laboratory Sciences Career Guide
13. Quiz 2: People and Milestones
14. Special Project*
15. Test
16. Course Project - Part 1: Gregor Mendel's Contributions to the Study of Genetics*
17. Glossary and Credits

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 2: CLINICAL LABORATORY CAREERS

Assignment Titles

1. Phlebotomist
2. Project: Order of the Draw
3. Hematology
4. Research Immunology
5. Project: Talking Immunity
6. Quiz 1: Contributions to Science
7. Microbiologist
8. Project: Diagnosis and Treatment of Infection
9. Clinical Microbiology
10. Public Health Microbiologist
11. Project: Comparing Two Categories of Pathogens
12. Quiz 2: Infectious Agents
13. Special Project*
14. Test
15. Course Project - Part 2: History of the Virus*
16. Glossary and Credits

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 3: TISSUES AND CELLS

Assignment Titles

1. Structural Anatomy of Tissues
2. Project: Developing a Lab Manual
3. Histotechnologist and Histotechnicians
4. Pathologist Assistant
5. Project: Prepping Specimens in the Histology Lab
6. Quiz 1: Lab Positions
7. Cytotechnologist
8. Genetics and the Genome
9. Project: Recent Adaptations in Humans
10. Cytogenetic Tech & Diagnostic Molecular Scientist
11. Project: Is Left-handedness Genetic?
12. Quiz 2: Cellular Construction
13. Special Project*
14. Test
15. Course Project - Part 3: Vaccine Development as Early Genetic Engineering*
16. Glossary and Credits

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 4: RESEARCH AND DEVELOPMENT

Assignment Titles

1. Research
2. Project: Investigating a Problem by Using the Scientific Method
3. Types of Research
4. Project: Why Should I Get My Child Vaccinated?
5. Medical Research
6. Quiz 1: Medical Research and Its History
7. Biotech: Genetic Engineering, Gene Therapy
8. Project: Virtual Lab: Simulating a PCR Test
9. Biotech: Nanotechnology
10. Pharma R&D
11. Project: Virtual Lab: Immunology
12. Quiz 2: Public Health and Scientific Discoveries
13. Special Project*
14. Test
15. Course Project - Part 4: The Discovery of the Structure of DNA*
16. Glossary and Credits

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 5: RESEARCH AND DEVELOPMENT, PART II

Assignment Titles

1. Economics
2. Project: Reforming America's Health Care System
3. Medical Sociology and Health Psychology
4. Medical Anthropology
5. Project: Create a Survey
6. Quiz 1: Anthropology
7. Stem-Cell Research
8. Project: Stem-Cell Point/Counterpoint
9. Double Standards in Research
10. Project: Is a Double Standard of Care Ethically Justifiable?
11. Choosing a Career
12. Project: What's the Right Career for You?
13. Quiz 2: Ethics and the Big Picture of Research
14. Special Project*
15. Test
16. Course Project - Part 5: Genetic Diversity in Human Populations*
17. Glossary and Credits

SCIENTIFIC DISCOVERY AND DEVELOPMENT

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: A Scientific Breakthrough*
2. Review
3. Exam

(*) Indicates alternate assignment

Therapeutics: The Art of Restoring and Maintaining Wellness

Course Overview

This course focuses on careers that help restore and maintain mobility and physical and mental health, such as physical therapists, physical therapy assistants, occupational therapists, athletic trainers, massage therapists, dieticians and dietetic technicians, art therapist, neurotherapists, vocational rehabilitation counselors, and registered dental hygienists.

Each career is explored in depth, examining typical job duties, educational and licensure requirements, working conditions, average salary, and job outlook. Key concepts and specific skill sets are introduced in the lessons, allowing students to apply what they have learned to health careers.

This course is important because skilled health care workers are in high demand and expected to remain so for the foreseeable future. The unprecedented growth in this field is due to an aging population with more chronic conditions, new technology that has saved and lengthened lives, and increased demand for high-tech services.

Students who take this course will come away with a broad perspective of the myriad career opportunities in health care today. They will understand how people in different health care professions interact with each other, and how significant expected growth in the industry can give them flexibility, good pay, and high job satisfaction.

Objectives

- Compare and contrast careers that help restore and maintain mobility and enhance physical and mental health.
- Evaluate the importance of prevention and preventive services in health.
- Assess the importance of education, training, certification, and licensure in different health professions.
- Examine the roles and responsibilities of health care workers as part of the health care team.
- Understand ethical guidelines and legal limitations inherent in each career.
- Examine variations in scope of practice that can influence job descriptions by state.
- Summarize the value of therapy in maintaining health and treating the whole person rather than just one part or a disease.

Students will have to research different aspects of health care in the areas of science, medicine, social science, psychology, and microbiology. They also will be asked to find and summarize job-specific information such as licensure requirements in their state.

Some of the tasks in the chapter projects ask for answers that can be found in the lessons themselves, while others require research using the Internet. Students should have access to a computer with Internet and a good working knowledge of how to find information on the Web. While sample URLs are usually presented as a starting point, the student should have a basic knowledge of using search engines to find specific information.

Students will need an Internet connection, pen and paper, and a computer that they can use every day. It would be helpful if the teacher spends some time teaching or reviewing the skill of Internet research—specifically, how to separate the wheat from the chaff. The course makes liberal use of Internet websites and encourages students to do so as well. Projects are a mix of formats, including some dry labs, but many of them will be challenging, and students will need to do research to complete them. (If the teacher has access to a wet lab, some of the projects can be adapted; the teacher may also want to augment the course with his or her own wet labs if a lab is available.)The course includes quite a bit of writing, including formal essay and research paper writing. Again, it would be helpful for the teacher or a librarian to go over the basics of paraphrasing, quoting, rules about avoiding plagiarism, and the like. Students will need to choose a stylebook. The MLA or APA stylebook would probably be most appropriate. APA is often used for the sciences.

Students should have access to a biology and anatomy textbook, at a minimum. They do not need to carry textbooks around, but they should be able to use textbooks as an additional resource when they need further explanation or clarification. Of course, their teacher will also be a resource.

This course probably would work best with students who have already had a course in basic biology. However, that is not an absolute prerequisite.

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 1: PHYSICAL THERAPY (PHYSIOTHERAPY) AND BIOMECHANICS

Assignment Titles

1. Course Overview
2. Biomechanics and Physical Therapy
3. Project: Analyzing Requirements for Physical Therapy
4. History of Physical Therapy
5. Project: History of Physical Therapy
6. Physical Therapy and Wellness
7. Project: Evaluating Yourself on Prochaska's Scale
8. Quiz 1: The Field of Physical Therapy and Biomechanics
9. Physical Therapist
10. Physical Therapy Assistant
11. Project: Patient Scenarios
12. Athletic Trainer
13. Project: Patient Case Studies
14. Quiz 2: Professions in Physical Therapy
15. Special Project
16. Test
17. Course Project Part - 1: Concussions
18. Glossary and Credits

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 2: OCCUPATIONAL THERAPY AND RELATED CAREERS

Assignment Titles

1. What is Occupational Therapy?
2. Project: Occupational Therapist Hypothetical Scenario
3. A Career as an Occupational Therapist
4. Project: Looking from a Different Perspective
5. A Career as an Occupational Therapy Assistant or Aide
6. Quiz 1: The Field of Occupational Therapy
7. Vocational Rehabilitation Counselor
8. Recreational Therapist
9. Project: Designing a Recreational Activity
10. Audiologist
11. Project: Hearing Loss Prevention
12. Quiz 2: Related Careers
13. Special Project*
14. Test
15. Course Project Part - 2: TBI*
16. Glossary and Credits

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 3: DIETETICS AND NUTRITION: DIETITIAN AND DIETETIC TECHNICIAN

Assignment Titles

1. What is Nutritional Therapy?
2. Project: Creating a Diet
3. History of Dietetics and Nutrition
4. Nutrition Science
5. Project: Obesity and Youth
6. Quiz 1: The Field of Dietetics and Nutrition
7. Registered Dietitian
8. Dietetic Technician, Registered
9. Project: Food Safety
10. Public Health Nutritionist
11. Project: Analyzing Sodium Content
12. Quiz 2: Occupations in Nutrition and Dietetics
13. Special Project*
14. Test
15. Course Project Part - 3: The Olympics*
16. Glossary and Credits

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 4: SPEECH-LANGUAGE PATHOLOGIST, ART THERAPISTS, MASSAGE THERAPISTS

Assignment Titles

1. What is Speech-language Pathology?
2. Common Speech Pathologies
3. Project: Speech Pathology Case Study
4. Speech Pathology and Autism
5. Project: Causes and Treatment of Autism
6. Quiz 1: Speech-language Pathologist
7. Massage Therapy
8. Art Therapy
9. Project: Exploring Art Therapy
10. Animal-assisted Therapy
11. Project: Therapy Animals
12. Quiz 2: Massage Therapy, Art Therapy, and Animal-assisted Therapy
13. Special Project*
14. Test
15. Course Project Part - 4: Health and Wellness*
16. Glossary and Credits

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 5: SUPPORT CAREERS, BIOFEEDBACK AND PSYCHOTHERAPY

Assignment Titles

1. Registered Dental Hygienist
2. Dental Assistant
3. Project: Dentures
4. Dental Laboratory Technician
5. Project: Creation of Dentures
6. Quiz 1: Dental Health
7. Biofeedback
8. Project: Operant Conditioning
9. NeuroTherapy
10. Project: Exploring a Career Path
11. Exploring Your Career Opportunities in Therapeutics
12. Project: Career Explorations in Therapeutics
13. Quiz 2: Biofeedback and Neurotherapy
14. Special Project*
15. Test
16. Course Project Part - 5: TMJ*
17. Glossary and Credits

THERAPEUTICS: THE ART OF RESTORING AND MAINTAINING WELLNESS

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: Your Favorite Sport *
2. Review
3. Exam

(*) Indicates alternate assignment

HOSPITALITY AND TOURISM

Introduction to Hospitality and Tourism Systems

Course Overview

Travel and tourism is now the largest industry in the world: In the United States alone, over 7.5 million people work in this industry, and in 2010, 60 million international visitors came to the United States, spending $134 billion. All of the sectors of the travel and tourism industry work together to serve this growing market of visitors, who have a significant impact on the U.S. economy.

This course establishes a foundation for the concept of tourism, travel, and hospitality as a system. Students will learn about the various segments of the travel and tourism industry and how they are interrelated and integral to international and domestic travel and tourism. This discussion will include travel agencies, tour companies, the airlines and other transportation sectors, lodging facilities, cruise lines, and marketing companies.

In this course, students will learn to:

- Explain why travel and tourism is important to our economy.
- Identify the six major sectors of the travel and tourism industry.
- Understand how geographic principles relate to traveler decisions.
- Understand the different types of airline flights and aircraft, the car-rental industry, and the rail-travel industry.
- Classify the different types and brands of lodging.
- Describe the types of service offered in the food-services industry.
- Describe the different kinds of cruise lines, ships, and popular cruise destinations.
- Understand the basic types of marketing.
- Understand the basic types of marketing and what marketing organizations do.
- Explain how the Internet and social media have changed the tourism industry

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 1: AN INTRODUCTION TO THE TRAVEL INDUSTRY AND THE PLACES WE GO

Assignment Titles

1. Course Overview
2. Travel Terminology
3. Segments of the Travel Industry
4. Travel Product Distribution and Why We Travel
5. Project: Travel Terminology
6. Project: Segments of the Travel Industry
7 Quiz 1
8. Geographic Basics and Where We Travel
9. The Countries We Visit - Part 1
10. The Countries We Visit - Part 2
11. Project: Geographic Basics and Where We Travel
12. Project: The Countries We Visit
13. Quiz 2
14. Special Project*
15. Test
16. Course Project Part - 1: Geography of the Island*
17. Glossary and Credits

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 2: EXPLAINING AGENCIES, OPERATORS, INSTRUMENTS OF RECORD AND OTHER ROBUST ASSURANCES

Assignment Titles

1. Travel Agents and Agencies
2. Types of Tours and Tour Operators
3. Why People Take Tours and What Makes a Successful Tour Operator
4. Project: The Value of Travel Agents
5. Project: Types of Tours and Tour Operators
6. Quiz 1
7. Careers in Travel Agencies and Tour Companies
8. Government Documents and Currency and Exchange Rates
9. Health Concerns and Safety and Security While Traveling
10. Project: Careers in Travel Agencies and Tour Companies
11. Project: Health Concerns and Safety and Security While Traveling
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 2: Tours of the Island*
16. Glossary and Credits

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 3: THE AIRLINES AND OTHER MODES OF TRANSPORTATION

Assignment Titles

1. The Aviation System
2. Aircraft and Airlines
3. The Airport Experience
4. Project: Airline Travel Interview
5. Project: Hartsfield-Jackson International Airport Profile
6. Quiz 1
7. Airfares and Airline Tickets
8. Car Rentals
9. Train Travel
10. Project: Evaluating Online Air Travel Websites
11. Project: Evaluating Online Car Rental Websites
12. Quiz 2
13. Special Project*
14. Test
15 Course Project Part - 3: Transportation to the Island*
16.. Glossary and Credits

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 4: THE HOSPITALITY AND CRUISE INDUSTRY

Assignment Titles

1. Accommodations and Lodging Facilities
2. Project: Accommodations and Lodging Facilities
3. Hotel Branding and Pricing
4. The Food Services Industry
5. Project: Food Service
6. Quiz 1
7. Why People Cruise; Cruise Lines and Ships
8. Project: Cruise Lines and Ships
9. Cruise Destinations and the Shipboard Experience
10. Cruise Costs, Shore Excursions, and Cruise Ship Careers
11. Project: A Comparison of Hotels and Cruise Ships
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 4: Lodging on the Island*
16. Glossary and Credits

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 5: MAKING CONNECTIONS: MARKETING AND TECHNOLOGY

Assignment Titles

1. The Concept of Marketing and the Major Steps of Marketing
2. Project: Brand USA Research
3. Selling Travel and Serving Travelers
4. Project: Consultative Selling
5. Destination Marketing Organizations, Conventions and Meetings, and Insuring Travel
6. Quiz 1
7. Technology in Travel and the Internet
8. Project: Travel Agency Website
9. Social Media and Other Travel Related Technologies
10. Medical Tourism and the Future of Travel
11. Project: Space Travel Sales Presentation
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 5: Marketing the Island*
16. Glossary and Credits

INTRODUCTION TO HOSPITALITY AND TOURISM SYSTEMS

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: Creating a Website For The Island*
2. Review
3. Exam

(*) Indicates alternate assignment

Food and Beverage Management

Course Overview

This course, an introductory Food & Beverage Management course, is designed as an overview to prepare students for F&B core courses and to introduce them to specialty areas. Students will learn the basics of food service management and operations with an emphasis on the fundamental values of hospitality and responsible management. We will examine where the industry began, current best practices, and future trends.

Students will gain knowledge of and understand how the correct blend of hard skills (food and beverage management principles) and soft skills (providing exceptional guest service) can maximize profits in the hospitality industry. Additional topics will include menu planning and pricing, types of service styles, food and beverage marketing, facility design and layout, financial controls, sanitation, safety, ethics, and legal concerns. We will also identify opportunities and career paths for those interested in the food & beverage industry.

Objectives:

- Improve written, verbal, and presentation skills
- Describe the types of food service facilities
- Identify different settings of food service operations
- Compare and contrast commercial vs. institutional food service operations
- Identify management positions, production and service personnel, organizational charts, and career paths
- Understand the fundamentals of management as they pertain to food service
- Understand the basics of the science of nutrition and contemporary dietary concerns, and multicultural/diversity issues of food service
- Outline the steps to menu pricing, schedules, planning, and design
- Develop a standardized recipe
- Focus on the importance of purchasing, receiving, storage and issuing
- Describe the methods of preparation and production
- Describe the types of service and income control procedures
- Consider ethical and legal standards related to food and beverage management
- Identify the types and uses of foodservice equipment and utensils
- Identify the economic aspects of food service operations including the uniform system of accounts, financial statements, and ratio analysis
- Be familiar with food service automation, hardware, and software
- Realize the importance of sanitation including foodborne illness, personal cleanliness and health procedure for safe food handling, cleanup, and accident prevention
- Identify trends in the food and beverage industry

Students must be computer literate and have Internet access. Students should have basic research skills, as well as the ability to conduct online searches and access recommended websites. Word processing and presentation software is required to produce projects.

The following textbooks have been used as a basis for the entire course and while the student is not required to purchase them, if they would like to have more in depth knowledge of the topic, the following information will be useful.

Management of Food and Beverage Operations
©2010, 13 chapters, Softbound
ISBN 978-0-86612-344
Author: Jack D. Ninemeier
Publisher: American Hotel & Lodging Association

Managing Service in Food and Beverage Operations
©2012, 15 chapters, Softbound
ISBN 978-0-86612-358-7
Authors: Ronald F. Cichy and Philip J. Hickey, Jr.
Publisher: American Hotel & Lodging Association

FOOD AND BEVERAGE MANAGEMENT

UNIT 1: THE FOOD SERVICE INDUSTRY

Assignment Titles

1. Course Overview
2. The Beginning of the Food Service Industry
3. Segments of the Food Service Industry
4. Project: Food and Beverage Service Opportunities
5. Industry Trends and Developments
6. Project: Company Benefits
7. Quiz 1: Introduction to Food and Beverage Management
8. F&B Staff and Tasks Involved in a F&B Operation
9. Project: A New Job
10. Fundamentals of Management and F&B Marketing
11. Project: Promotional Marketing
12. Career Paths in Food Service
13. Quiz 2: Food and Beverage Operations
14. Special Project*
15. Test
16. Course Project Part - 1: Your New Food Service Operation*
17. Glossary and Credits

FOOD AND BEVERAGE MANAGEMENT

UNIT 2: MENU MANAGEMENT AND FOOD COST CONTROLS

Assignment Titles

1. Menu Planning: Objectives, Considerations and Meal Periods
2. Types of Menus, Schedules and Food Categories
3. Menu Designs, Menu Trends, Menu Changes
4. Project: Evaluating a Menu
5. Project: Critiquing the Menu
6. Quiz 1: The Menu
7. Developing Standard Recipes
8. Determining Costs
9. Setting Menu Pricing
10. Project: Standardizing Recipes
11. Project: The Waffle Dilemma
12. Quiz 2: Food Service Cost Controls and Pricing Strategies
13. Special Project*
14. Test
15. Course Project Part - 2: Marketing Plan and Menu Design*
16. Glossary and Credits

FOOD AND BEVERAGE MANAGEMENT

UNIT 3: FOOD & BEVERAGE FUNCTIONAL AREAS AND SERVICE

Assignment Titles

1. Functional Areas of Food and Beverage Production
2. Project: Product Specification
3. Supplies and Common Equipment Items
4. Production Planning and Principles
5. Project: “Green” Restaurants
6. Quiz 1: Functional Areas of Food and Beverage Operations
7. Providing Superior Guest Service
8. Project: Country Club Service
9. Setting up Revenue and Control Procedures
10. Increasing Food and Beverage Sales
11. Project: Suggestive Selling Script
12. Quiz 2: Food and Beverage Service
13. Special Project*
14. Test
15 Course Project Part - 3: Functional Areas of Service*
16.. Glossary and Credits

FOOD AND BEVERAGE MANAGEMENT

UNIT 4: FACILITIES AND FINANCE

Assignment Titles

1. Facility Design: The Planning Process
2. Decorating and Redesigning Areas of the Food and Beverage Operation
3. Project: Evaluating the Design of an Establishment
4. Selecting Food and Beverage Equipment
5. Project: Restaurant Equipment
6. Quiz 1: Facilities, Layout and Design
7. System of Accounts and the Operating Budget
8. Project: Creating an Operating Report
9. The Income Statement and Balance Sheet
10. Ratios and Accounting Computer Systems
11. Project: Financial Status of the Spotted Dog CafÃ©
12. Quiz 2: Finance in Food and Beverage
13. Special Project*
14. Test
15. Course Project Part - 4: Physical Design and Layout*
16. Glossary and Credits

FOOD AND BEVERAGE MANAGEMENT

UNIT 5: SANITATION, ETHICS AND LEGAL CONCERNS IN FOOD AND BEVERAGE MANAGEMENT

Assignment Titles

1. Alcohol Service and Legal Restrictions and Liabilities
2. Physical Impact of Alcohol
3. Project: Responsibility and Alcohol
4. Intervention Techniques
5. Project: Stopping Alcohol Service
6. Quiz 1: Beverage Service
7. Sanitation, Health and Safety Issues
8. Project: Food Safety Visual Aids
9. Security Issues
10. Legal Issues
11. Project: Legal Issues at the Spotted Dog CafÃ©
12. Quiz 2: Safety, Sanitation and Legal Issues
13. Special Project*
14. Test
15. Course Project Part - 5: Safety and Sanitation*
16. Glossary and Credits

FOOD AND BEVERAGE MANAGEMENT

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part - 6: Pitching Your Concept*
2. Review
3. Exam

(*) Indicates alternate assignment

Food Safety and Sanitation

Course Overview

This comprehensive course will cover the principles and practices of food safety and sanitation that are essential in the hospitality industry for the protection and well-being of staff, guests and customers. The course will provide a systems approach to sanitation risk management and the prevention of food contamination by emphasizing the key components of the Hazard Analysis Critical Control Point (HACCP) food safety system. After successful completion of this course, students will be prepared to meet the requirements of state and national certification exams.

In this course, students will learn:

- to recognize the reasons for managing a sanitary foodservice operation
- to understand the root causes of food borne illness and the prevention strategies that minimize the risk of food borne illness
- to apply an effective food safety management program to meet the demands of consumers
- to be provided with the necessary food safety knowledge required to successfully secure national certification in food safety management

FOOD SAFETY AND SANITATION

UNIT 1: FACING UP TO THE IMPORTANCE OF FOOD SAFETY

Assignment Titles

1. Course Overview
2. Providing Safe Food
3. Bacteria
4. Viruses, Parasites, and Fungi
5. Project: Food-borne Illness Essay
6. Project: Food-borne Illness Outbreaks
7. Quiz 1
8. Varieties of Contamination
9. Caring for Customers with Allergies
10. Building an Effective Personal Hygiene System - The Safe Food Handler
11. Project: Preventing Cross-contamination
12. Project: Food Allergies
13. Project: Case Study Essay
14. Quiz 2
15. Special Project*
16. Test
17. Course Project Part - 1: Introducing Your Program*
18. Glossary and Credits

FOOD SAFETY AND SANITATION

UNIT 2: FOOD TRAVEL PATH: THE FLOW OF FOOD THROUGH THE OPERATION

Assignment Titles

1. Establishing the Foodservice Safety System
2. Avoiding Time/Temperature Abuse
3. Flow of Food: Purchasing and Receiving
4. Project: Survey Five Food-service Establishments
5. Project: Time/temperature Abuse Training
6. Quiz 1
7. Storing food safely
8. Preparing Food Safely
9. Keeping Food Safe After Prepping and Cooking
10. Project: Conducting an Analysis and Writing a Report
11. Project: Practicing Food Safety at Home
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 2: Discussing the HACCP System*
16. Glossary and Credits

FOOD SAFETY AND SANITATION

UNIT 3: CLEAN AND SANITARY FACILITIES AND EQUIPMENT

Assignment Titles

1. Facilities and Equipment Design
2. Project: Creating a Flow Diagram
3. Utilities and Safety
4. Project: Summarizing Research Projects
5. Cleaning and Sanitizing
6. Quiz 1
7. Facility Maintenance
8. Project: Creating a Sanitation Area
9. Developing a Cleaning Program
10. Project: Creating a Cleaning Procedure
11. Controlling Pests
12. Quiz 2
13. Special Project*
14. Test
15 Course Project Part - 3: Pest Control*
16.. Glossary and Credits

FOOD SAFETY AND SANITATION

UNIT 4: ACCIDENT PREVENTION AND CRISIS MANAGEMENT

Assignment Titles

1. Preventing Accidents and Taking Action in an Emergency
2. Project: Read and Summarize Article
3. First Aid, CPR and Fire Hazards
4. Crisis Management
5. Project: Writing a Press Release
6. Quiz 1
7. Food-borne Illness Outbreak
8. Project: Developing Procedures for Dealing with an Outbreak
9. Government Regulation and HACCP
10. Project: Role Playing an Inspection
11. Food Protection Industry Associations
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 4: CPR*
16. Glossary and Credits

FOOD SAFETY AND SANITATION

UNIT 5: SANITATION MANAGEMENT

Assignment Titles

1. The Importance of Employee Training
2. Project: Personal Hygiene Guidelines
3. Methods for Training and Motivating Employees
4. Project: Safety and Sanitation Exercise
5. Careers in Food Safety and Sanitation
6. Quiz 1
7. Nutrition and Organic Foods
8. Project: Conduct Survey on Organic Foods
9. Sustainability and the Local Food Movement
10. Preparing for Certification
11. Project: Read Study Guide and Create a Quiz
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 5: Food Providers*
16. Glossary and Credits

FOOD SAFETY AND SANITATION

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part - 6: Creating a Food Safety Manual*
2. Review
3. Exam

(*) Indicates alternate assignment

Lodging Operations Management

Course Overview

This course introduces students to hotel management. Students taking this course briefly review the history of the lodging industry, and place contemporary hotels in a larger context of the hospitality industry. They then study hotels from several different angles: vision and mission, organizational structures, and the structure and functions of different divisions within the hotel.

The course emphasizes the rooms divisions, and addresses how it relates to food and beverage, sales and marketing, hospitality, and security divisions. In the process, students get a chance to research and/or observe a number of hotels and hotel divisions in action. As a result, this course is valuable to students planning a career in hotel management, especially those interested in front office operations. It is also useful to any student interested in the hospitality industry or business in general.

In this course, students will learn to:

- use written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information
- solve problems using critical thinking skills
- classify hotels in terms of their levels of service, and ownership and affiliation
- describe how hotels are organized and explain how functional areas within hotels are classified
- summarize front office operations during the four stages of the guest cycle
- discuss the sales dimension of the reservations process
- identify the tools managers use to track and control reservations
- list the seven steps of the registration process
- discuss creative registration options
- identify typical service requests that guests make at the front desk
- describe the process of creating and maintaining front office accounts
- understand the importance of check-out procedures to ensure guest satisfaction and verify settlement of account
- discuss the importance of housekeeping standards to assure guest satisfaction
- summarize the steps in the front office audit process
- explain the concept of revenue management
- discuss how managers can maximize revenue by using forecast information in capacity management, discount allocation, and duration control
- explain important issues in developing and managing a security program
- research the major duties and qualifications for managerial positions common to front of the house and back of the house operations

There are no formal prerequisites for the course. However, the course assumes students will have regular and reliable access to the Internet, that they are comfortable reading and writing, and that they are willing and able to engage in Internet-based research.

LODGING OPERATIONS MANAGEMENT

UNIT 1: OVERVIEW OF THE LODGING INDUSTRY

Assignment Titles

1. Course Overview
2. A Look Back at the Hotel Industry - Historical Development
3. Project: Historical Change
4. Classification of Hotels
5. Types of Travelers and What Influences Them to Buy
6. Project: Evaluate a Hotel's Virtual Identity
7. Quiz 1: The Traditional and Modern Hotel
8. The Organizational Chart
9. Project: Evaluate and Revise a Hotel's Mission Statement
10. Classifying Functional Areas by BOH or FOH or by Divisions/Departments
11. Front Office Operations and Structure
12. Project: Reorganize Front Office Positions
13. Quiz 2: The Hotel Organizational Structure
14. Special Project*
15. Test
16. Course Project - Part 1: Site Selection & Target Market*
17. Glossary and Credits

LODGING OPERATIONS MANAGEMENT

UNIT 2: MANAGING GUEST SERVICES AND ESTABLISHING RATE STRUCTURE

Assignment Titles

1. Superior Guest Service and Service Strategies
2. Project: Role Play Service Qualities
3. Managing Guest Service
4. Office Services and Handling Complaints
5. Project: Researching Service Standards in Practice
6. Quiz 1: Front Office Operations
7. Stages in the Guest Cycle and Front Office Documents
8. Project: Fine-Tuning the Guest Cycle
9. Front Office Communications
10. Establishing the Room Rate
11. Project: Differences in Room Rates
12. Quiz 2: The Guest Cycle
13. Special Project*
14. Test
15. Course Project - Part 2: Mission Statement*
16. Glossary and Credits

LODGING OPERATIONS MANAGEMENT

UNIT 3: PROCESSING RESERVATIONS AND THE REGISTRATION PROCESS

Assignment Titles

1. Role of the Sales Department and Types and Sources of Reservations
2. Group Reservations and Reservation Computer Systems
3. Project: Researching PMS Software Report
4. Forecasting and Revenue Management
5. Project: Forecasting
6. Quiz 1: Reservations
7. The Registration Process and Creative Registration Options
8. Project: Alternative Registration
9. Selling and Turning Away Guests
10. Project: Practicing Difficult Conversations
11. Record Keeping and Front Office Accounting
12. Quiz 2: Registration
13. Special Project*
14. Test
15. Course Project - Part 3: Organizational Structure
16. Glossary and Credits*

LODGING OPERATIONS MANAGEMENT

UNIT 4: FINANCIAL OPERATIONS AND ROOMS MANAGEMENT TECHNOLOGY

Assignment Titles

1. Front Office Functions During Check Out and Settlement
2. Check Out Options and Internal Controls
3. Project: Check Out Options
4. The Audit Process
5. Project: Interview a Night Auditor
6. Quiz 1: Check Out and Settlement and the Audit Process
7. Guest Services Technology/Telecommunications
8. Guest Room Locking Services
9. Project: Future Access
10. Other Common Property Management System Interfaces
11. Project: Borrowing Technology
12. Quiz 2: Property Management Interfaces and Technology
13. Special Project*
14. Test
15. Course Project - Part 4: Room Rate*
16. Glossary and Credits

LODGING OPERATIONS MANAGEMENT

UNIT 5: FRONT OFFICE MANAGEMENT OPERATIONS

Assignment Titles

1. Functions of Management
2. Project: Researching the Reality of Management
3. Housekeeping: Planning, Staffing and Scheduling
4. Human Resources: Management Techniques and Strategies
5. Project: Internal and External Recruiting
6. Quiz 1: Role of Front Desk Management
7. Security Program and the Role of Management
8. Workplace Safety, the Law and Handling Emergencies
9. Project: The Human Side of Emergencies
10. Planning Your Future in Lodging
11. Project: Planning Your Hotel Career
12. Quiz 2: Safety, Security and Securing a Career in Lodging
13. Special Project*
14. Test
15. Course Project - Part 5: Recruiting and Interviewing*
16. Glossary and Credits

LODGING OPERATIONS MANAGEMENT

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: Superior Service
2. Review
3. Exam

(*) Indicates alternate assignment

Marketing and Sales for Tourism and Hospitality

Course Overview

This course is designed as an introduction to the study of tourism and hospitality marketing and sales. Students will be introduced to marketing theory and application of the basic principles of marketing as applied in hospitality and tourism. The relationship between marketing and other functions such as advertising, sales techniques, and public relations in order to maximize profits in a hospitality organization is addressed. Students will have an opportunity to explore this multi-faceted world, identifying multiple career paths and opportunities.

Objectives

- Explain the impact of technology on tourism and hospitality marketing and sales.
- Develop a plan for a career in tourism and hospitality marketing and sales.
- Create a marketing plan for a local business in the community
- Improve written, verbal, and presentation skills.

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 1: INTRODUCTION TO MARKETING

Assignment Titles

1. Course Overview
2. Understanding Marketing Basics
3. Project: Creating a Marketing Plan
4. Historical Development of Marketing
5. Project: Design a Video
6. Importance of Hospitality Marketing
7. Quiz 1: What Is Marketing?
8. SWOT Analysis
9. Project: SWOT Analysis
10. The Marketing Plan
11. Project: Creating a Market Plan
12. Budgeting for the Marketing Plan and Marketing Strategies for Product Life Cycle Stages
13. Quiz 2: The Marketing Plan
14. Special Project*
15. Test
16. Course Project - Part 1: Marketing Research and Analysis*
17. Glossary and Credits

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 2: MARKETING RESEARCH AND ANALYSIS

Assignment Titles

1. Characteristics of the Travel Product
2. Structure of the Hospitality and Tourism Industry
3. Project: Sector Trends
4. Product/Service Mix and Branding
5. Project: Branding Timeline
6. Quiz 1: The Product
7. Market Segmentation
8. Project: Market Segmentation: Benefits vs Limitations
9. Methods of Segmenting Markets
10. Market Research
11. Project: Target Markets and Advertising Mediums
12. Quiz 2: The Customer
13. Special Project*
14. Test
15. Course Project - Part 2: Marketing Strategy and Planning*
16. Glossary and Credits

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 3: MARKETING STRATEGY AND PLANNING

Assignment Titles

1. Promotional Mix and Communications
2. Project: The Promotional Mix
3. Advertising and Public Relations
4. Project: Publicity and Its Effect
5. Sales Promotion and Merchandising in the Hospitality and Tourism Industry
6. Quiz 1: Hospitality Promotion
7. Basics of Personal Selling
8. Project: Personal Selling Script
9. Satisfying the Customer
10. Use of Technology in Providing Service to Customers
11. Project: Sherman and Clayton Acts Research Paper
12. Quiz 2: Using Personal Selling Techniques and Providing Superior Customer Service
13. Special Project*
14. Test
15. Course Project - Part 3: Delivering Hospitality Services to Customers*
16. Glossary and Credits

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 4: DELIVERING HOSPITALITY SERVICES TO CUSTOMERS

Assignment Titles

1. The Travel Trade
2. Project: Travel Trade Intermediaries PowerPoint
3. Internet Travel Intermediaries
4. The Power of the Web in Tourism and Hospitality Marketing and Sales
5. Project: Online Marketing Poster
6. Quiz 1: The Distribution Mix
7. Market Research and Customer Service
8. Project: Kinds of Market Research
9. The Role of Technology
10. Project: Making a Market Research PowerPoint
11. Database Marketing
12. Project: Database Marketing Timeline
13. Quiz 2: Keeping the Customer Happy
14. Special Project*
15. Test
16. Course Project - Part 4: Your Marketing Strategy*
17. Glossary and Credits

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 5: CAREER OPPORTUNITIES IN TOURISM AND HOSPITALITY

Assignment Titles

1. Choosing a Career
2. Project: Choose a Career Research Paper
3. Developing an Action Plan
4. Careers in Marketing
5. Project: Self-Marketing Plan
6. Quiz 1: Planning for a Career in Hospitality Marketing and Sales
7. Entering the Job Market
8. Applying for a Job
9. Project: Create Your Own Resume
10. Preparing for the Interview
11. Project: Writing a Thank You Letter
12. Quiz 2: Finding and Applying for a Job
13. Special Project*
14. Test
15. Course Project - Part 5: Executive Summary*
16. Glossary and Credits

MARKETING AND SALES FOR TOURISM AND HOSPITALITY

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: Board Presentation*
2. Review
3. Exam

(*) Indicates alternate assignment

Planning Meetings and Special Events

Course Overview

Welcome to Planning Meetings and Special Events. Being a meetings and special events planner is an important job that's both demanding and rewarding. The Bureau of Labor Statistics projects this profession will grow by 43.7 percent between 2010 and 2020.

It's not all fun and parties, though. In 2012, CareerCast ranked being an event planner as the sixth most stressful job, with soldiers and firefighters holding the top two positions. That's because a meeting coordinator is responsible for every detail of an event. Planners have to know how to communicate, be empathetic, and think of their clients. It's crucial to remember that in some instances the event will be a once-in-a-lifetime occasion, so it's important to get it right.

Being a meetings and events planner can be an interesting career, one that you can be sure won't ever be boring.

Objectives

- Recognize the skills needed to work in this industry.
- Develop generic skills that can be used in many positions.
- Learn the acronyms of the meetings and planning special events industry.
- Understand the great importance of accepting responsibility.
- Consider the opportunities for pursuing a career in this field.

This course starts with an historical overview and continues by equipping students with the skills and perspectives they need to plan meetings and special events. All resources and materials are online. The only prerequisites are the ability to write, think, and question. If there's an opportunity to do hands-on meeting planning, take advantage of it to put into practice some of the information you'll learn.

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 1: MEETINGS ARE BIG BUSINESS

Assignment Titles

1. Course Overview
2. The Evolution of the Meetings and Special Events Industry
3. Project: Communication through the Ages
4. Types of Meetings
5. Project: Researching the CVB
6. Learning the Lingo
7. Quiz 1: Getting Started
8. Preparing to be the Perfect Planner
9. Project: Research Planner Credentials
10. Working With A Special Events Committee and Understanding Fundraising
11. Project: Interview a Committee Member
12. Supervising, Networking and Designing Work Schedules
13. Project: Supervision Research
14. Quiz 2: Committees, Supervising and Schedules
15. Special Project*
16. Test
17. Course Project - Part 1: The Theme*
18. Glossary and Credits

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 2: PLAYING WITH PUZZLES

Assignment Titles

1. Working Definitions and Overviews
2. Laying the Foundation
3. Project: Using SMART
4. Networking, Associations and Tools of the Trade
5. Project: Identifying Your Own Network Exercise
6. Quiz 1: Planning Stage One â€“ Working Through the Theory
7. Budgets
8. Project: Tracking Your Money
9. More on Budgets
10. Other Miscellaneous Budgeting Issues
11. Project: Researching a Bank Account
12. Quiz 2: Planning Stage Two â€“ It All Comes Back to the Budget
13. Special Project*
14. Test
15. Course Project - Part 2: The Budget*
16. Glossary and Credits

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 3: FINANCIAL MANAGEMENT OF MEETINGS AND EVENTS

Assignment Titles

1. Becoming Seamless
2. Project: Reconstructing a Checklist
3. Sites and Selection
4. Project: Organizing a Site Meeting
5. Mapping the Space
6. Quiz 1: Becoming Seamless
7. Getting Into the Field
8. Project: Making Your Own Business Card
9. Working with Suppliers
10. Get it on Paper
11. Project: Interviewing Vendors
12. Quiz 2: Getting Things Lined Up
13. Special Project*
14. Test
15. Course Project - Part 3: The Venue*
16. Glossary and Credits

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 4: DESIGNING THE PROGRAM...AND DON'T FORGET THE FOOD

Assignment Titles

1. Get the Right Caterers
2. Project: A Catered Affair
3. Everything you want to know about F&B set ups
4. Project: A Be-Creative Assignment
5. From Pipe and Drape to Double-checking AV Equipment
6. Quiz 1: F&B
7. Meet the Media
8. Project: Writing a News Release
9. The Internet, Social Media, SEO and LinkedIn
10. Project: Setting Up a Networking Account
11. The Technology Revolution
12. Quiz 2: Advertising
13. Special Project*
14. Test
15. Course Project - Part 4: The Goodies*
16. Glossary and Credits

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 5: IMPORTANCE OF POTPOURRI

Assignment Titles

1. Transportation
2. Project: Booking Airline Tickets
3. Monitoring
4. Project: Monitoring Employees
5. International Considerations
6. Quiz 1: Details, details, details
7. Masala Tips and Ideas
8. Project: Reflecting on Your Learning
9. Evaluations for Meetings and Special Events
10. Project: Evaluating A Special Event Project
11. Reflecting and Projecting
12. Quiz 2: Wrapping it Up
13. Special Project*
14. Test
15. Course Project - Part 5: Final Details*
16. Glossary and Credits

PLANNING MEETINGS AND SPECIAL EVENTS

UNIT 6: COURSE PROJECT, REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: The Big Presentation*
2. Review
3. Exam

(*) Indicates alternate assignment

Sustainable Service Management for Hospitality and Tourism

Course Overview

This comprehensive course will cover the principles and practices of sustainable service management. The purpose of this course is to provide students with an understanding of socially, environmentally, and financially sustainable hospitality management. The course will provide a sustainable approach to service management, incorporating the role of the customer, employee, leaders, and the environment. After successful completion of this course, students will understand and be able to explain the fundamentals of sustainability in the hospitality industry.

The student will:

- articulate the importance of customer-centered service in the hospitality industry
- know how to empower employees to create sustainable service
- be able to describe leadership qualities that contribute to a sustainable service environment
- be able to identify drivers of sustainable success in service businesses
- understand how green policies and social profit benefit the planet and the bottom line

This course does not require any pre-requisites and is self-contained. It does require that the student has access to the Internet for external readings and encourages students to utilize the library as necessary, but there are no texts required.

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 1: CREATING A CUSTOMER-CENTERED HOSPITALITY ENVIRONMENT

Assignment Titles

1. Course Overview
2. Defining Sustainable Service Management
3. Project: Essay on Service
4. Managing the Guest Experience
5. Customer Knowledge
6. Project: Guest Satisfaction Index Study
7. Quiz 1: Sustainable Service Management for the Guest Experience
8. Standards for Service Delivery
9. The Service Setting
10. Project: The Service Setting Essay
11. Communication for Sustainable Service
12. Project: Hospitality Industry Website Comparison
13. Quiz 2: Quality Management Strategies
14. Special Project*
15. Test
16. Course Project - Part 1: Starting Your Company*
17. Glossary and Credits

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 2: FOCUS ON THE EMPOWERED EMPLOYEE

Assignment Titles

1. Hiring for Sustainable Success
2. Project: Interviewing for a Position
3. Training for Sustainable Success
4. Project: Train the Trainee
5. Motivating Employees for Sustainable Success
6. Quiz 1: Hiring, Training, and Motivating for Sustainable Success
7. Creating a Sustainable Culture
8. Project: The Culture of a Company
9. Teamwork & Sustainability
10. Project: Create a Team!
11. Brand Cultivation for Sustainable Success
12. Quiz 2: Organizational Culture and Brand Cultivation
13. Special Project*
14. Test
15. Course Project - Part 2: Hiring Employees*
16. Glossary and Credits

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 3: FOCUS ON SUSTAINABLE LEADERSHIP

Assignment Titles

1. Defining Sustainable Leadership
2. Project: Effective Leader
3. Core Values & Competencies
4. Personal Vision & Mission
5. Project: Your Vision and Mission Statements
6. Quiz 1: Values-Driven Leadership
7. Leaders as Mentors and Coaches
8. Project: Intrinsic and Extrinsic Motivators
9. Interpersonal Skills for Leaders
10. Project: Reflection on the Vision/Mission of an Organization
11. Decision Making
12. Quiz 2: Leadership Roles
13. Special Project*
14. Test
15. Course Project - Part 3: The Leaders*
16. Glossary and Credits

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 4: FOCUS ON SUSTAINABLE ORGANIZATIONS

Assignment Titles

1. Organizational Values
2. Project: Comparing Organizational Values
3. Organizational Climate and Ethics
4. Project: Core Values and Competencies
5. Strategic Focus for Sustainability
6. Quiz 1: Sustainable Organizational Values, Ethics and Strategies
7. Sustainable Organization Management
8. Project: Organizational Theories
9. Sustainable Systems
10. Project: Service Organization Blueprint
11. The Customer and the Organization
12. Quiz 2: Structures within the Organization
13. Special Project*
14. Test
15. Course Project - Part 4: Building the Culture*
16. Glossary and Credits

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 5: THE SUSTAINABLE FUTURE

Assignment Titles

1. Social Responsibility
2. Project: Social Responsibility
3. A Sustainable World
4. Project: Social Responsibility (Part 2)
5. Safety and Security
6. Quiz 1: Organizational Responsibility
7. Social Media and Sustainability
8. Innovation and the Future
9. Project: Future World
10. Sustainability Overview
11. Project: Creating a Resume
12. Quiz 2: Sustainable Hospitality Today and Tomorrow
13. Special Project*
14. Test
15. Course Project - Part 5: Your Social Responsibility*
16. Glossary and Credits

SUSTAINABLE SERVICE MANAGEMENT FOR HOSPITALITY AND TOURISM

UNIT 6: COURSE PROJECT, REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: Tell Your Tale*
2. Review
3. Exam

(*) Indicates alternate assignment

Transportation and Tours for the Traveler

Course Overview

Welcome to Transportation and Tours for the Traveler! This course looks at transportation and package tours. During this course, you will learn about the package tour industry today, the travel industry professionals, and the package tour customers. You will find out who tour operators have to work with to create travel products and what kinds of decisions they have to make in terms of meal, lodging, attractions, and, of course, transportation. You will read about how a tour operator plans and markets a tour and discover what happens before the tour, during the tour, and after the tour. Finally, you will learn about how technology, events like 9/11 and the global recession, and increased environmental awareness are affecting the travel industry today.

By focusing on all of the different components that go into creating a tour, you will be able to get a sense of what working for a tour operator really entails as well as what other careers are available in the tour industry. Having this perspective will help you better understand the process you undergo as you plan your own vacations and give you the background to feel comfortable entering the tour industry.

Transportation and Tours for the Traveler Goals and Objectives

- To provide students with an understanding of how the tour industry is organized
- To introduce the suppliers that tour operators must partner with and consider how best tour operators can foster positive working relationships with them
- To learn how package tours are created
- To understand how tours are marketed and promoted
- To examine how tour operators arrive at prices for their products
- To understand exactly how a tour operator prepares for, executes, and reflects on a tour
- To critically think about current issues in technology and society that affect the tour industry
- To improve students' oral and written communication skills
- To improve students' critical thinking skills

It is essential that you have access to a computer and the internet for this course. You will also need to visit and establish good relationships with several travel agents and other local organizations that serve tourists in order to complete many of the assignments.

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 1: LINKING TRANSPORTATION AND TOURS TO THE TRAVEL PRODUCT

Assignment Titles

1. Course Overview
2. Introduction to Transportation and Tours
3. Project: Case Study: Florida
4. What is a Package Tour?
5. Project: What Tour Would You Take?
6. Who Takes a Tour?
7. Project: Understanding Your Group as a Travel Unit
8. Quiz 1: Introduction to Tours
9. Tour Operators
10. Destination Marketing Organizations
11. Project: How Is Your Area Represented?
12. Travel Agents
13. Project: A Visit to a Travel Agency
14. Quiz 2: Travel Industry Professionals
15. Special Project*
16. Test
17. Course Project - Part 1: The Tour Company*
18. Glossary and Credits

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 2: SUSTAINABLE TOUR PRODUCTS

Assignment Titles

1. Working with Suppliers
2. Working with Suppliers: Attractions & Dining
3. Project: Researching a Tour
4. Working with Suppliers: Accommodations
5. Project: Writing a Tour Review
6. Quiz 1: Element Suppliers
7. On the Road: Motor Coaches, Cars, Trains
8. Project: Evaluating Tours
9. On the Road: Airplanes
10. Project: Making a Recommendation for an Airline Carrier
11. On the Road: Cruises
12. Quiz 2: Transportation
13. Special Project*
14. Test
15. Course Project - Part 2: Choosing Suppliers*
16. Glossary and Credits

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 3: RULES OF THE ROAD AND OTHER DETAILS

Assignment Titles

1. Itineraries: Where Are We Going? What Are We Doing?
2. Project: Creating an Itinerary
3. More Issues In Research and Design of Tours
4. Tour Logistics
5. Project: Write an Itinerary
6. Quiz 1: Itinerary Design
7. Logistics: Choosing a Motor Coach
8. Project: Motor Coach Tour of Niagara Falls
9. Logistics Managing Negotiations and Reservations
10. Logistics: Budgets, Costs, and Pricing
11. Project: Consultant for Go Global Tours
12. Quiz 2: Logistics
13. Special Project*
14. Test
15. Course Project - Part 3: Planning a Tour Itinerary*
16. Glossary and Credits

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 4: SHOW ME THE MONEY

Assignment Titles

1. Marketing Research
2. Project: Market Research on a Tour
3. The Marketing Plan
4. Marketing and Promotions
5. Project: Assessing Marketing Plans
6. Quiz 1: Preparing to Market a Tour
7. Direct Marketing
8. Marketing: Groups vs. Individuals
9. Project: Niche Market
10. Marketing: The Tour Brochure
11. Project: Day Itinerary
12. Quiz 2: Marketing Strategies
13. Special Project*
14. Test
15. Course Project - Part 4: Marketing the Tour*
16. Glossary and Credits

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 5: SEEING IS BELIEVING. THE END IS NEAR!

Assignment Titles

1. Pre-Tour: Handling Tour Customers
2. Project: Informational Bulletin
3. Who Makes a Good Tour Director?
4. Project: Wanted: Tour Director
5. Managing a Tour on the Road
6. Quiz 1: Before and During the Tour
7. After the Tour
8. Project: Tour Questionnaire and Evaluation
9. Current Issues in Transportation and Tours
10. Project: Current Issues in Transportation and Tours
11. Careers in Transportation and Tours
12. Quiz 2: After the Tour
13. Special Project*
14. Test
15. Course Project - Part 5: Tour Management*
16. Glossary and Credits

TRANSPORTATION AND TOURS FOR THE TRAVELER

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project - Part 6: The Final Presentation*
2. Review
3. Exam

(*) Indicates alternate assignment

HUMAN SERVICES

Introduction to Human Services

Course Overview

This course introduces high school students to the possibilities for careers in the human services professions. Through anecdotes, lessons, and a variety of assignments and projects, students will learn about the broad variety of jobs available in the human services. These begin with entry-level positions, such as associate social workers, that require only a two-year Associate of Arts degree. At the apex of the profession, being a psychiatrist brings the most prestige and the biggest salary, but only after many years of school and training.

Students will learn exactly what the human services are and the ethics and philosophies of the helping professions. The history of the profession will be covered, as well as the impact of the cultural, social, and economic environment on individual people, especially those who are in need of social services assistance.

By the conclusion of this course, students will have a firm introductory understanding of the social services professions. Employment at all levels of social work and related jobs is projected to grow rapidly over the next decade. Students will have a better idea of whether this is a career course they would like to explore further.

Objectives

- to provide students with information about the history and development of the human services field
- to offer insight into the practical as well as theoretical functions of the human services profession in society
- to offer students opportunities to identify and strengthen problem-solving abilities
- to develop or increase interpersonal communications skills, which are critical in human services or helping professions
- to help develop students' self-awareness while they explore whether the field of human services is a viable career path that fits with their values and personal characteristics

As an introduction to the human services professions, this course requires no specific academic prerequisites. Any student willing to do the assigned work will be able to complete this course successfully. The only real requirements are a desire to help others and a curiosity about human services as a possible career choice.

INTRODUCTION TO HUMAN SERVICES

UNIT 1: HUMAN SERVICES: CHANGING AND IMPROVING PEOPLE'S LIVES

Assignment Titles

1. Course Overview
2. Solving Problems vs. Teaching Problem Solving Skills
3. Types of Populations, Needs, and Services
4. Project: Let's Get Happy and Let's Get Rich
5. What Human Services Organizations Do
6. Project: Know Your Surroundings
7. Quiz 1: History, Standards, and Overarching Mission
8. Direct Service Interventions
9. Policy and Program-Planning Interventions
10. Project: Designing A Human Services Organization
11. Administration
12. Project: Life After High School
13. Quiz 2: Providers of Human Services
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Disaster Strikes!*
17. Glossary and Credits

INTRODUCTION TO HUMAN SERVICES

UNIT 2: VALUES, ETHICS, AND LEGAL ISSUES

Assignment Titles

1. Basic Values of Helping Professions
2. The Ethical Decision - Making Process
3. Project: Cultural Diversity Education
4. Laws, Legal Statutes, and Legal Issues
5. Project: Legal Statutes and Legal Issues
6. Quiz 1: A Framework of Underlying Values
7. Respecting Life Choices
8. Confidentiality and Consent
9. Project: Volunteering to Help
10. Legal and Ethical Dilemmas
11. Project: A New Beginning
12. Quiz 2: The Practice: Applying Values and Ethics in Real-Life Situations
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Ethics in Action!*
16. Glossary and Credits

INTRODUCTION TO HUMAN SERVICES

UNIT 3: EVERYTHING INTERCONNECTED? SYSTEMS THEORY, THE ECOLOGICAL FRAMEWORK AND OTHER PERSPECTIVES

Assignment Titles

1. Understanding the Nature of Human Systems
2. Definition of Systems' Characteristics, Basic Properties, and Behaviors
3. Project: Homeostasis and Homeostatic Balance
4. Ecological Perspectives: Systems Within Systems
5. Project: The Scientific Method
6. Quiz 1: Systems Theory Basics
7. Basic Human Growth and Development
8. Nature Versus Nurture
9. Project: Nurture, the Family, and the Decision
10. Recent Psychoanalytical Approaches
11. Project: Monitoring Digression
12. Quiz 2: Non-systemic Perspectives
13. Project: Special Project
14. Unit 3 Test
15. Course Project Part 3: What Makes People Tick?
16. Glossary and Credits

INTRODUCTION TO HUMAN SERVICES

UNIT 4: FROM THEORY TO PRACTICE

Assignment Titles

1. What Processes Bring About Individual Change?
2. Project: Communications Theory Project
3. Working with Multidisciplinary Teams
4. Domestic Violence and Child Abuse
5. Project: An Addiction Study
6. Quiz 1: The Helping Process: To Change or Not To Change?
7. Services that Help People
8. Project: Best Delivery Model
9. What Do You Do First?
10. Basic Communication and Interviewing Skills
11. Project: Effective Communication
12. Quiz 2: What Human Services Professionals Actually Do and How It Is Done: Theory Applied to Practice
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: We're All In This Together!*
16. Glossary and Credits

INTRODUCTION TO HUMAN SERVICES

UNIT 5: CLIENTS AND HELPERS IN HUMAN SERVICES

Assignment Titles

1. Helping Professionals' Skills or Abilities
2. Project: Let's Get S.M.A.R.T.
3. Interpersonal Characteristics of Helping Professionals
4. Project: Tour Guide to the Martians: Empathy and The Conscious Use of Self
5. Taking Care of Yourself: Managing Burnout and Stress
6. Quiz 1: Getting into the Field of Human Services: Is This Career Path Right for You?
7. Was I Born to Be a Helper?
8. Project: Self-Motivation
9. Special Challenges of Human Services Professionals
10. Developing Career Goals and Plans
11. Project: Identifying Career Goals
12. Quiz 2: Knowing Yourself and Your Emotional "Baggage"?: How the Personal Can Influence the Professional, and Where Do You Go From Here?
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Are You...the One?*
16. Glossary and Credits

INTRODUCTION TO HUMAN SERVICES

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part 6: Countdown to Lift Off! Mapping a Path to a Human Services Career*
2. Review
3. Exam

(*) Indicates alternate assignment

Counseling and Mental Health Services

Course Overview

The mental health field is diverse. There are many different options available to those interested in working in the counseling and mental health field. This course introduces and exposes the students to some topics, issues, and populations that are related to the counseling and mental health field. Students will first receive information about on the history of the mental health system in the United States and about some common mental illnesses. They will then explore different counseling and mental health topics, populations, mental health needs of these populations, and work place settings. Some topics and populations discussed are addiction, dual diagnosis disorders, vulnerable children, different vulnerable populations, and mental health issues in the criminal justice system. Some workplace settings of counseling and mental health workers analyzed are the criminal justice system, school systems, acute psychiatric care settings, community mental health centers, and child protective services.

This course will also introduce students to various careers in the mental health field. Some of the professions reviewed are, psychiatrists, psychologists, school counselors, social workers, social and human service assistants, dual diagnosis disorder counselors, recovery coaches, correctional counselors, forensic psychologists, crime victim advocates, geriatric psychiatrists, and recreational therapists. The roles, responsibilities, and duties of these workers along with the educational, licensure/certification, job outlook, and salaries of these professions are discussed. Lastly, the ethics and competencies important to these professions are presented. Students are provided with resources in order that they may be able to conduct online research of schools and credential requirements of their individual states. This course will equip students with information and resources on counseling and mental health careers, and the coursework will give students the opportunity to apply some of this knowledge in practical scenarios.

Objectives

- Describe and compare careers in counseling and mental health in terms of academic preparation, skill sets, licensing, employment potential, and continuing education.
- Describe the professional behaviors and skills required for human service occupations.
- Analyze the role of mental health workers in as ensuring fair and ethical treatment for human service clients.
- Evaluate consequences of unethical behavior for both the clients and human service workers.
- Identify personal qualities necessary for success in the field of counseling and mental health.
- Demonstrate basic oral communications skills involved in interviewing and working with clients in a human services setting.
- Demonstrate the ability to present information to various groups and audiences using appropriate technology.
- Produce written documents of professional quality appropriate to the purpose of the communication and intended receiver.
- Recognize the importance of inter- professional team work and communication in the human service arena.
- Recognize the role that social problems play in the development of various mental and or behavior disorders.
- Identify mental health models used by mental health workers to assist them in understanding client problems.
- Describe selected interventions used by mental health professionals.
- Recognize different work environments of mental health workers.

The Student should understand the following concepts about the counseling field:

- A mental health system exists in the United States.
- Basic understanding of the educational system in the United States.
- Understand that the goal of mental health careers is to help others.
- School counselors, therapists, social workers, and psychiatrists are some professionals who work in the mental health field.

To be successful in this course, the student should be comfortable with these technical expectations:

- Access and navigate the Internet.
- Access teachertube.com.
- Use word processor (Microsoft Word, Word Perfect, etc.).
- Create PowerPoint Presentations.
- Post to Discussion Thread.
- Create a Timeline

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 1: INTRODUCTION TO MENTAL HEALTH AND COUNSELING CAREERS

Assignment Titles

1. Course Overview
2. History of Mental Health in the United States
3. Project: History of Mental Health in the United States Timeline.
4. The Medical Model of Mental Health and Major Mental Disorders
5. Project: Major Mental Disorder PowerPoint Presentation
6. Project: Medical Model Article
7 Stress and Mental Health
8. Project: Interview and Report on Adolescent Academic Performance Stress
9. Project: Stress Management Plan Essay
10. Quiz 1: Introduction to Careers in Mental Health and Counseling
11. Professionals at an Acute Psychiatric Hospital
12. Project: Newspaper Article on Stigma and Mental Illness
13. Professional Requirements for Hospital Mental Health Workers
14. Project: Case Study on severe depression
15. Competencies and Ethics of Mental Health Workers
16. Project: PowerPoint Presentation On Competencies and Ethics in an Acute Psychiatric Hospital
17. Quiz 2: Careers in Mental Health Represented in an Acute Psychiatric Care Setting
18. Project: Special Project*
19. Unit 1 Test
20. Course Project Part 1: Newsletter On Mental Health Careers in an Acute Psychiatric Hospital*
21. Glossary and Credits

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 2: COUNSELING AND MENTAL HEALTH CAREERS WITH VULNERABLE CHILDREN

Assignment Titles

1. History of Child Protective Services in the United States
2. Project: History of Child Protective Services in the United States Timeline
3. Child Abuse and Neglect
4. Project: School Newspaper Article on Child Abuse and Neglect
5. Mental Disorders of Vulnerable Children
6. Quiz 1: Child Maltreatment and the Vulnerable Child
7. Mental Health Workers and the Vulnerable Child
8. Project: Letter on the Roles and Duties of a School Counselor, Child Welfare Case Worker, and Social and Human Service Assistant
9. Mental Health Worker Educational Requirements
10. Mental Health Worker Competencies and Ethics
11. Project: Essay on Child Welfare Competencies and Ethical Guidelines
12. Quiz 2: Mental Health Careers Working with Vulnerable Children
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Newsletter on Mental Health Careers in the Field of Child Welfare Protection*
16. Glossary and Credits

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 3: FIELDS OF ADDICTIONS AND DUAL DIAGNOSIS

Assignment Titles

1. Addiction Disorders
2. Project: Addiction
3. Dual Diagnosis Disorder
4. Treatment for Addictions and Dual Diagnosis Disorders
5. Project: Addiction Counselor Case Study
6. Quiz 1: Addiction Disorders
7. Addiction and Dual Diagnosis Disorder Workers
8. Project: Taking a Stand
9. Addiction and Dual Diagnosis Workers' Professional Requirements
10. Competencies and Ethics of Addiction Professionals
11. Project: Presentation on the Competencies and Ethics of Addiction Workers
12. Quiz 2: Addiction and Mental Health Workers
13. Project: Special Project*
14. Unit 3 Test
15 Course Project Part 3: Newsletter On Mental Health Careers in Addiction Disorders and Dual Diagnosis Disorders*
16. Glossary and Credits

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 4: CRIMINAL JUSTICE ARENA

Assignment Titles

1. Mental Health and the Criminal Justice System
2. Mental Health and Victims of Crime
3. Project: Mental Health Treatment Programs for Offenders and Victims of Crime
4. Treatment Programs for Offenders and Victims
5. Project: Effectiveness of Jail Diversion Programs
6. Quiz 1: Mental Health and the Criminal Justice System
7. Mental Health Workers in the Criminal Justice Field
8. Project: Essay on Professionals in Correctional Institutions
9. Criminal Justice Mental Health Workers' Professional Requirements
10. Competencies and Ethics of Criminal Justice Workers
11. Project: Presentation on Competencies and Ethics of Mental Health Workers
12. Quiz 2: Mental Health Workers in the Criminal Justice Field
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Newsletter On Mental Health Careers in the Criminal Justice System*
16. Glossary and Credits

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 5: COUNSELING AND MENTAL HEALTH CAREERS WITH VULNERABLE POPULATIONS

Assignment Titles

1. Vulnerable Populations: The Elderly and the Homeless
2. Vulnerable People - HIV/AIDS and Intellectual Disablement
3. Project: Community Mental Health Center Statement
4. Community Mental Health Centers for Vulnerable Populations
5. Project: Ryan White Letter
6. Quiz 1: Vulnerable Populations
7. Mental Health Workers with Vulnerable Populations
8. Project: Persuasive Essay
9. Professional Requirements of Mental Health Workers with Vulnerable People
10. Competencies and Ethics of Workers with the Vulnerable
11. Project: Presentation on the Competencies and Ethics of Mental Health Workers of Vulnerable Populations
12. Quiz 2: Mental Health Workers of Vulnerable Populations
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 5: Newsletter on Mental Health Careers Working with Vulnerable Populations*
16. Glossary and Credits

COUNSELING AND MENTAL HEALTH SERVICES

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part 6: Career Exploration Workshop Presentation on Counseling and Mental Health Careers*
2. Review
3. Exam

(*) Indicates alternate assignment

Early Childhood Development and Services

Course Overview

Early Childhood Development (ECD) is an introductory course offering a detailed overview of both developmental stages and areas of early childhood, and how early childhood education professionals provide optimal assistance during these important years of growth and learning. An examination of the history, theories, teaching models, research, and policies that grew with the advance of early childhood education, as well as an introduction to the achievements of many leaders in this field, provide students a thorough grounding in the science and practice of early childhood education. This course further provides students with keen insight into why these years are so important to the life of the child, what areas of physical, emotional, and cognitive development are manifested from birth through age five, and what developmentally appropriate practices are proving to be most effective.

Students will see how state, county, and community programs and non-profit social service organizations benefit from a combination of contributions and regional and federal funding mandated through national legislation; students will also appreciate the role ECE professionals play in their work with families, organizations, and licensing administrators. Students will be able to identify the advances, the challenges, the results, and the trends in ECE, explore a wide spectrum of professional possibilities, and learn the requirements and responsibilities of those positions. The complex interaction of state and federal policymaking on program funding and availability is covered in depth, as are codes of ethics and legislation affecting the quality of preschool and kindergarten programs.

Diversity is a key topic, and inclusion of families and children of cultural, economic, linguistic, and ethnic and ability diverse backgrounds are covered in depth. The rights, programs, and services available for children with disabilities and their families are reviewed. As the areas of study show, the need for highly qualified, engaged professionals in preschool classrooms, child care centers, and school readiness programs is growing. Teachers and other professionals in the field need to be not only educated in ECD, but also adept at building positive relationships between teacher and child and parent and colleagues, with the sensitivity to, enthusiasm for, and awareness of diversity issues and developmentally appropriate practices requiring skill and ongoing training.

Through creative projects in each unit, leading to completion of the capstone project, students become the professionals they are studying to be, hypothetically designing preschool curricula, counseling parents and working with infants with disabilities in mental health home intervention visits, researching credentials and education pathways for careers, investigating state funding and licensure requirements for programs, and getting involved in advocacy for major issues in the field. This course prepares students to make more informed decisions about their education and career pathway possibilities, endowing them with a solid understanding of the field and its importance in the well-being and success of not just a few young children and their families but of society and future generations.

Objectives

- Compare and contrast careers in early childhood development with regard to scope, academic preparation, certification, skill set, roles and responsibilities, and continuing education.
- Identify the historical, cultural, and social foundations of early childhood development and the related services.
- Describe agencies and organizations that support the profession of early childhood education and development.
- Recognize milestones of typical development in young children.
- Identify communication and problem-solving skills necessary to develop best practices in the field for young children and their families.
- Examine ethical and legal implications of working with young children and their families.

This is an introductory course in early childhood development (ECD) and early childhood education (ECE); there are no prerequisites. Students enrolled in the course are assumed to be interested in ECD and ECE and possibly considering a career as an ECE professional. The course offers a wealth of information on many aspects of the field, including education, credentialing, licensing, and endorsement area requirements for various positions.

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 1: INTRODUCTION TO EARLY CHILDHOOD DEVELOPMENT

Assignment Titles

1. Course Overview
2. Who Am I? - Identifying Careers Through Credentials and Responsibilities
3. Project: Who Am I - Identifying Career Roles and Responsibilities
4. Opening a Licensed Child Care Facility in My State
5. Project: Open for Business
6. Center-Based vs. Family Home Care
7. Quiz 1: Careers in Early Childhood Development
8. History of the Early Childhood Education Profession
9. Project: History of the Early Childhood Education Profession Timeline Project
10. Organizations that Support Early Childhood Programs
11. How Does Your State Compare?
12. Project: Family Engagement in Practice
13. Quiz 2: History of Early Childhood Education and Development
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Opening a Licensed Child Care Facility in Your State*
17. Glossary and Credits

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 2: DIVERSITY AND FAMILY ENGAGEMENT

Assignment Titles

1. Diversity in Early Childhood Education
2. Project: Two Children
3. Understanding Inclusion Law and Practice
4. Strategies for Engaging All Children, Including Diverse Environments and Abilities
5. Project: Putting Planning Into Practice
6. Quiz 1: Recognizing Diversity in Children and Their Families
7. Understanding Family Engagement
8. Strategies For Engaging All Families of Young Children
9. Project: Teaching
10. Services to Families with Disabled Children
11. Project: Active Outdoor Play: Playground Shadowing
12. Quiz 2: Family Engagement
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: You're an Infant Mental Health (IMH) Home Visitor - One Visit Report*
16. Glossary and Credits

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 3: UNDERSTANDING CHILD DEVELOPMENT

Assignment Titles

1. Development: Motor and Cognition
2. Project: Developmental Milestones Timeline - Part 1
3. Development: Language and Social Emotional Development
4. Project: Developmental Milestones Timeline - Part 2
5. Health, Screening and Assessment
6. Quiz 1: Development Zero to Three
7. Typical Development of Preschoolers
8. Project: Three Children, Ages 3-5 at My Preschool and What I Did to Help Their Development
9. Play and Physical Activity in Preschool
10. Developmentally Appropriate Practices
11. Project: Book Nooks Playbook
12. Quiz 2: Preschool Development
13. Project: Special Project*
14. Unit 3 Test
15 Course Project Part 3: Developmentally Appropriate Practices in My Preschool Group*
16. Glossary and Credits

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 4: STRATEGIES FOR ENHANCING DEVELOPMENT AND LEARNING

Assignment Titles

1. Emergent Literacy
2. Project: Emergent Literacy Ideas for New Parents - You're the Professional
3. Early Literacy Experiences
4. Project: Creating a Print-rich Environment at Home and in a Preschool Classroom
5. Writing Development
6. Quiz 1: Promoting Literacy in Early Childhood
7. Developing Positive Relationships
8. Project: Emotional Literacy: Your Story
9. Working with Challenging Behaviors
10. Project: Ethics in Action Interview
11. Extending Positive Relationships to the Home
12. Quiz 2: Developing Positive Relationships
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Challenging Behaviors Home Makeover*
16. Glossary and Credits

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 5: LAWS AND POLICIES IN EARLY CHILDHOOD EDUCATION

Assignment Titles

1. Child Maltreatment
2. Reporting Maltreatment
3. Project: Mandated Reporter Fact Sheet/Checklist
4. Promoting Resilience and Positive Outcomes
5. Project: Case Study in Promoting Resilience
6. Quiz 1: Child Maltreatment: Law, Prevention, and Early Intervention
7. Code of Ethics
8. Advocacy
9. Project: You're the Advocate!
10. Current Issues and Trends in Early Childhood
11. Project: Pre-K Programs: Why You Should Care Presentation
12. Quiz 2: Ethics and Advocacy in Early Education and Development
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Trendwatch!*
16. Glossary and Credits

EARLY CHILDHOOD DEVELOPMENT AND SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: A Day In The Life
2. Review
3. Exam

(*) Indicates alternate assignment

Family and Community Services

Course Overview

This course introduces applications within professions related to Family and Community Services. You will identify degree and credential requirements for occupations in this pathway and identify individual, social, historical, economic, and cultural context to increase awareness of family and community services. You will develop the abilities necessary to evaluate and identify a range of effective communication strategies and skills for establishing a collaborative relationship with others. You will also complete a variety of projects to apply your skills and knowledge.

The course begins by introducing you to Family and Community Services, associated careers, and general requirements. The first unit requires you to investigate the skills required for many professions, including effective communication and critical thinking. The remaining units are divided among career fields. Each chapter begins with a lesson that discusses the general role of the professionals, their required skills and knowledge, educational requirements, employment opportunities, and salaries. The following lessons in each chapter then discuss various aspects of the career in greater detail.

Objectives

- Analyze careers in Family and Community Services in terms of employment opportunities, salary levels, education requirements, necessary skills, certification requirements, entrepreneurial opportunities, and employment outlook.
- Understand the importance of exhibiting ethical responsibilities and encourage co-workers to comply ethical and legal responsibilities in the work place.
- Be able to clearly articulate organizational policies, rules, and procedures.
- Analyze needs, accommodations, and living conditions of families with various disadvantaging conditions and analyze situations that require crisis intervention.
- Be familiar with effective family advocacy strategies and the rights and responsibilities of the clients and families.
- Understand the ethical, legal, and safety issues related to positions in social work.
- Research and evaluate local, state, and national agencies that provide support for family and consumer services agencies such as health care, Medicare, food stamps, and child care.
- Analyze community-networking opportunities in Family and Community Services.
- Guide individuals through the process of recognizing concerns and making informed decisions.

There are no specific requirements for taking and succeeding in this course. This is a foundation course on family and community services that provides an overview of family and community systems and the professionals who serve and support them.

Certain educational requirements and minimum experience or training are necessary for many careers. Higher pay in an occupation usually occurs with increased time spent at work, education, training, responsibilities, and experience. Different skills and education levels are required for different jobs. All careers have benefits and drawbacks, dependent on their pay, rewards, and stresses.

FAMILY AND COMMUNITY SERVICES

UNIT 1: INTRODUCTION TO FAMILY AND COMMUNITY SERVICES

Assignment Titles

1. Course Overview
2. What are Family and Community Services?
3. Basic Skill Set Analysis of Career Paths
4. Project: Analyzing a Work Environment
5. Employment Portfolios and E-portfolios
6. Project: Developing a Personalized Employment Portfolio
7. Quiz 1: Introduction and Basic Competencies
8. Analysis and Comparison of Different Organizational Structures
9. Project: Creating Your Own Organizational Structure
10. Internal and External Influences on Organizations
11. Project: Connecting Family and Community Services with Sustainability
12. Professional Organizations, Resources, Certifications
13. Quiz 2: Organizational Structure
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Seeking Career Advice*
17. Glossary and Credits

FAMILY AND COMMUNITY SERVICES

UNIT 2: SOCIAL WORKERS

Assignment Titles

1. Social Workers
2. Project: Presenting Social Work Careers
3. Understanding Family Challenges
4. Project: Determining Family Challenges and Advocacy Strategies
5. Social Work Resources
6. Quiz 1: Child, Family, and School Social Workers
7. What is a Health Care Social Worker?
8. Understanding Patient and Family Challenges
9. Project: Understanding Family Challenges and Advocacy Strategies
10. The Social Worker at Patient Discharge
11. Project: Researching the Patient Discharge Process of a Local Hospital
12. Quiz 2: Health Care Social Workers
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Interviewing a Child, Family, School, or Health Care Social Worker*
16. Glossary and Credits

FAMILY AND COMMUNITY SERVICES

UNIT 3: MANAGEMENT AND PLANNERS

Assignment Titles

1. Social, Community, and Emergency Managers
2. Community Programs and Services
3. Project: Using a Logic Model to Improve a Community
4. Disaster Preparedness
5. Project: Preparing for a Local Disaster or Emergency
6. Quiz 1: Social, Community, Emergency Managers
7. Planning Aides and Eligibility Interviewers
8. The Planning Process and Permit Applications
9. Project: Planning an Ideal Community
10. Client Benefits
11. Project: Presenting Government Benefits and Assistance
12. Quiz 2: Planning Aides and Eligibility Interviewers
13. Project: Special Project*
14. Unit 3 Test
15 Course Project Part 3: Interviewing a Manager, Planning Aide, or Eligibility Interviewer*
16. Glossary and Credits

FAMILY AND COMMUNITY SERVICES

UNIT 4: THERAPISTS AND TREATMENTS SPECIALISTS

Assignment Titles

1. Marriage and Family Therapists
2. Therapy Topics
3. Project: Responding to Bullying
4. Advocacy, Ethical, and Legal Issues
5. Project: Resolving Conflicts
6. Quiz 1: Marriage and Family Therapists
7. The Correctional Treatment Therapist
8. Court Systems and Procedures
9. Project: Presenting Court Procedures
10. Juvenile Rehabilitation
11. Project: Rehabilitating Juvenile Criminal Offenders
12. Quiz 2: Probation Officer/Correctional Treatment Therapist
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Interviewing a Marriage and Family Therapist or a Correctional Treatment Specialist*
16. Glossary and Credits

FAMILY AND COMMUNITY SERVICES

UNIT 5: EDUCATION AND CHILD CARE

Assignment Titles

1. The Role of an Educator
2. Basic Duties of an Educator
3. Project: Presenting the Roles of Your Role Model
4. Effective Presentation Techniques
5. Project: Instructing Students with Effective Presentation Techniques
6. Quiz 1: Education
7. The Childcare Specialist
8. Age-appropriate Development Activities and Safety
9. Project: Planning Developmentally Appropriate Activities
10. Official Requirements and Qualifications for Childcare
11. Project: Identifying and Remediating Safety Hazards to Children
12. Quiz 2: Childcare
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Interviewing an Educator or Childcare Specialist*
16. Glossary and Credits

FAMILY AND COMMUNITY SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6*
2. Review
3. Exam

(*) Indicates alternate assignment

Introduction to Consumer Services

Course Overview

In this introductory Consumer Services course, students analyze various career paths in terms of employment opportunities. We will discuss educational requirements, including applicable hard and soft skills, certifications, and licensures for different pathways. Developing research, analytical, and presentations skills will be key components.

This course is designed as an overview to prepare students for a consumer services-related career and to introduce them to specialty areas. Emphasis is placed on the human services aspect (vs. corporate concerns) of consumer services. Social issues and advocacy, as well as ethics and legalities, are a recurring theme. Students will gain knowledge of current issues affecting various consumer services professions, and the impact of local, state, national and global issues on consumer services.

Objectives

- Analyze careers in the in the consumer services industry in terms of employment opportunities, salary levels, education requirements, necessary skills, certification requirements, entrepreneurial opportunities, and employment outlook.
- Understand the importance of exhibiting ethical behavior and encourage co-workers to comply with ethical and legal responsibilities in the work place.
- Identify common safety concerns in an organization and describe ways to promote safety in the workplace.
- Demonstrate active listening techniques to interpret information and ensure the clarity of the information.
- Understand the role and importance of consumer advocacy groups at national, state, and local levels.
- Define the roles of credit counselors and risk management specialists.
- Describe and evaluate design careers, writing careers, and related communications-based careers in translation and interpretation.
- Define the role of writers and editors in consumer services.
- Demonstrate an ability to articulate clearly the organization's policies, rules, and procedures.
- Describe the role of a public relations director and evaluate public relations careers within consumer services.
- Evaluate sales and related marketing careers in consumer services.

Students should be computer literate at an intermediate level and have Internet access. Students should have basic research skills, as well as the ability to conduct online searches and access recommended websites. Basic math skills at the Algebra I level (arithmetic, ratios, graphing) are required. Access to and intermediate-level proficiency with word processing, spreadsheet, and presentation software is highly encouraged for use in producing projects.

INTRODUCTION TO CONSUMER SERVICES

UNIT 1: INTRODUCTION TO CONSUMER SERVICES

Assignment Titles

1. Course Overview
2. What are Consumer Services?
3. Customer Service And Consumer Advocacy
4. Project: Personal Skills Evaluation
5. Presenting the Professional Identity
6. Project: Building a Portfolio
7 Quiz 1: Introduction and Basic Competencies
8. Organizational Structure
9. Safety Within the Organization
10. Project: Drafting a Safety Policy
11. External Influences on Consumer Services
12. Project: Interview-based Article on Sustainability
13. Quiz 2: Organizational Structure
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Building an Org Chart*
17. Glossary and Credits

INTRODUCTION TO CONSUMER SERVICES

UNIT 2: CUSTOMER SERVICE AND CONSUMER ADVOCACY

Assignment Titles

1. What is Customer Service?
2. Conflict Resolution Strategies
3. Project: Constructing a Customer Service Encounter Log
4. Working With Databases
5. Project: Constructing a Database
6. Quiz 1: The Customer Service Representative
7. What is Consumer Advocacy?
8. Consumer Advocacy at Various Levels
9. Project: Consumer Protection
10. The Role of Policymakers
11. Project: A Plan for Advocacy
12. Quiz 2: Consumer Advocacy
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Serving the Client*
16. Glossary and Credits

INTRODUCTION TO CONSUMER SERVICES

UNIT 3: COUNSELING, ADVISEMENT, EDUCATION

Assignment Titles

1. Financial Counseling
2. Developing a Financial Plan
3. Project: Building a Financial Plan
4. Spending Patterns and Budgeting
5. Project: Building a Budget
6. Quiz 1: Financial Counseling Roles
7. Credit Counseling and Risk Management
8. Applying for Credit and Credit Scoring
9. Project: Evaluating Credit Offers
10. Risk Management in Financial Planning
11. Project: Building an Estate Plan
12. Quiz 2: Credit Counseling and Risk Management
13. Project: Special Project*
14. Unit 3 Test
15 Course Project Part 3: Our Town's Children Programs*
16. Glossary and Credits

INTRODUCTION TO CONSUMER SERVICES

UNIT 4: CREATIVITY

Assignment Titles

1. Creative Consumer Services â€“ Design
2. Fashion and Costume Design
3. Project: Design Influences
4. Trademarks, Patents, and Copyrights
5. Project: Protecting Your Original Work
6. Quiz 1: The Designer
7. Writing and Editing
8. Translation and Interpretation
9. Project: Hiring a Language Services Professional
10. Reading Strategies
11. Project: Reading to Write
12. Quiz 2: Writing and Interpretation
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Building a Brand*
16. Glossary and Credits

INTRODUCTION TO CONSUMER SERVICES

UNIT 5: MANAGEMENT, SALES, PUBLIC RELATIONS

Assignment Titles

1. Management Careers
2. Strategic Analysis
3. Project: Conducting a SWOT analysis
4. Working With Employees
5. Project: Developing a Training Presentation
6. Quiz 1: Management
7. Sales, Marketing, and Public Relations
8. The Importance of Public Image
9. Project: Writing a Media Release
10. Marketing and Selling a Product
11. Project: Writing a Marketing Plan
12. Quiz 2: Sales and Public Relations
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Growing a Sustainable Organization*
16. Glossary and Credits

INTRODUCTION TO CONSUMER SERVICES

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Our Town's Children, Inc. Annual Report 20XX*
2. Review
3. Exam

(*) Indicates alternate assignment

Introduction to Human Growth and Development

Course Overview

This course focuses on human growth and development over the lifespan, as well as careers that help people deal with various physical, intellectual, and socioemotional issues, such as physicians, nurses, nutritionists, substance abuse counselors, clergy, teachers, career counselors, psychologists, and psychiatrists.

This course is important because it gives the student a background in human growth and development from before birth, through childhood, into adulthood, and through death and grief. It gives the student perspective and highlights where people in the caring professions are most needed.

Students who take this course will come away with a broad understanding of all the careers that help people from birth to death. They will understand how people in the helping professions interact with each other and how continued growth in this sector can give them flexibility, good pay, and high job satisfaction.

Objectives

- Compare and contrast careers that provide care and counseling for people throughout the life span.
- Evaluate the importance of a stable, loving family structure on socioemotional development.
- Assess the importance of proper prenatal care on the developing fetus.
- Examine the roles and responsibilities of parents, teachers, and health care professionals in generating positive outcomes regarding children.
- Understand the different developmental tasks humans have during each stage of life and that we never stop learning and growing.
- Examine their personal interests and inabilities in relation to choosing an appropriate career.
- Summarize the value of education in achieving their life goals.

Students will have to conduct research into areas such as obedience versus conformity; single-sex versus same-sex schools; the perspectives of the psychologists Erik Erikson, Jean Piaget, Sigmund Freud, Lev Vygotsky, and Lawrence Kohlberg; and career assessments. Some of the tasks in the chapter projects ask for answers that can be found in the lessons themselves, while others require research using the Internet. Students should have access to a computer with Internet and a good working knowledge of how to find information on the web. While sample URLs are usually presented as a starting point, the student should have a basic knowledge of using search engines to find specific information.

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 1: STARTING STRONG: INTRODUCTION TO A LIFELONG JOURNEY

Assignment Titles

1.	Course Overview	9.	Infancy: From Birth through the First Year
2.	Physical Growth and Development of our Bodies	10.	Project: Baby Steps
3.	Cognitive Development - Learning to Think	11.	Getting Through the First Year
4.	Project: Child's Play	12.	Project: My Baby Book
5.	Socioemotional Development, Personality, and Behavior	13.	Quiz 2: Biological Beginnings: Prenatal and Infancy
6.	Project: Why Do We Obey?	14.	Project: Special Project*
7	Quiz 1: The Nature of Development and Developmental Perspectives	15.	Unit 1 Test
8.	Prenatal Blueprints and Development Milestones	16.	Course Project Part 1: The Game of Life – Objective*
		17.	Glossary and Credits

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 2: CHILDHOOD: EARLY, MIDDLE, AND LATE

Assignment Titles

1. Changes in Early Childhood
2. Cognitive Development in Early Childhood
3. Project: Cooking Spaghetti
4. Socioemotional Development
5. Project: The Emotion Book
6. Quiz 1: Early Childhood: Toddlerhood and Preschool
7. Physical Growth
8. Cognitive Development
9. Project: Developmental Milestones Chart
10. Pre-Teens' Socioemotional Personality
11. Project: Same-Sex or Single-Sex Schools?
12. Quiz 2: Middle and Late Childhood: From Kindergarten Through Elementary School
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: The Game of Life - The Look and Feel*
16. Glossary and Credits

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 3: ADOLESCENCE

Assignment Titles

1. Puberty and Physical Growth
2. Who Am I? Developing a Healthy Identity
3. Project: Who Am I?
4. Adolescent Cognitive and Moral Development and Values
5. Project: Peer Pressure
6. Quiz 1: Changes and Challenges of Adolescence
7. Adolescence and Relationships
8. Rearing Adolescents
9. Project: Four Families
10. When Things Don't Go Well
11. Project: Health Alert
12. Quiz 2: Socioemotional Development
13. Project: Special Project*
14. Unit 3 Test
15 Course Project Part 3: The Game of Life - Building the Board*
16. Glossary and Credits

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 4: ADULTHOOD: YOU HAVE ARRIVED

Assignment Titles

1. High School Teen to College Young Adult
2. Love and Close Relationships: A Family of One's Own
3. Project: Intimacy
4. Careers - What I Want to Be
5. Project: Career Assessment
6. Quiz 1: Young Adulthood
7. Generativity - Families, Children, and Beyond
8. Midlife Crises
9. Project: The Positive Parts of Middle Adulthood
10. Finances and Retirement
11. Project: Does College Pay Off?
12. Quiz 2: Middle Adulthood
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: The Game of Life: Developing a Marketing Plan*
16. Glossary and Credits

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 5: FINISHING STRONG: ENDING THE LIFELONG JOURNEY

Assignment Titles

1. The Aging Brain
2. Relationships in Older Couples
3. Project: Time and Change
4. Grasping the Meaning and Purpose in Life
5. Project: Is Old Age a Problem to be Solved?
6. Quiz 1: Aging and Death
7. Death
8. End-of-Life Decision Making
9. Project: Advance Directives
10. Grieving
11. Project: Stages of Grief
12. Quiz 2: Death, Dying and Grief
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: The Game of Life: More Marketing*
16. Glossary and Credits

INTRODUCTION TO HUMAN GROWTH AND DEVELOPMENT

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part 6: The Game of Life: Developing Directions*
2. Review
3. Exam

(*) Indicates alternate assignment

Personal Care Services

Course Overview

This course in Personal Care Services introduces students to a variety of careers in the following areas: cosmetology (including hairstyling and haircutting, esthetics, manicuring, makeup, and teaching) and barbering (including cutting and styling of hair and facial hair and manicuring for men); massage therapy, teaching body-mind disciplines (yoga, Pilates, and the martial arts), and fitness (general exercise classes and acting as a personal trainer); and mortuary science (embalming and funeral directing). The course teaches students about what each career entails and the education and training they will need to become credentialed in various career specialties. In addition, about half of the course is devoted to teaching knowledge associated with the various professions, so that students can get a feel for what they will have to learn and whether they would like to learn it.

Five of 30 lessons are devoted to anatomy, which will be a subject covered in some fashion in most educational programs that students undertake to become personal care professionals. The first anatomy lesson in Unit One covers the major organ systems. Additional anatomy lessons are on the integumentary system (Unit Two), the musculoskeletal system (Unit Three), the respiratory and cardiovascular systems (Unit Four), and the blood and lymph systems (Unit Five). Moreover, technical information that would be learned in the study of each profession is systematically covered as the course progresses through career tracks and particular job titles. Each unit also contains important information on health and safety issues, including legal issues, as they relate to various personal care professions. Ethics as they ought to be applied to the personal care professions are also covered in some depth.

As they progress through the course, students will learn about the educational requirements to pursue various job titles, along with how they will prepare themselves to become credentialed in a chosen profession. Most of the job titles discussed in this course will require some sort of professional licensure, and students are provided with detailed information on that subject. In some cases, job titles may require a credential from a recognized professional association. This information is also laid out in the course, and students are directed to where they can find additional information about education, training, and credentialing of personal care professionals. The course also provides important information about public and private options for education and how costs may differ.

The introductory material for each lesson is designed to pique student interest in the lesson content, and this preparatory material is highly engaging and covers a wide range of topics. In many instances, the teacher can actually use the material that is in the lesson's introduction as part of the course content, since many of these introductions do contain additional useful information about the lesson's topic. Finally, the course has distinctive environmental and holistic health strands, which are also reflected in the final project, and the teacher can choose to emphasize this portion of the course and even augment it with additional material.

Objectives

- Explore the various types of personal-care careers.
- Investigate the structure and function of the human body.
- Discuss the types of interpersonal skills needed for personal-care careers.
- Investigate careers in the beauty industry.
- Discuss the education, licensing, and training needed for a career in the beauty industry.
- Examine health and safety issues and legal considerations of a career in the beauty industry.
- Explore careers in the bodily health support industry.
- Discuss the education, licensing, and training needed for a career in the bodily health support industry.
- Examine health and safety issues and legal considerations of a career in the bodily health support industry.
- Investigate careers in the areas of body-mind movement instruction and group exercise and fitness.
- Investigate careers in the funeral-service industry.
- Examine health and safety issues and legal considerations of a career in the funeral-service industry.
- Discuss the ways in which these various careers interact.

This course has no prerequisites, other than a strong interest in learning about one or more of the careers covered in these lessons and the maturity to work independently to some degree.

Students will need an Internet connection, pen and paper, and a computer that they can use every day. It would be helpful if the teacher could spend some time teaching or reviewing the skill of Internet research—specifically, how to know whether a source is reliable or not—since many of the projects require Internet research. The teacher might also wish to review the pros and cons of using Wikipedia—which can be a good source when the researcher catches an entry after it has been vetted by several people. It is also important to teach students how to find Internet sources that were originally in print. Since the projects also include different types of writing, including essay- and research-paper writing, it would be helpful for the teacher or a librarian to go over the basics of paraphrasing, quoting, rules about avoiding plagiarism, and so on. Students will need to choose a style book. The MLA or APA stylebook would probably be most appropriate. APA is often used for the social or applied sciences. Some of the projects also require students to conduct interviews, so the teacher might want to explain how to conduct an interview. Some of the topics to be covered might include researching sources, preparing for an interview (writing questions), presenting oneself in a professional manner, taking notes, recording the conversation, and turning the interview into an article.

Students should have access to an anatomy textbook and can be encouraged to use the library to get additional books about the areas in which they have a high interest. For cosmetology, Milady or similar textbooks would be helpful. It should be easy to find books on massage, exercise, specialized mind-body disciplines such as yoga, Pilates, and various styles of martial arts, as well as more general books on the martial arts. Books on mortuary science might need to be ordered from other branches of the library if the local branch or high school library doesn't have books. However, advise students to use "undertaker" as a keyword when looking for books. Encourage students to also use the Internet for additional source materials.

PERSONAL CARE SERVICES

UNIT 1: INTRODUCTION TO PERSONAL CARE CAREERS

Assignment Titles

1. Course Overview
2. Beauty Careers Overview
3. Project: Interview a Personal Care Worker
4. Healthy Body Careers Overview
5. Project: Logging Miles
6. Funeral Services Careers Overview
7 Quiz 1: Personal Care Careers
8. The Human Body's Anatomy and Physiology
9. Project: Investigate Common Diseases of an Organ System
10. Social Psychology
11. Project: Writing Your Obituary
12. Communication and Interpersonal Skills
13. Quiz 2: Foundational Knowledge for Personal Care Careers
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Raising Awareness about Sustainability*
17. Glossary and Credits

PERSONAL CARE SERVICES

UNIT 2: CAREERS IN THE BEAUTY INDUSTRY

Assignment Titles

1. Anatomy of Hair, Skin, and Nails
2. Project: Causes and Treatment of Skin Cancer
3. Cosmetology Careers - Focus on Hair
4. Project: Create a State-Specific FAQ For Cosmetology Or Barbering Education and Training
5. Cosmetology Careers - Esthetics, Teaching, and Combinations
6. Quiz 1: Training of Personal Appearance Workers
7. Professional Qualifications for Personal Care
8. Professions
   Career Paths for Personal Appearance Workers
9. Project: Research the Life of a Famous Hairstylist
10. Issues and Considerations in Cosmetology
11. Project: Write an Article on Hair-Smoothing Treatments
12. Quiz 2: Credentialing, Career Choices, and Professional Responsibilities
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Safe and Sustainable Personal Care Products*
16. Glossary and Credits

PERSONAL CARE SERVICES

UNIT 3: CAREERS TO SUPPORT A HEALTHY BODY

Assignment Titles

1. Anatomy for Massage
2. Project: Label the Bones in the Body
3. Massage Careers, Part 1 - Skills, Knowledge, and Education
4. Project: Research a Massage Modality
5. Massage Careers, Part 2 - Education and Training
6. Quiz 1: Training of Massage Therapists
7. Credentialing of Massage Therapists
8. Jobs and Careers for Massage Therapists
9. Project: Assess Your Fitness as a Caregiver to the Sick
10. Health and Safety and Ethical Responsibilities
11. Project: Ethical Dilemmas - What Would You Do?
12. Quiz 2: Credentialing, Career Choices, and Professional Responsibilities
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Massage Therapy as a Compliment to Cancer Treatment*
16. Glossary and Credits

PERSONAL CARE SERVICES

UNIT 4: CAREERS IN WHOLE PERSON FITNESS

Assignment Titles

1. Anatomy of the Respiratory System
2. Yoga Instructor
3. Project: Two Weeks of Yoga
4. Pilates Instructor
5. Project: Ancient Greek Gymnastics
6. Quiz 1: Training of Yoga and Pilates Instructors
7. Martial Arts Instructor
8. Project: Health Benefits of the Martial Arts
9. Types of Exercise Taught by Fitness Instructors
10. Fitness Instructor/Personal Trainer/Athletic Trainer
11. Project: Explore a Career - Physical Education Teacher or Athletic Trainer
12. Quiz 2: Training of Martial Arts or General Fitness Instructors
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Health Benefits of Fitness*
16. Glossary and Credits

PERSONAL CARE SERVICES

UNIT 5: HOW THESE CAREERS INTERACT

Assignment Titles

1. Blood and Lymph Systems
2. Project: Investigate Autoimmune Diseases
3. Funeral Service Careers - Skills and Knowledge
4. Project: Researching a Day in the Life of a Mortician
5. Funeral Service Careers - Education and Training
6. Quiz 1: Training of Funeral Services Professionals
7. Funeral Service Careers - Credentialing and Industry Trends
8. Project: Interview a Funeral Director about Green Burial Options
9. Funeral Service Careers - Health and Safety and Ethical Responsibilities
10. Project: Alkaline Hydrolysis: A Green Alternative to Burial or Cremation
11. Humanistic Psychology and Its Application to Careers in Personal Care
12. Quiz 2: Credentialing, Career Choices, and Professional Responsibilities
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: How to Plan for a Green Burial*
16. Glossary and Credits

PERSONAL CARE SERVICES

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part 6: Improving the Sustainability Profile of an Industry Segment*
2. Review
3. Exam

(*) Indicates alternate assignment

INFORMATION TECHNOLOGY

Introduction to Information Technology

Course Overview

In this course, we introduce students to the knowledge base and technical skills that will help them to successfully compete for jobs within the Information Technology Career Cluster. Lessons are structured so that students learn and then demonstrate not only critical assessment and analytic skills, but also interpersonal skills that are valued so highly among IT employers.

We explore a range of career tracks that include network engineers, application/programming developers, and systems analysts. These career paths are described in depth, discussing typical job responsibilities, educational and licensure requirements, working conditions, and job outlooks.

Our lessons help students place the evolution of technology and job opportunities in context so that they will understand their important role in furthering its development. We believe that the most successful IT professionals combine technical know-how with leadership ability. To this end, students learn that their acquired expertise comes with the responsibility to represent themselves and the companies they work for within the highest legal and ethical standards.

Objectives

- Identify the basic components and structure of a computer system and its use within a networking/communications environment.
- Design and implement a basic network while being introduced to multiple types of network systems.
- Apply both ethical and industry standard security policies to networks.
- Discuss the history and development and use of the Internet in business and society.
- Explain the development of human-centered technology interaction.
- Apply mobile computing technology capabilities to learning and business.
- Identify the variety of operating systems found on desktops, laptops, and mobile devices.
- Understand mobile application architecture, deployment, and marketing.
- Determine best practice application skills for the variety of information technology systems available to implement.
- Plan, develop, and implement an information system.
- Maximize use of the Internet within the home and business.
- Identify the structure of wireless communication networks and the mechanisms behind its functionality.
- Identify and develop protocols for use of the Internet within business.
- Identify and develop information system libraries and repositories of information.
- Develop an understanding of the logic behind object-oriented programming.
- Identify the multiple programming languages for use in mobile/Internet application development.
- Plan, develop, and implement a mobile/Internet application.

Students should have access to a laptop or desktop computer and a smart device.

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 1: HARDWARE AND COMMUNICATIONS TECHNOLOGY INTRODUCTION

Assignment Titles

1. Course Overview
2. Computer Systems and Networks
3. Network Ethics and Security
4. Project: Benefit Analysis Study: Small Business Expansion
5. Information Storage
6. Project: Correspondence Between Stringer and Newspaper Editor: Media Preview
7. Quiz 1: Computer Systems and Networks
8. Internet in Business and Society
9. Human-Centered Technology
10. Project: Biometrics Report
11. Mobile Computing
12. Project: Geocache Treasure Hunt
13. Quiz 2: Internet in Business and Society
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Capstone Project*
17. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 2: OPERATING SYSTEMS, SYSTEM SOFTWARE, MOBILE APPLICATIONS

Assignment Titles

1. Computer, Server, and Mobile Operating Systems
2. Project: Similarities/Differences Chart: School Operating Systems
3. Operating Systems vs. System Software
4. Battle of the Operating Systems
5. Project: PowerPoint Presentation: Smart Phone Preference Survey
6. Quiz 1: Operating Systems and System Software
7. Mobile Application Development and Implementation
8. Project: Mobile App Development
9. Applications vs. Software
10. The Mobile Application Business
11. Project: Market Research Comparison/Contrast Matrix – Free Mobile App
12. Quiz 2: Mobile Application Development
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Capstone Project*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 3: INTRODUCTION TO INFORMATION SYSTEMS

Assignment Titles

1. What is an Information System?
2. Project: Building a Local GIS
3. Types of Information Systems
4. Jobs in Information Systems
5. Project: Career Day Presentation
6. Quiz 1: Introduction to Information Systems
7. Planning Information Systems
8. Project: Strategic Report
9. Developing Information Systems
10. Implementing Information Systems
11. Project: On the Job: System Developer
12. Quiz 2: Developing and Implementing Information Systems
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Capstone Project*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 4: INTERNET UTILIZATION AND INFORMATION LITERACY

Assignment Titles

1. Internet Use in Home and Business
2. Project: School Internet Policies Report
3. Security on the Internet
4. Project: Comparison Shopping Report
5. Cloud Computing
6. Quiz 1: Internet Use in Home and Business
7. Internet Best Practices and Protocols
8. Project: Search Strategy and Intelligent Agent
9. Information Library Systems
10. Jobs in Information Literacy
11. Project: Digital Library Research
12. Quiz 2: Internet Best Practices and Protocols
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Capstone Project*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 5: MOBILE APPLICATION PROGRAMMING AND PRODUCTIVITY

Assignment Titles

1. Mobile Application Construction
2. Project: Flowcharts for Free-to-Play and Pay-to-Play Versions of a Travel Game App
3. Mobile Application Programming
4. The Business of Mobile Application Development
5. Project: Compare/Contrast Report: Contract Versus Salaried Mobile App Development Jobs
6. Quiz 1: Mobile Application Construction and Programming
7. Mobile Application Development Project Management
8. Project: Compare/Contrast Report: Five Mobile Operating Platforms
9. Tools of the Trade
10. Outsourcing vs. In-House Development
11. Project: Design a Work-Around; Role-Playing Panel
12. Quiz 2: Mobile Application Development
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Capstone Project*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Capstone Project*
2. Review
3. Exam

(*) Indicates alternate assignment

Fundamentals of Computer Systems

Course Overview

The Computer Fundamentals course will provide students with an understanding of computers and how they operate as well as a basic understanding of how to manage and maintain computers and computer systems. These skills will provide students with the ability to configure computers and solve computer problems.

Students will learn details about the different elements of computers and computer systems. They will learn to identify hardware devices and their functions. They will be instructed on the role of operating systems as well as how to install and customize the Windows operating system. Students will learn about networking and the Internet. They will also be introduced to security issues in order to protect themselves and their computers and data.

Students will also learn about some of the software applications typically used on computers today, such as Microsoft Office. In addition, students will learn specifics about maintaining and troubleshooting computers, including managing files, backing up systems, and using the administrative tools in the Windows operating system. Lastly, the students will learn the basics of customer service and working as a help desk support technician.

Objectives

- After completing this course the student will understand computers and their functions, as well as develop basic customer service skills, and be able to effectively meet customer needs.
- Students will be able to implement problem-solving techniques to understand the nature of computer problems. They will also understand hardware components, software, and the Internet, so they are able to develop, maintain, and update computer systems.
- After this course, students also will be able to use the Internet to update computer systems and complete other IT service-related tasks. They will be able to install, configure, or modify software and operating systems to ensure optimal system function.
- Students will be able to perform computer backup procedures to protect information. They also will be able to recognize potential security threats and understand the procedures for maintaining security.
- After this course students will be able to provide IT support and training for computers and networks.

For topics in this course, it is helpful for students to be familiar with the basics of using desktop or laptop computers as well as accessing Web sites over the Internet.

If students are not familiar with these topics, it is recommended, though not required, that they familiarize themselves with the operating system and Web browser they will be using for this course. This includes turning on a computer and logging into an account, if necessary, exploring the different types of software available, navigating through some of the operating system menus to understand the available tools, and doing a basic search on the Internet.

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 1: COMPUTER HARDWARE AND OPERATING SYSTEMS

Assignment Titles

1. Course Overview
2. The Motherboard and the CPU
3. Storage Systems and Memory
4. Project: Semiconductor Chips
5. Graphic Devices and Peripherals
6. Project: Building a Computer
7. Quiz 1: Computer Hardware
8. Operating Systems Basics
9. Project: Testing Operating Systems
10. The Boot Sequence–Command Prompt and BIOS
11. Installation, Upgrades, and Maintenance of Operating Systems
12. Project: Installing an Operating System
13. Quiz 2: The Operating System
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Operating System*
17. Glossary and Credits

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 2: CONFIGURING THE COMPUTER

Assignment Titles

1. Windows Desktop, Start Menu, and Task Bar, Including Windows Task Manager
2. The Control Panel
3. Project: Help Desk Solutions
4. Windows Accessories and Built-in Applications
5. Project: Scavenger Hunt
6. Quiz 1: Windows 101
7. Basic Networking Concepts
8. Connecting to a Network or Domain
9. Project: Setting Up an Internal Network
10. Troubleshooting Internet Connectivity
11. Project: Creating a Strategy Using Available Resources
12. Quiz 2: Networking
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Networking*
16. Glossary and Credits

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 3: COMPUTER PROGRAMS

Assignment Titles

1. Internet Uses and Abilities
2. Project: Researching the History of the Internet
3. Comparing Internet Browsers
4. Configuring Internet Options
5. Project: Determining Browser Controls
6. Quiz 1: The Internet
7. Microsoft Word
8. Project: Support Tech
9. Microsoft Excel
10. Project: Developing a Spreadsheet
11. Microsoft PowerPoint/Outlook
12. Quiz 2: Microsoft Office
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Microsoft Office*
16. Glossary and Credits

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 4: PROTECTING YOURSELF, THE COMPUTER, AND YOUR DATA

Assignment Titles

1. Staying Safe on the Web
2. Project: Be Secure
3. Security Threats to Your Computer
4. Security Threat Removal Tools
5. Project: Putting Your Computer Skills to the Test
6. Quiz 1: Virus Protection
7. Managing Your File System
8. Backing Up Your Computer
9. Project: Creating a Data Security Plan
10. Using the Cloud
11. Project: Using Cloud Computing Services
12. Quiz 2: Data Protection
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Security*
16. Glossary and Credits

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 5: TROUBLESHOOTING

Assignment Titles

1. The Computer Management Console
2. Built-in Tools from Windows – Troubleshooting, Help and Support, Remote Assistance
3. Project: Troubleshooting Computers
4. Using the Internet as a Resource
5. Project: Researching Computer Issues and Solutions
6. Quiz 1: Troubleshooting Tools and Resources
7. Preventive Maintenance
8. Project: Preventive Maintenance
9. Computers and the Environment
10. Supporting the Computer User
11. Project: Providing Good Customer Service
12. Quiz 2: The Role of the Help Desk
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Preventive Maintenance*
16. Glossary and Credits

FUNDAMENTALS OF COMPUTER SYSTEMS

UNIT 6: COURSE REVIEW AND EXAM

Assignment Titles

1. Course Project Part 6*
2. Review
3. Exam

(*) Indicates alternate assignment

Fundamentals of Digital Media

Course Overview

This course gives an overview of the different types of digital media and how they are used in the world today. Students examine the impact that digital media has on culture and lifestyle. The course reviews the basic concepts for creating effective digital media and introduces a number of different career paths that relate to digital media.

Students will examine some tools used to create digital media and discuss best practices in the creating of digital media. This includes an overview of the process used to create new media pieces as well as the basics concepts of project management.

In the course, students will examine the use of social media, digital media in advertising, digital media on the World Wide Web, digital media in business, gaming and simulations, e-commerce, and digital music and movies. Students will review ethics and laws that impact digital media use or creation.

Objectives

- Discuss different types of digital media.
- Explain the value of using online video and audio for business.
- Discuss careers in digital media.
- Compare and contrast digital media and traditional forms of media.
- Discuss living in a digital society and the changes resulting from it.
- Discuss project management as a career.
- Describe the evolution of social media.
- Discuss ethics and social media.
- Identify some challenges that the gaming industry will face in the future.
- Compare the different types of computer languages.
- Determine the role digital media plays in globalization.
- Explain the limitations of doing business on the web.
- Describe some different laws that relate to digital media.
- Explain the cannons of journalism.
- Describe some expected changes in social media and advertising.
- Determine what type of schooling is necessary for their chosen career.

Student should have a basic understanding of computers and the Internet.

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 1: INTRODUCTION TO DIGITAL AND ONLINE MEDIA TYPES

Assignment Titles

1. Course Overview
2. Digital Camera Basics
3. Digital Cameras vs. Mobile Cameras
4. Project: What Do People Really Know About Digital Media?
5. The Rise of Digital Libraries
6. Project: Jobs in Digital Media
7. Quiz 1: Digital Media
8. Digital Media in Business and Society
9. Storing and Sharing Online Media
10. Project: Digital Media and Business
11. Best Practices for Digital Media
12. Project: Analyze and Evaluate: Digital Media
13. Quiz 2: Digital Media in Our World
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Digital Media Cuts Paper Use*
17. Glossary and Credits

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 2: DIGITAL MEDIA: EFFECTIVENESS AND PRODUCTION

Assignment Titles

1. Traditional Media vs. Digital Media
2. The Rise of a Digital Society
3. Project: Research and Write: Is the Internet a Bad Influence on Young People?
4. Digital Citizenship
5. Project: A Digital Life
6. Quiz 1: Effectiveness of Digital Media
7. Digital Media Production
8. Tools for Media Production: Web and Interactive Digital Media
9. Project: Analyze and Evaluate: Web Sites
10. Media Production: Audio and Video
11. Project: Working in the Field
12. Quiz 2: Digital Media Production
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: E-waste*
16. Glossary and Credits

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 3: PROJECT MANAGEMENT AND SOCIAL MEDIA

Assignment Titles

1. Project Management: Project Planning
2. Project: Pet Grooming Web Site
3. Project Management: Project Monitoring
4. Project: Problem Solving
5. Project Management: Project Termination
6. Quiz 1: Project Management
7. Social Media Defined
8. Uses of Social Media
9. Project: Research and Learn: Social Media and Problem Solving
10. Staying Safe When Using Social Media Sites
11. Project: Current Event: Cyber Bullying
12. Quiz 2: Social Media
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Social Media and Environmental Activism*
16. Glossary and Credits

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 4: GAMING, SIMULATIONS, WEB SITES, AND APPS

Assignment Titles

1. Video Games and the Video Game Industry
2. Project: The Game Designer's Presentation
3. Simulations and Modeling
4. Creating Video Games and Simulations
5. Project: New Games 101
6. Quiz 1: Gaming and Simulations
7. Creating Web Sites
8. Project: Research and Learn: Practice your HTML Development Skills
9. Web Pages: Beyond the Basics
10. Web Pages and E-commerce
11. Project: Designing an E-commerce Site
12. Quiz 2: Web Sites and Apps
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Environmental Gaming*
16. Glossary and Credits

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 5: TRENDS IN DIGITAL AND ONLINE MEDIA

Assignment Titles

1. Best Practices of Digital Advertisement and Promotion
2. Project: Going Global
3. Digital Media in Advertising
4. Law and Digital Media
5. Project: Research and Learn: Law and Digital Media
6. Quiz 1: Digital Business
7. Digital Audio and Video
8. The Future of Digital Media
9. Project: In the Future, What Will Digital Media Look Like for You?
10. Finding a Career that is Right for You
11. Project: Find Your Dream Job and Figure Out How to Land It
12. Quiz 2: The Future of Digital Media
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Powering a Digital World*
16. Glossary and Credits

FUNDAMENTALS OF DIGITAL MEDIA

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Digital media and Sustainability*
2. Review
3. Exam

(*) Indicates alternate assignment

Fundamentals of Programming and Software Development

Course Overview

This course will provide students with an understanding of basic software development concepts and practices, issues affecting the software industry, careers within the software industry, and the skills necessary to perform well in these occupations.

Students will learn details about core concepts in programming using Java, including writing and debugging code, proper syntax, flow of control, order of operations, comparison operators, and program logic tools and models. They will learn the function of key program techniques including if statements, looping, and arrays. They will also learn about web development using HTML and drag-and-drop development of user interfaces in an Integrated Development environment.

Students will also learn about the Software Development Life Cycle and the different variations used to create software. They will learn about different programming languages and paradigms. They will learn about the importance of usability and user-centered design processes. Students will also learn about careers in the software industry, the education and skills required to work in the industry, and related career resources. Finally, the capstone project will allow students to explore and state opinions on key issues and trends impacting the software industry, and to learn about the experience of working in the industry.

Objectives

- Understand the relationship between computer hardware and software.
- Describe the purpose and high-level organization of the central processing unit.
- Understand categories of software and be able to properly assign software products into the correct category.
- Describe the key functions of systems software.
- Describe the functionality of popular software applications (e.g., word processing, database management, spreadsheet development).
- Understand the function and operation of compilers and interpreters.

For topics in this course, it is helpful for students to be familiar with the basics of using desktop and laptop computers as well as accessing websites over the Internet.

If students are unfamiliar with these topics, it is recommended, though not required, that they familiarize themselves with creating and saving files in a text editing or word processing application and with using web browsers and conducting searches on the Internet.

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 1: INTRODUCTION TO COMPUTERS

Assignment Titles

1. Course Overview
2. Computer History
3. Project: Computer Generations
4. Introduction to Computer Hardware
5. Project: Understanding Hardware
6. Introduction to Computer Software
7. Quiz 1: Perspective and Foundations
8. Design and Function of the Central Processing Unit
9. Introduction to Java Programming
10. Project: Writing Your First Java Program
11. Java Syntax Overview
12. Project: Hello World! Documentation
13. Quiz 2: How Computers and Programs Think
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: The Impact of GUI Computing*
17. Glossary and Credits

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 2: PROGRAMMING LANGUAGES

Assignment Titles

1. Introduction to Java Variables
2. Project: Using Variables in Java
3. Java Math Operations
4. Project: Using Mathematical and Comparison Operators in Java
5. Operators and Escape Sequences
6. Quiz 1: Processing Data
7. New Data Types and the If Statement
8. Project: Using If and If-Else Statements and Reading User Input
9. Switch and Case
10. Project: Using Switch-Case and Nested If Statements
11. User-Defined Methods
12. Quiz 2: Branching and Methods
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Ethics in Programming*
16. Glossary and Credits

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 3: INTRODUCTION TO PROGRAMMING

Assignment Titles

1. Introduction to the For Loop
2. Project: Grading on a Loop
3. Loops–Practice with the Do-While Loop
4. Loops–Practice with the While Loop
5. Project: Using Loops in a Guessing Game
6. Quiz 1: Loops–Power and Simplicity
7. Arrays–Syntax and Use
8. Arrays–Passing by Reference
9. Project: Professional Associations Research
10. Parallel and Multidimensional Arrays
11. Project: The Logic of Multidimensional Arrays
12. Quiz 2: Managing Complex Data
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: The Life of a Software or Web Developer*
16. Glossary and Credits

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 4: CONTROL BLOCKS

Assignment Titles

1. Classes and Objects
2. Project: The Importance of Usability
3. Constructors and Packages
4. Project: Creating Packages
5. Flowcharts Mapping
6. Quiz 1: Program Components and Logic
7. HTML Basics
8. Project: A Web Page Essay About the Web
9. HTML Images, Links, and Web Development Tools
10. Project: Your Favorite Recipe – On a Web Page
11. Event-Driven Programming and Visual Basic
12. Quiz 2: Interactive and Graphical Programming
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Open-Source Programming*
16. Glossary and Credits

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 5: GUI PROGRAMMING AND WEB APPLICATIONS

Assignment Titles

1. Software Development Life Cycle
2. Project: Planning a Software Development Project
3. Programming Languages
4. User-Centered Software Design
5. Project: User-Testing a Product Prototype
6. Quiz 1: Creating Software Products
7. Skills and Interests for Software Careers
8. Project: Taking Stock
9. Software Industry Careers
10. Project: Planning Your Computer Science Degree Program
11. New Trends and Technologies
12. Quiz 2: Preparing for a Career in Software Development
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Impacts of Future Technologies*
16. Glossary and Credits

FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Issues and Experiences in the World of Software Development*
2. Review
3. Exam

(*) Indicates alternate assignment

Introduction to Information Technology Support and Services

Course Overview

This course focuses on real-world application including common industry best practices and specific vendors that offer tools for technicians, project managers, and IT leadership. Emphasis should be made that the purpose of the IT department of an enterprise is to support the overall mission of the company, and it is not simply a stand alone component of the company's infrastructure. Students will continue to apply their knowledge of hardware and software components associated with IT systems while exploring a variety of careers related to IT support and services. Students will analyze technical support needs to perform customer service, perform configuration management activities, and evaluate application software packages and emerging software. Students will demonstrate and apply knowledge of IT analysis and design by initiating a system project and evaluating applications within the IT system. Information Technology is a dynamic discipline that is continuously evolving.

You will also find these objectives at the beginning of each lesson under "Lesson Expectations."

Objectives

- Explore systems design and implementation.
- Investigate the implementation and maintenance of IT infrastructure.
- Review the basics of management collaboration and reporting.
- Discuss education and careers in IT and how to pursue such a career.

This is an introductory course in support and services providing information technology services and management. There are no requirements other than a basic familiarity with personal computers and the Internet. Students should be able to access the web and to use it to retrieve information and create accounts on free services.

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 1: SYSTEM DESIGN AND IMPLEMENTATION

Assignment Titles

1. Course Overview
2. Supporting the Business Workflow Model
3. Project: Understanding Software Development Models
4. Operating Systems, Hardware, and Software Selection
5. Project: Building a Mind Map
6. Implementation and End-User Training
7 Project: Preparing a Support Plan
8. Quiz 1: On-Premise Systems
9. Public Clouds
10. Project: Moving to the Cloud
11. Private Clouds
12. Hybrid Clouds
13. Project: Companies in the Hybrid Cloud
14. Quiz 2: Cloud-Based Systems
15. Project: Special Project*
16. Unit 1 Test
17. Course Project Part 1: Creating an IT Service and Support Project from Scratch*
18. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 2: SYSTEM MAINTENANCE

Assignment Titles

1. Anti-malware
2. Patch Management
3. Project: Patch Management Project
4. Network Vulnerabilities
5. Project: Hackers
6. Quiz 1: Security
7. Hardware and Software Redundancy-1
8. Hardware and Software Redundancy-2
9. Project: Disaster!
10. Hardware and Software Redundancy-3
11. Project: Selecting Storage Area Networking Products
12. Quiz 2: Disaster Recovery
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Specifying Software*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 3: END-USER SUPPORT

Assignment Titles

1. Types of Help Desk Systems and Support
2. Project: Training for a Service Desk
3. Resolution Methodologies for Help Desks
4. Project: Branding and Customer Service
5. Customer Service
6. Quiz 1: Helpdesk
7. Ticketing Systems
8. Protocols and Procedures
9. Project: From Plato to Technical Support, a Paper on Problem Solving in History
10. Building a Knowledge Base
11. Project: Creating a Knowledge Management Site
12. Quiz 2: Ticketing System / Knowledge Base
13. Project: Special Project*
14. Unit 3 Test
15. Course Project 3: How, How Much, and When?*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 4: MANAGEMENT COLLABORATION AND REPORTING

Assignment Titles

1. Working with the Management Team
2. Project: Role-playing Senior Management Meeting
3. Departmental Reporting
4. Project: Role-playing with Departmental Reports
5. Emerging Technologies
6. Quiz 1: Management Collaboration and Reporting
7. Creating and Managing an IT Project
8. Project: Create a Feasibility Study
9. Managing IT Projects
10. Project Management Applications
11. Project: Creating a Project in Open Project
12. Quiz 2: Leading Technology Projects
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Management Collaboration and Reporting*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 5: CONTINUING EDUCATION AND CAREER OPPORTUNITIES

Assignment Titles

1. Pursuing Technical Education
2. Technical Education Degree Programs
3. Project: Take a Free Course in Computing
4. On-the-Job Training
5. Project: Developing a Personal Syllabus
6. Quiz 1: Continuing Education
7. On-Premise (Insource) IT Support
8. Project: Understanding Job Requirements and Certifications
9. Off-Premise (Outsource) IT Support
10. Consultant/Educator
11. Project: Imagining a Consulting Practice
12. Quiz 2: Emerging Trends
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Presenting your plan*
16. Glossary and Credits

INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Describing What You Learned*
2. Review
3. Exam

(*) Indicates alternate assignment

Introduction to Network Systems

Course Overview

How can we automate the transfer of information from one computer to another? To answer that question, this course introduces students to the fundamental technology and concepts that make networking systems possible. The question itself is a very practical one and the concepts taught are more concerned with practices and processes rather than theoretical generalities.

The most important concept introduced is that of the OSI reference model and its bottom four layers, which are most directly concerned with networking instead of computing. Each networking layer is explored in a three-lesson chapter. By the end of the course, every student should be comfortable reading a sentence that says something like, "X is a protocol working at the third layer."

The course also explores a good deal of technology, specifically the software and hardware supporting LANs, WANs, and Wi-Fi networks. Particularly important are the protocols in the TCP/IP stack that are used to communicate across a network, but the students are also introduced to the hardware, including hubs, switches, bridges, routers, and transmission media. The student is expected to learn that a network is not some mysterious idea out there in cyberspace. It is a mechanism that is fully dependent on its parts working properly.

Once the students understand the fundamentals of the layers and network hardware, they can be introduced to questions of security, network management, and network operating systems. In particular, they should understand the role of the server. They have already encountered many examples of client-server relationships, and the material later in the course should introduce them to the many roles that a server can play as a part of a network.

Objectives

- State the purpose of a computer network, and explain the role of network hardware in achieving that purpose;
- List at least four protocols from the TCP/IP stack and explain how each contributes to data transmission;
- Explain the technical differences between a LAN and a WAN;
- Explain the importance of technical standards in networks;
- List all seven layers of the OSI reference model and explain what each of the bottom four layers contributes to a network;
- Compare and contrast the Windows Server and Linux operating systems.

Students who are unfamiliar with computers and/or the Internet are likely to be at a disadvantage in this course. There are, however, no theoretical concepts required or expected for students entering the course.

INTRODUCTION TO NETWORK SYSTEMS

UNIT 1: NETWORKING FUNDAMENTALS

Assignment Titles

1. Course Overview
2. Networking Concepts
3. Project: Report: Technology Devices
4. Network Devices and Components
5. Network Topologies
6. Project: Hardware Awareness
7. Quiz 1: Computer Networks
8. The OSI Reference Model
9. The TCP/IP Networking Model
10. Project: Slide Show: Networking Layers
11. Data Encapsulation
12. Project: Slide Show: Data Encapsulation
13. Quiz 2: OSI and TCP/IP Networking Models
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Uses of a Small Business Network*
17. Glossary and Credits

INTRODUCTION TO NETWORK SYSTEMS

UNIT 2: NETWORK ACCESS CONCEPTS

Assignment Titles

1. Physical Layer: Transmission Media, Properties, and Components
2. Project: The Physical Layer
3. Fundamentals of Electrical Circuits: Signaling and Circuit Configuration
4. Network Security at the Physical Layer
5. Project: Under Attack
6. Quiz 1: Physical Layer Networking Concepts
7. The Data-Link Layer
8. Components of the Data-link Layer
9. Project: FAQ: A Data-Link Sublayer
10. Data-link Layer Devices
11. Project: Video: Data-Link Hardware
12. Quiz 2: Data Link Layer Networking Concepts
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Physical Standards*
16. Glossary and Credits

INTRODUCTION TO NETWORK SYSTEMS

UNIT 3: LOCAL AREA NETWORKS

Assignment Titles

1. LAN Fundamentals
2. Project: Proposal: Classroom LAN
3. Ethernet LANs
4. Wireless LANs
5. Project: Video: Value of Hotspots
6. Quiz 1: LAN Components and Technologies
7. Network Addressing
8. Project: Table: IP Addresses
9. Network Routing and Protocols
10. Transport Layer Protocols
11. Project: Slide Show: Sending/Receiving a Communication
12. Quiz 2: Network, Transport, and Application Layers
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Internet Connection*
16. Glossary and Credits

INTRODUCTION TO NETWORK SYSTEMS

UNIT 4: WIDE AREA NETWORKS AND SECURING THE NETWORK

Assignment Titles

1. WAN Fundamentals
2. Project: FAQ: WAN Connections
3. WAN Technologies and Protocols
4. WAN Transmission Media
5. Project: Slideshow: Fiber Optics
6. Quiz 1: Wide Area Networks
7. Authentication and Access Controls
8. Project: FAQ: Public Key Infrastructure (PKI)
9. Network Threats and Mitigation
10. Project: Policy: Password Policy
11. Physical and Hardware Security
12. Quiz 2: Network Security
13. Project: Special Project*
14. Unit 4 Test
15 Course Project Part 4: Security*
16. Glossary and Credits

INTRODUCTION TO NETWORK SYSTEMS

UNIT 5: MANAGING THE NETWORK

Assignment Titles

1. Managing and Monitoring the Network
2. Project: Slide Show: Management
3. Network Troubleshooting
4. Project: FAQ: Utilities
5. Software and Hardware Troubleshooting Tools
6. Quiz 1: Network Management and Troubleshooting
7. The Server in a Network
8. Project: Diagram: Web Email Service
9. Networking with Windows
10. The Linux Operating System
11. Project: Report: Network Wish List
12. Quiz 2: Network Operating Systems
13. Project: Special Project*
14. Unit 5 Test
15 Course Project Part 5: Servers and Operating System*
16. Glossary and Credits

INTRODUCTION TO NETWORK SYSTEMS

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Slide show: Introducing Your Network*
2. Review
3. Exam

(*) Indicates alternate assignment

Network System Design

Course Overview

The Network System Design course will provide students with an understanding of computer networks and how they operate, as well as a basic understanding of how to manage and maintain computer networks. These skills will provide students with the ability to design, configure, and troubleshoot networks of all sizes.

Students will learn the basics of network design, including how to identify network requirements and determine the proper network architecture. They will be instructed on the requirements of network models, as well as be introduced to local area networks. Students will also learn about Internet Protocol and the basics of routing data on a network.

Students will be introduced to wide area networks and network security issues. In addition, students will learn about network management, including monitoring and troubleshooting. Last, students will learn about network operating systems and their role in connecting computers and facilitating communications.

Objectives

- Understand computer networks and their functions, as well as know how to analyze business and technical goals of a network to effectively meet customer needs.
- Identify requirements to successfully support network users, applications, and devices. They will also understand network architecture and topology, protocols, and services of local and wide area networks.
- Identify principles and operation of equipment like wire and circuits, as well as of standards such as open system interconnection, TCP/IP, and high-speed networking.
- Demonstrate knowledge of security requirements and data protection on a network, as well as the role of security tools such as routers, firewalls, and virtual private networks.
- Understand network operating systems and be able to support computer networks.

For topics in this course, it is helpful for students to be familiar with the basics of computer hardware (desktop and laptop), as well as desktop operating systems.

If students are not familiar with these topics, it is recommended, though not required, that they be introduced to computer hardware and desktop or workstation operating systems before starting this course. That includes examining hardware devices such as motherboards, hard drives, and processing chips and exploring the features and functions of a workstation operating system.

NETWORK SYSTEM DESIGN

UNIT 1: INTRODUCTION TO NETWORK DESIGN

Assignment Titles

1. Course Overview
2. Customer Needs and Goals
3. Project: Designing a Business Network
4. Network Design: Network Infrastructure
5. Network Design: Physical and Functional Network Requirements
6. Project: Office Planning
7. Quiz 1: Network Requirements
8. Network Architecture Components – Physical and Functional
9. Project: Connecting Physical to Function
10. Logical Network Design – Addressing and Routing Protocols
11. Project: Exploring Higher Math
12. Network Architectural Models – Topologies and Classifications
13. Quiz 2: Network Architecture
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: Physical and Functional Requirements of a Network*
17. Glossary and Credits

NETWORK SYSTEM DESIGN

UNIT 2: NETWORKING MODELS AND LOCAL AREA NETWORKS

Assignment Titles

1. The Network Reference Models
2. Project: Port Sniffing
3. The OSI Networking Model
4. The TCP/IP Networking Model
5. Project: Researching TCP/IP
6. Quiz 1: TCP/IP and OSI Networking – The Fundamentals
7. LAN Fundamentals: Media, Topologies and Protocols
8. LAN Technologies: Ethernet
9. Project: State Your Case, Argue For Each
10. Wireless LANs and Security
11. Project: Playing With Wireless
12. Quiz 2: Local Area Networks – Topologies, Transmission Media and Technologies
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Local Area Network*
16. Glossary and Credits

NETWORK SYSTEM DESIGN

UNIT 3: INTERNET PROTOCOL (IP): ADDRESSING AND ROUTING

Assignment Titles

1. Addressing Fundamentals
2. IP Address: Classful Addressing
3. Project: IP Address Ranges and Subnetting
4. Subnetting, Supernetting and Classless Addressing
5. Project: Researching Classless Inter-Domain Routing
6. Quiz 1: IP Addressing
7. Routing Basics
8. IP Routing Protocols: Distance Vector Routing
9. Project: Routing Tables
10. IP Routing Protocols: Link State Routing
11. Project: Router Security
12. Quiz 2: IP Routing
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Internet Protocol*
16. Glossary and Credits

NETWORK SYSTEM DESIGN

UNIT 4: WIDE AREA NETWORKS AND NETWORK SECURITY

Assignment Titles

1. WAN Concepts
2. WAN Technologies
3. Project: Connecting to the Internet Backbone
4. WAN Configuration
5. Project: What Do All These Boxes Look Like?
6. Quiz 1: Wide Area Networks
7. Understanding Network Security
8. Project: Creating a Network Security Policy
9. Network Security Threats
10. Network Security Techniques
11. Project: Analyzing Network Security
12. Quiz 2: Network Security
13. Project: Special Project*
14. Unit 4 Test
15. Course Project Part 4: Network Security*
16. Glossary and Credits

NETWORK SYSTEM DESIGN

UNIT 5: NETWORK MANAGEMENT AND NETWORK OPERATING SYSTEMS

Assignment Titles

1. Network Management Design
2. Project: Designing a Network Management Plan
3. Network Management Architecture
4. Network Management Tools and Protocols
5. Project: Using Network Troubleshooting Tools
6. Quiz 1: Network Management Strategies and Design
7. Network Operating Systems
8. Project: Researching Network Operating Systems
9. The Windows Server
10. The Linux Operating System
11. Project: Installing and Using Linux OS
12. Quiz 2: Network Operating Systems
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Network Management Protocols*
16. Glossary and Credits

NETWORK SYSTEM DESIGN

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Network Administration*
2. Review
3. Exam

(*) Indicates alternate assignment

New Applications: Wed Development in the 21st Century

Course Overview

New Applications introduces students to the rapidly evolving world of apps, or applications. The introduction of the Apple II in 1977 followed by the IBM PC and scores of compatible computers just four years later created strong consumer demand for software programs, as these applications were referred to at the time. Capable of formatting spreadsheets, composing and proofing hundreds of lines of text, or supporting classroom instruction, computer programs were initially sold by specialty stores, college bookstores, or through the mail.

The explosive growth of the Internet that followed at the beginning of the twenty-first century with the introduction of high-speed networking, the dynamic World Wide Web, and most recently the development of affordable smartphones and web tablets have all contributed to global, cultural, and societal change.

This course begins with a historical tour of the Internet and World Wide Web as well as the programs and applications that made it possible for computer users on every continent to begin to explore and better understand their world. Then, through a step-by-step introduction to WordPress, students gain the tools and insight necessary to create their own web pages and discover their online voice.

In addition to learning how to use WordPress and other applications that promote students' presence on the World Wide Web, this course discusses how the web has become the foremost channel for the distribution of applications that increase the functionality of the web and support a global hub of social networking and communication. Students are introduced to the evolution of networking and data-transfer capabilities beginning with early HTTP protocols continuing through to the recent introduction of smartphones capable of connecting to sites on the World Wide Web without having to rely on a browser for navigation.

The course concludes with a survey of the continuing explosion of new apps, or applications, designed to operate on one or more of the proprietary mobile devices (smartphones, tablets, and netbooks). Students are given an opportunity to track fundamental changes in this growing industry as development has moved from the original model of a single experienced programmer developing a single app for distribution at little or no cost to a model in which retailers, non-profit organizations, government agencies, and Fortune 500 companies contract with mid-sized marketing and communications firms to develop sophisticated apps designed to raise global market and public awareness of institutions and issues. Additionally, students have an opportunity to understand that career opportunities in app development have evolved from programming and coding to now include marketing, public relations, creative arts, project and product management and sales, with a growing number of careers in the industry requiring little if any actual programming experience.

New Applications is a survey course that travels from the first software programs developed to facilitate communication on the Internet to the new generation of mobile and native apps that access the Internet without a reliance on a web browser. New Applications is also a practical course in how to develop a presence on the World Wide Web using WordPress and other available web-application tools. The goal of the course is to provide the learner insight into the rapidly evolving universe of programming and application development so that he or she can make informed career decisions in an industry that is changing as quickly as it is growing.

Objectives

- Describe major advances in network and communications technology beginning with the early Internet and continuing through the introduction of web-enabled smartphones and other devices.
- Create a web presence using simple applications.
- Evaluate and select from a variety of web development tools and apps those most appropriate for their interests and needs.
- Design a current generation app for use on a smartphone or tablet.
- Evaluate the education and training qualities and experiences essential to secure a position with growth potential in the app industry

This is an introductory course in the history and development of new applications for use on web-enabled devices including personal computers, tablets, smartphones, and ultrabooks. While there are no specific prerequisites for this course, students should have a basic understanding of the Internet, the World Wide Web, browsers, file formats, hardware, and software applications. Students who have working knowledge of IP addressing, programming, the differences among local, wide-area, and cloud-computing networks as well as the current state of mobile devices will be well prepared to complete this course.

NEW APPLICATIONS

UNIT 1: THE WORLD WIDE WEB: HISTORY AND DEFINITIONS

Assignment Titles

1. Course Overview
2. History of the Web in a Nutshell
3. Project: The Interconnected Internet
4. File Sizes and Resolution
5. Project: Consulting
6. What Does This Do? Hosted vs. Local Computing
7. Quiz 1: Defining the Web
8. Manual Transmission: HTML (Part One)
9. Project: Developing HTML
10. The Editor's Two Flavors: HTML (Part Two)
11. Project: On Assignment as a Web Developer
12. The Wave of the Present – WordPress
13. Quiz 2: Hosted and Non-Hosted Applications
14. Project: Special Project*
15. Unit 1 Test
16. Course Project Part 1: The Home Page*
17. Glossary and Credits

NEW APPLICATIONS

UNIT 2: WEB SITE DESIGN ON CONTENT MANAGED PLATFORMS

Assignment Titles

1. WordPress Roles
2. Project: Developing a WordPress Account
3. WordPress Themes
4. Project: Marketing to a Potential Client
5. Topography
6. Quiz 1: WordPress Components
7. Detailed Editors
8. Widgets
9. Project: Bringing It All Together
10. Third Party Add-ons
11. Project: A Comparative Study of Apps, Plugins, and Extension
12. Quiz 2: Website Elements
13. Project: Special Project*
14. Unit 2 Test
15. Course Project Part 2: Planning the Site*
16. Glossary and Credits

NEW APPLICATIONS

UNIT 3: MANAGING SITE CREATION

Assignment Titles

1. Assigning Roles
2. Project: Photos, Videos, and Sound Files in WordPress
3. Designing the Publication
4. Project: Creating Posts
5. Developing the Content
6. Quiz 1: Bringing It All Together
7. Publishing Deadlines
8. Project: Creating a Statement of Work
9. Approvals, Change Orders, and Last-Minute Edits
10. Self-Evaluation and Your Projects
11. Project: Baseline, Benchmark, Objective, and Goal
12. Quiz 2: Working Together
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Under Construction*
16. Glossary and Credits

NEW APPLICATIONS

UNIT 4: INTERNET DISTRIBUTED APPLICATIONS

Assignment Titles

1. What Are Internet Distributed Applications?
2. Project: What Is Cloud Computing?
3. Distribution of Internet Applications
4. Project: Are You Online or Offline?
5. The Internet Is a Revolutionary Path to Application Development
6. Project: New Technology: Autos vs. Internet
7. Quiz 1: Introduction to Internet Distributed Applications
8. Strategies for Keeping Well-informed about New Trends and Developments
9. Project: RSS Feed Comparisons
10. Report on the Present
11. Project: Find Your Own Trends
12. Evaluating Products and Services
13. Quiz 2: Emerging Trends
14. Project: Special Project*
15. Unit 4 Test
16. Course Project Part 4: Reviewing Web Applications*
17. Glossary and Credits

NEW APPLICATIONS

UNIT 5: NEW APPS: CREATIVITY AND CAREERS

Assignment Titles

1. The Mobile Apps Industry
2. Project: Apps Review
3. Building Apps
4. Health Considerations in Developing Apps
5. Project: The Ergonomic App Development Office
6. Quiz 1: A New Industry
7. Entrepreneurial App Development
8. Project: Researching Network Operating Systems
9. Expanding Career Opportunities in a New Industry
10. Technology Advances, Careers Redefined
11. Project: Next Year's App Solution
12. Quiz 2: Career Choices: Solo or Solid
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: The Mobile App Hall of Fame*
16. Glossary and Credits

NEW APPLICATIONS

UNIT 6: COURSE REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: The Future of Apps Blog*
2. Review
3. Exam

(*) Indicates alternate assignment

Software Development Tools

Course Overview

This course introduces students to the variety of careers related to programming and software development. Students will gather and analyze customer software needs and requirements, learn core principles of programming, develop software specifications, and use appropriate reference tools to evaluate new and emerging software. Students will produce IT-based strategies and a project plan to solve specific problems, and define and analyze system and software requirements.

Objectives

- Understand the development of the computer.
- Be able to describe the organization of the Central Processing Unit.
- Demonstrate knowledge of widely used software applications (e.g., word processing, database management, spreadsheet development).
- Identity three levels of programming languages.
- Identity execution differences between interpreted, translated, and compiled languages.
- Describe how computers address data in memory.
- Design structures, classes, and objects that include variables and methods.
- Summarize how data is organized in software development.
- Understand the standard primitive types and operations of the java programming language.
- Define and initialize Java arrays.
- Demonstrate knowledge of the basics of structured, object-oriented language.
- Write software applications using while, do while, for, for-each loops.
- Define logic statements using if, else if, else and switch statements.
- Develop an application using conditional statements.
- Demonstrate knowledge of key constructs and commands specific to a language.
- Develop an application that responds to user input.
- Develop a web application that responds to user input.

SOFTWARE DEVELOPMENT TOOLS

UNIT 1: INTRODUCTION TO SOFTWARE DEVELOPMENT TOOLS

Assignment Titles

1. Course Overview
2. Coding Standards and Conventions
3. Software Processes and Methodology
4. Project: Grades Projection IPO
5. Software Types and Elements
6. Project: Software Types and Elements
7. Quiz 1: Computer History, Computer Hardware, Software, and Organization
8. Multimedia and Graphics Software Applications
9. Web-Based Software Applications
10. Project: Multimedia and Web Design Careers
11. Software Design Principles and Tools
12. Project: Software Design Principles Table
13. Quiz 2: Central Processing Unit Operations
14. Project: Special Project*
15. Unit 1 Test
16. Glossary and Credits

SOFTWARE DEVELOPMENT TOOLS

UNIT 2: SOFTWARE DEVELOPMENT

Assignment Titles

1. Personal Information Management (PIM) Tools
2. Project: My Mind-Mapping
3. Computer Security Application Tools
4. Individual Programming Development Tools
5. Project: Assessment of Competitive Office Suites
6. Quiz 1: Different Language Abstraction Layers
7. Database Software Development Tools
8. Web Design Software Development Tools
9. Project: My Personal Website
10. Integrated Development Environments (IDEs)
11. Project: My Text Editor IDE Evaluation
12. Quiz 2: Building Blocks of Programs
13. Project: Special Project*
14. Unit 2 Test
15. Glossary and Credits

SOFTWARE DEVELOPMENT TOOLS

UNIT 3: DEBUGGING

Assignment Titles

1. Download, Install, Explore IntelliJ IDEA
2. Download, Install, Explore NetBeans
3. Project: MY IntelliJ NetBeans IDE Evaluation
4. Download, Install, Explore Eclipse
5. Project: MY IntelliJ NetBeans Eclipse IDE Evaluation
6. Quiz 1: Basic Java Applications
7. Exceptions
8. Project: Best Practices in Exception Handling in Java Programming
9. STDIN and STDOUT
10. File Input, Output, and Network Input, Output
11. Project: Concepts of File I/O and Network I/O
12. Quiz 2: Text Input, Output, and Exceptions
13. Project: Special Project*
14. Unit 3 Test
15. Glossary and Credits

SOFTWARE DEVELOPMENT TOOLS

UNIT 4: SOFTWARE CONFIGURATION MANAGEMENT

Assignment Titles

1. Code Blocks
2. Project: Concepts of Programming Code Structure in Java
3. Iterative Loops
4. For-Each Loops
5. Project: Computing Class Grades
6. Quiz 1: While, Do, While, For, Statements
7. Java Logic
8. If, Else If, Else
9. Project: Write an IF...ELSE Program that Computes the New Salary for the CIO
10. Switch Statements
11. Project: Write a Program Using a SWITCH Statement
12. Quiz 2: If, Then, and Switch Statements
13. Project: Special Project*
14. Unit 4 Test
15. Glossary and Credits

SOFTWARE DEVELOPMENT TOOLS

UNIT 5: OBJECT MODELING UML AND SOFTWARE TESTING

Assignment Titles

1. Swing and AWT
2. Creating Frames and Dialog Boxes, Components, Form Fields, Panels, Buttons
3. Project: Building Better Java using GUI Applications, Frames, Containers, and Dialogs
4. HTML and Web Pages
5. Project: Creating a Web Page
6. Quiz 1: GUI Programming
7. Business Information System Trends, Applications, and eCommerce
8. Project: Social Media on Campus
9. Application Servers and JavaServer Pages (JSP)
10. JavaServer Faces and Future Trends in Programming
11. Project: Create a Simple Java Server Page
12. Quiz 2: The Future of Programming
13. Project: Special Project*
14. Unit 5 Test
15. Glossary and Credits

SOFTWARE DEVELOPMENT TOOLS

UNIT 6: COURSE PROJECT, REVIEW AND EXAM

Assignment Titles

1. Course Project: The Design Team: Creating a Tablet GUI*
2. Review
3. Exam

(*) Indicates alternate assignment

LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

Introduction to Law, Public Safety, Corrections, and Security

Course Overview

Law enforcement, public safety, corrections, and safety professionals work daily to keep our cities and communities safe. There are few careers paths in the United States that can be as rewarding, challenging, and important as a career in legal, public safety, corrections or security fields. The sacrifices and challenges faced by these selfless individuals is virtually unparalleled by any other profession outside of the armed forces. Whether it be keeping innocent people from harm, bringing justice to victims, fighting fires, saving people from danger, or ensuring evil-doers are locked away. These career fields offer great opportunities to those who choose to work in them.

Life in the twenty-first century would not be possible without police officers, paramedics, firefighters, attorneys, corrections officers or security guards. In this course, you learned about the many careers that exist within the fields of law, law enforcement, public safety, corrections, and security. Besides learning about the training and educational requirements for these careers, you learned about the history of these fields and how they developed to their current state. You also learned how these careers are affected by and affect local, state, and federal laws. Finally, you learned about the relationships between professionals in these fields and how collaborations between professionals in these careers help to create a safer, more stable society.

Objectives

- Analyze and interpret the differences between the public sector criminal justice system, and private security.
- Understand the duties of the various career paths in the legal, public safety, corrections, and private security fields.
- Recognize and be able to apply the different laws and regulations affecting the legal, public safety, corrections, and private security fields.
- Develop the requisite interpersonal, conflict resolution and communication skills, and critical thinking skills that are required to have successful careers in an ever-changing economic, technological, political, and social environment.
- Understand regulations and policies relating to human resource management, technologies, and sustainability to maintain safe and productive work environments.
- Demonstrate an understanding of legal, public safety, corrections, and security practices.
- Apply analytical methods to understand the process of gathering and utilizing intelligence in crime prevention and providing security services.
- Understand the evolution of public safety in the United States.
- Recognize the different regulations and requirements required to obtain employment in the legal, public safety, corrections, and private security fields.

For this course, students should know that:

- there are many available careers in the law enforcement, public safety, corrections, and security fields.
- these careers have diverse career paths that combine educational and physical requirements with high standards for training.
- these careers are directly impacted by local, state, and federal laws.

Students should have:

- the ability to access the Internet
- the ability to work in group settings

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 1: LAW ENFORCEMENT CAREER PATHS

Assignment Titles

1. Course Overview
2. History of Law Enforcement
3. Project: Understanding Police History: A Timeline Project
4. Career Paths for Police Work
5. Legal Aspects of Law Enforcement
6. Project: The Bill of Rights: Daily Concerns for Police Officers
7. Quiz: Local and State Law Enforcement: Evolution, Career Paths and Legal Aspects
8. History of Federal Law Enforcement
9. Jurisdiction of Federal Law Enforcement Agencies
10. Project: The Responsibilities and Jurisdictions of Law Enforcement Agencies
11. Federal Law Enforcement Careers
12. Project: Making the Team: Federal Law Enforcement Agencies
13. Quiz: Federal Law Enforcement in the United States
14. Project: Special Project*
15. Test
16. Course Project Part 1: Choosing a Career of Interest*
17. Glossary and Credits

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 2: CAREERS IN CORRECTIONS

Assignment Titles

1. History of Prisons and Jails in the United States
2. Jails and Jail Administration
3. Project: Jails in Your County
4. Correctional Career Paths
5. Project: Getting a Job in a Corrections Field
6. Quiz: Incarceration and Corrections Officers
7. The History and Nature of Probation in the United States
8. Project: Probation in Your State
9. The History and Nature of Parole in the United States
10. Careers in Probation and Parole
11. Project: Parole: Are We Better Off Without It?
12. Quiz: Probation and Parole
13. Project: Special Project*
14. Test
15. Course Project Part 2: Requirements for the Career of Your Choice*
16. Glossary and Credits

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 3: AMERICAN CRIMINAL LAW AND LEGAL SERVICES

Assignment Titles

1. The Origins of Law in the United States
2. Federalism in the United States
3. Project: Whose Laws Reign Supreme? The Supreme Court and Federal Law
4. The Adversarial Due Process System
5. Project: Civil versus Common Law
6. Quiz: American Criminal Law
7. Federal and Local Criminal Defense in the United States
8. Project: Volunteer with a Legal Aid Organization
9. Federal and Local Prosecutors in the United States
10. Project: Entertainment Versus Fiction
11. Paralegals, Court Reporters, and Mediators
12. Quiz: The Legal System and Career Paths
13. Project: Special Project*
14. Test
15. Course Project Part 3: Laws and Regulations*
16. Glossary and Credits

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 4: PUBLIC SAFETY SERVICES

Assignment Titles

1. History of Firefighters in the United States
2. The Training and Role of Firefighters
3. Project: Becoming a Firefighter in Your State
4. Specialized Firefighters
5. Project: Beyond Smokey the Bear: Wildland Firefighters
6. Quiz: Firefighting
7. History of Emergency Medical Services in the U.S.
8. EMT Levels and Certification
9. Project: Charting a Career Path as an EMT
10. EMT Medical Procedures
11. Project: CPR - A Life Saving Skill
12. Quiz: Emergency Medical Services
13. Project: Special Project*
14. Test
15. Course Project Part 4: Interview with a Professional in This Career*
16. Glossary and Credits

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 5: PRIVATE SECURITY CAREER PATHS

Assignment Titles

1. History of the Private Security Industry
2. Career Paths in Private Security
3. Project: Requirements for a Private Security Job
4. Training Requirements by State for Security Professionals
5. Project: Licensing Requirements in Your State
6. Quiz: Private Security: Evolution, Career Paths and State/Local Regulations
7. Constitutional Law and Private Security
8. Partnerships Between Private Security and Law Enforcement Agencies
9. Project: Understanding the Advantages and Risks of Collaborations Between Private Security and Law Enforcement Agencies
10. Legal Aspects of Partnerships Between Military and Private Security Agencies
11. Project: Understanding International Law: The UN Mercenary Ban
12. Quiz: Constitutional and Legal Aspects of Private Security
13. Project: Special Project*
14. Test
15. Course Project Part 5: Identifying a Career Path*
16. Glossary and Credits

INTRODUCTION TO LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: A Mini Career Fair: Sharing Your Research
2. Review
3. Exam

(*) Indicates alternate assignment

Corrections: Policies and Procedure

Course Overview

Corrections is one of the three branches of the Criminal Justice System (CJS) in the United States. All three branches employ personnel who are authorized to uphold and enforce the law, and are required to operate under the rule of law. Each branch works as part of the entire system to maintain the public safety and well-being, and bring criminals to justice.

Corrections facilities and programs are run by a complex systems of policies and procedures, which uphold local, state, and federal laws. This course gives students an introductory, yet thorough view of many aspects of corrections operations. Students receive historical and legal background information as they study how prisons and prisoners have evolved into correctional facilities and programs for offenders.

In this course the duties responsibilities, conduct, training, and special certification possibilities for corrections staff are explored. Many aspects of procedures in corrections are reviewed, giving students an in-depth look at what a variety of careers in this growing field encompass and require.

Objectives

- Analyze training and use of force reports.
- Ascertain the value of effective communication in correctional settings.
- Decipher concepts of the essentials of effective communication.
- Deconstruct the principles of written communication and reports.
- Differentiate effective communication skills for managing offenders with mental illness.
- Evaluate the importance of following agency procedures for emergency response incidents.
- Evaluate safety and security concepts for physical plants.
- Evaluate the historical practices of offender management, control and incarceration.
- Interpret aspects of legal uses of force and different levels of force, including deadly force.
- Interpret concepts of computer forensic investigations.
- Interpret prevention and cause of security breaches.
- Interpret the critical constitutional rights of offenders in correctional setting (First, Fourth, Fifth, Sixth, Eighth, and Fourteenth Amendments).
- Interpret the major responsibilities of corrections.
- Investigate the powers of agencies responsible for investigation and enforcing applicable federal, state, and local laws and regulations.

This is an introductory course in corrections. As such, there are no prerequisites for the student. An interest in the subject is expected, and online access to the research materials they will need to locate and review. The projects require mainly online research and presentation creation in PowerPoint, so Microsoft Office software or equivalent is required.

There is some physical fieldwork in some projects, but virtual alternatives are proposed for those without access to the public facilities suggested.

Personal skills in observation and recall, self-analysis, and experience assessment for communications skills are part of certain projects, and require some interaction with others, which any student should easily be able to complete.

Students will be studying a wide range of corrections subjects. The course provides students interested in a career in corrections many opportunities for in-depth research into educational and career pathways that they use for their own advancement in the field.

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 1: CORRECTIONS WITHIN THE CRIMINAL JUSTICE SYSTEM

Assignment Titles

1. Course Overview
2. The Criminal Justice System, and Police, Corrections, and Courts
3. History of Incarceration Practices and Current Offender Management Protocols
4. Project: Comparing Annual Reports
5. Criminal Justice System Levels
6. Project: Statistical Research and Analysis Using CSAT
7. Quiz: Overview of the Criminal Justice System
8. Adult Corrections
9. Juvenile Corrections
10. Project: Juvenile Classifications Research
11. Key Correctional Support Disciplines and Non-Incarcerated Offender Supervision
12. Project: Community Corrections Positions
13. Quiz: Disciplines of Offender Management
14. Project: Special Project*
15. Test
16. Course Project Part 1: Initial Career Goals and Educational Pathways*
17. Glossary and Credits

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 2: IMPACT OF LAWS ON THE CORRECTIONS SERVICE

Assignment Titles

1. Eliminating the "Hands-Off" Doctrine
2. Constitutional Rights for Offenders
3. Project: Prisoners' Rights and Corrections Procedures
4. Corrections Service Accreditation
5. Project: Grievances and Accreditation History
6. Quiz: Understanding Impact of Constitutional Law, State and Local Laws
7. Staff Policies and Procedures
8. Project: Choose a Procedure
9. Offender Rules and Regulations
10. Agency Investigations and Inspections
11. Project: Policy Changes
12. Quiz: Development of Correctional Policies and Procedures and Offender Rules and Regulations
13. Project: Special Project*
14. Test
15. Course Project Part 2: The Importance of Policies and Procedures*
16. Glossary and Credits

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 3: EFFECTIVE COMMUNICATIONS AND ETHICAL STAFF CONDUCT

Assignment Titles

1. Essentials of Effective Communication
2. Project: Your Communication Style and Skills
3. Managing Offenders Through Communication
4. Effective Communication During Emergencies
5. Project: Communications Courses at Corrections Academies
6. Quiz: Effective Communications
7. Ethics and Integrity
8. Project: Ethics and Integrity Self-Experiments
9. Inmate Manipulation
10. Maintaining a Climate for Ethical Staff Conduct
11. Project: Ethical Behavior in Real Life
12. Quiz: Ethical Staff Behavior
13. Project: Special Project*
14. Test
15. Course Project Part 3: Communication Skills in Action*
16. Glossary and Credits

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 4: HIGH LIABILITY IN CORRECTIONS SERVICES: USE OF FORCE, CRISIS AND EMERGENCY RESPONSES

Assignment Titles

1. Use of Force: Law, Procedures, and Reports
2. Project: Use of Force Presentation
3. Training, Equipment, and Firearms
4. Project: Academy Comparisons
5. Use of Force: Practical Application
6. Quiz: Use of Force
7. Major Correctional Emergencies
8. Project: Fire Safety Inspection
9. Training, Preparedness, and Response
10. Project: Emergency Response Team Special Training
11. Prevention and Procedures in Emergency Response
12. Quiz: Crisis and Emergency Response
13. Project: Special Project*
14. Test
15. Course Project Part 4: Emergency Response*
16. Glossary and Credits

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 5: SECURE FACILITIES, AND COMPUTER FORENSICS

Assignment Titles

1. Safety and Security Principles in Corrections
2. Project: Prison Escape
3. Safety and Security Practices
4. Project: Detection
5. Ensuring Accountability and Inspections
6. Quiz: Safety and Security Practices and Physical Plant Security
7. Cyberspace Trespassing
8. Computer Forensics Investigations
9. Project: Why Prisoners Should Not Have Smartphones
10. Supervising Cyber Criminals
11. Project: Cyber Crime Case Study
12. Quiz: Cyber Forensics and Managing Cyber Criminals
13. Project: Special Project*
14. Test
15. Course Project Part 5: Computers in Corrections Security and Cyber Crime*
16. Glossary and Credits

CORRECTIONS: POLICIES AND PROCEDURE

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Now That You Know: Where You See Yourself in Corrections
2. Review
3. Exam

(*) Indicates alternate assignment

Fire and Emergency Services

Course Overview

Emergency and fire-management services are essential infrastructure components of a community. They provide a resource for dealing with numerous types of emergencies, including fires, motor vehicle, and industrial accidents, and medical emergencies. In addition, these services provide fire prevention and community-outreach programs.

This course provides students with the basic structure of these organizations as well as the rules and guidelines that govern pre-employment education requirements. The vehicles, equipment, and emergency-mitigations strategies that are commonly used in the emergency- and fire-management field are also explored. Students will understand the goals of an emergency-management service and how they are implemented and managed, including personnel, budget, and labor-management challenges in the organization.

Finally, the course also provides students with an overview of large-scale emergency incidents that overwhelm local agencies. Various preparedness plans are discussed. In the end, students will have been exposed to the typical characteristics and framework of modern emergency- and fire-management organizations and will have a better understanding of a career in this field.

Objectives

- Summarize the hierarchy of an emergency and fire-management system.
- List the educational and work-experience requirements for entry-level positions in the EMS or fire systems.
- Predict the pathway of authority between the various levels within an emergency and fire-service organization when orders are given.
- Identify common geographical areas where fire apparatus are located.
- Predict which apparatus is most appropriate to send for five different emergency situations.
- Explain how target hazards need to be identified and considered in emergency-response plans.
- Identify the unique functions of special-operations firefighting and emergency-medical operations.
- Given a specific hazardous industry, predict what regulations and apparatus would be required for emergency protection for those locations.
- Determine the required steps in the command sequence.
- Given an emergency scenario, create the basic outline of an appropriate action plan.
- Analyze a scenario to determine the most appropriate strategic concept for the situation.
- Identify common apparatus and crew specialization.
- List the technical abilities a crew member on an apparatus must possess in order to fulfill the mission.
- Discuss the pieces of information shared in an initial incident report.
- Describe how an incident manager chooses which apparatus to deploy to accomplish various missions.
- List four areas of diversification that typical emergency-management agencies perform.
- Identify the types of emergency services a local fire department has available.
- Predict how a population shift away from a big city into an outlying town, or vice versa, would alter the demands placed on an emergency organization.
- Discuss challenges and benefits associated with workforce diversity changes.
- Analyze the methods the departments use to maintain and boost morale among the ranks.
- Defend why an emergency-management agency would institute the customer service model into its operations.
- Explain what the phrase “do more with less” means, and describe three changes an agency would make to enact this idea.
- Describe two ways that a local government would impact the operations of an emergency agency.
- Explore the concept of *bargaining* by organized labor in the operation of an emergency agency.
- Describe different types of disasters, as well as their trends and consequences on communities.
- Outline the disaster cycle of preparedness, response, reconstruction, and mitigation.
- Predict the methods responders would utilize to address the complications encountered during a disaster.
- Describe methods used to train and practice emergency management.
- Explain what the National Incident Management System (NIMS) is and how it is used in emergency incidents.
- Identify federal agencies that regulate modes of transportation in the United States.

FIRE AND EMERGENCY SERVICES

UNIT 1: MODERN EMERGENCY AND FIRE MANAGEMENT SERVICES

Assignment Titles

1. Course Overview
2. People in Emergency and Fire Management Systems
3. Roles, Duties, and Responsibilities
4. Project: Recruitment Brochure or Advertisement
5. Problem Solving within the Ranks
6. Project: Near-Miss Analyses
7. Quiz: Overview of Emergency Medical and Fire Service Structure
8. Education for a Future Emergency Management Employee
9. Project: Local Education Requirements for Entry-Level EMT, Firefighter and Paramedic Positions
10. Employment Standards and Requirements
11. Conveying Information in Fire Management
12. Project: Written Situational Report
13. Quiz: Characteristics of an Emergency- and Fire-Management Employee
14. Project: Special Project*
15. Test
16. Course Project Part 1: Who is Your Local Fire Department?*
17. Glossary and Credits

FIRE AND EMERGENCY SERVICES

UNIT 2: TOOLS OF THE TRADE

Assignment Titles

1. Types of Modern Emergency Vehicles
2. Project: Local Fire or EMS Station Apparatus
3. Functions of Modern Emergency Vehicles
4. Equipment on Modern Emergency Vehicles
5. Project: Equipment Historical Analysis
6. Quiz: Emergency Vehicles and Apparatus
7. Specialized Fire Apparatus
8. Project: Special-Operations Apparatus
9. Specialized Fire Apparatus Functions
10. Specialty Apparatus Applications
11. Project: Potential Hazardous Business Investigation
12. Quiz: Specialty Emergency Vehicles
13. Project: Special Project*
14. Test
15. Course Project Part 2: How Does Your Fire Department Prepare to Help You?*
16. Glossary and Credits

FIRE AND EMERGENCY SERVICES

UNIT 3: EMERGENCY AND FIRE MANAGEMENT SKILLS IN ACTION

Assignment Titles

1. Mission Possible: Emergency Scene Priorities
2. Anatomy of an Action Plan
3. Project: Action Plan Chart
4. Strategies and Tactics at the Scene
5. Project: Strategies and Tactics Analysis
6. Quiz: Getting a Handle on the Emergency Incident
7. Apparatus and Crews: The Worker Bees
8. The History of Fire Apparatus and Firefighting
9. Project: Fire Apparatus History Research
10. Which Apparatus for the Task at Hand?
11. Project: Fire Apparatus Assignments
12. Quiz: Fire Apparatus History
13. Project: Special Project*
14. Test
15. Course Project Part 3: How Can Your Fire Department Help You?*
16. Glossary and Credits

FIRE AND EMERGENCY SERVICES

UNIT 4: ORGANIZING AND MANAGING AN EMERGENCY AND FIRE MANAGEMENT SYSTEM

Assignment Titles

1. Emergency Management, Now and Then
2. Project: Local Emergency Services, an Interview
3. The Changing Demands and Expectations of the Community
4. Scientific Advances: The Good and the Bad
5. Project: Fire Safety in the Home
6. Quiz: Shifting Demographics and Diverse Expectations
7. The Winds of Change in Emergency Management Departments
8. Project: Demographics in Community and Fire Department
9. Department Mission: Doing More with Less
10. Project: Customer-Service Programs in Local Communities
11. People Who Influence How an Emergency Agency Operates
12. Quiz: Influences Within and Outside Fire Departments
13. Project: Special Project*
14. Test
15. Course Project Part 4: How is Your Fire Department Changing?*
16. Glossary and Credits

FIRE AND EMERGENCY SERVICES

UNIT 5: ADVANCED SITUATIONS FOR EMERGENCY AND FIRE OPERATIONS

Assignment Titles

1. Anatomy of a Disaster
2. Project: Natural Disaster Chart
3. Disaster Response and Planning
4. Managing the Resources: NIMS / ICS
5. Project: NIMS Command Chart
6. Quiz: Disasters and Catastrophes
7. Demographics and the Risks of Mass Transit
8. Transportation Modes and Emergencies
9. Project: Transportation Emergencies Chart
10. Mitigating the Transportation Emergency Situation
11. Project: Hazardous Materials Research
12. Quiz: Mass Transit and Mass Casualty Incidents
13. Project: Special Project*
14. Test
15. Course Project Part 5: What is Your Fire Department Prepared For?*
16. Glossary and Credits

FIRE AND EMERGENCY SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: How Volunteering Makes a Difference*
2. Review
3. Exam

(*) Indicates alternate assignment

Law Enforcement Field Services

Course Overview

The Introduction to Law Enforcement Services course will introduce students to the field of law enforcement and the local, county, state, and federal laws that law enforcement personnel are sworn to uphold. The student will also gain an understanding of the career options available in this field and the skills, education, and background experience needed to succeed in these careers.

Students will learn about the evolution of the role of law enforcement in the United States and the interplay between individual freedoms and the government's need to protect the country. They will also learn about key changes affecting law enforcement following the September 11, 2001, terrorist attacks, including the creation of new laws, the restructuring of many departments within the federal government, and the creation of the Department of Homeland Security.

Students will learn about the interaction between local, county, state, and federal law enforcement agencies. The lessons will emphasize the importance of interagency communication and information sharing. Students will learn about the technological advances and new federal programs that aid cooperation between agencies.

Students will also learn about the types of crime that are commonly committed and the procedures, evidence collection techniques, and technological advances that law enforcement personnel use to investigate them. Students will learn how the development of computers and the Internet has changed the way many crimes are committed. They will also learn how investigators address the resulting increased globalization of criminal activity.

Objectives

- Introduce the student to the field of law enforcement and to explain the role of local, county, state, and federal law enforcement agencies within the community.
- Discuss the scope of the authority local police have, and compare it with the scope of authority of federal officials.
- Explain the importance of communication and information sharing between different law enforcement agencies.
- Describe different communications protocols.
- Describe law enforcement's disaster response plan on the local, county, state, and federal levels.
- Compare different types of crime and differentiate between crimes against an individual, crimes against property, and crimes against the community.
- Compare the U.S. Code of Law and the Uniform Military Code of Justice and describe the procedures and agencies that investigate violations of each.
- Discuss the differences in the level of protection of individual rights under each of the codes.
- Describe how new technologies, computer networks, and widespread Internet use have revolutionized the field of law enforcement.
- Identify career options in the field of law enforcement, explain the education and background requirements for each option, and design a personalized preliminary career plan.

For the topics and assignments in this course, it will be helpful for the student to have a general understanding of the structure of the federal government and the relationship between local, county, state, and federal governments. He or she should have the ability to communicate thoughts in written and oral form and be able to use factual data to defend an opinion. It will also be useful for the student to be familiar with conducting online research and be able to evaluate the credibility of online sources. If a student is not comfortable assessing the credibility of online sources, information on this topic can be found on a variety of educational websites, including:

- Evaluating Online Sources
- Criteria to Evaluate the Credibility of Online Sources

LAW ENFORCEMENT FIELD SERVICES

UNIT 1: A TRADITION OF SAFE COMMUNITIES

Assignment Titles

1. Course Overview
2. A Nation of Laws
3. Project: Gideon v. Wainwright, a Case Study
4. Law Enforcement as a Civic Duty
5. Project: The Citizen Police Academy Curriculum Guide
6. Policing in the United States
7 Quiz: A Short History of Policing
8. Municipal Ordinances and County Codes
9. Project: There Ought to be a Law (or Ordinance)
10. State Law
11. Federal Law
12. Project: Prohibited Wildlife: Deterring Purpose
13. Quiz: Three Levels of Law
14. Project: Special Project*
15. Test
16. Course Project Part 1: Evaluate the Response to a Previous Disaster*
17. Glossary and Credits

LAW ENFORCEMENT FIELD SERVICES

UNIT 2: LOCAL AND STATE LAW ENFORCEMENT

Assignment Titles

1. Municipal Police Departments
2. Project: Planning a Career with Local Law Enforcement
3. County Sheriff's Offices
4. Highway Patrols, State Police, and Other Agencies
5. Project: Comparing Campuses
6. Quiz: Qualifications and Training
7. Communications and Information Services
8. Project: Teaching Police Officers to Observe, Speak, Listen, and Report
9. Emergency Response
10. Project: A Personal Emergency Preparedness Plan
11. Criminal Investigations
12. Quiz: Practices and Policies
13. Project: Special Project*
14. Test
15. Course Project Part 2: Local and State Disaster Response*
16. Glossary and Credits

*LAW ENFORCEMENT FIELD SERVICES

UNIT 3: FEDERAL LAW ENFORCEMENT

Assignment Titles

1. U.S. Departments and Agencies
2. Project: Federal Law Enforcement Timeline
3. Federal Bureau of Investigation
4. U.S. Department of Homeland Security
5. Project: Careers with the Department of Homeland Security
6. Quiz: Agencies and Responsibilities
7. Uniform Code of Military Justice
8. Project: A Court-Martial Case Study: Major Nidal Hasan
9. Military Investigative Agencies
10. Civilian Careers in Military Justice and Military Law Enforcement
11. Project: Design a Recruiting Brochure
12. Quiz: Military Law Enforcement
13. Project: Special Project*
14. Test
15. Course Project Part 3: Federal Disaster Response*
16. Glossary and Credits

LAW ENFORCEMENT FIELD SERVICES

UNIT 4: CRIME AND CRIMINALS

Assignment Titles

1. Crimes Against the Individual
2. Project: Create a Community Crime Prevention Plan
3. Crimes Against Property
4. Crimes Against Communities
5. Project: Create a Family Emergency Plan
6. Quiz: Reducing Criminal Activity
7. The Bill of Rights
8. Project: Landmark Supreme Court Decisions
9. Conflict Management and Professionalism
10. Project: Design a Training Guide
11. Balancing the Rights of the Community and the Rights of the Individual
12. Quiz: Innocent Until Convicted
13. Project: Special Project*
14. Test
15. Course Project Part 4: Rights of Individuals Versus Public Safety*
16. Glossary and Credits

LAW ENFORCEMENT FIELD SERVICES

UNIT 5: 21st CENTURY POLICING

Assignment Titles

1. New Technology Tools
2. Project: Advertisement for Law Enforcement Technology
3. Expanding Cybercrime
4. Project: Internet Safety Information Brochure
5. New Crimes, New Laws
6. Quiz: Technology: Tools and Threats
7. Educational Opportunities and Expectations
8. Project: Design a Higher-Education Plan
9. Increased Specialization in Policing
10. Planning a Career in Law Enforcement
11. Project: Compose a Letter of Introduction
12. Quiz: Emerging Career Trends in Law Enforcement
13. Project: Special Project*
14. Test
15. Course Project Part 5: Technology*
16. Glossary and Credits

LAW ENFORCEMENT FIELD SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Public Service Announcement*
2. Review
3. Exam

(*) Indicates alternate assignment

Legal Services

Course Overview

The Legal Services course will provide students with an overview of the system of laws in the United States and the practice areas and career options in the field.

Students will learn about how the legal system operates to control how society punishes those who commit crimes and settles disputes, as well as how criminal and civil cases reach court and are resolved. They will learn about the courtroom and the basics of a typical court case.

Students will learn about constitutional rights and legal safeguards, as well as how technology has changed the practice of law. They will also learn about legal education and careers in law for attorneys and non-attorneys with an interest in the field.

Objectives

- Understand the basics of the U.S. legal system.
- Explain the significant historical events that impacted the formation of the current legal system.
- Understand how the rule of law influences the modern world.
- Distinguish between the various types of written laws and select the most appropriate for a given situation or application.
- Understand the Bill of Rights and analyze the impact of Supreme Court decisions regarding those important rights.
- Identify the roles of court personnel.
- Evaluate a controversy or dispute to determine what legal recourse is available to the aggrieved parties; as well as be able to analyze and determine the appropriate use of various types of evidence.
- Summarize the steps to admission to law school and be familiar with court requirements for the Juris Doctor program.
- Understand the role of the paralegal and be able to evaluate various career options in the legal workforce.

For topics in this course it is helpful for students to be familiar with the basics of U.S. history and the organization of the U.S. government.

If students are not familiar with these topics, it is recommended, though not required that they familiarize themselves with the structure of the government in the United States. This includes reading the U.S. Constitution, reviewing the roles of the three branches of the federal government, as well as reviewing the structure of various state governments

LEGAL SERVICES

UNIT 1: THE LAW: ORIGINS AND STRUCTURE

Assignment Titles

1. Course Overview
2. Rule of Law, Magna Carta
3. Common Law, Stare Decisis, and the U.S. Legal System
4. Project: Where Does the Law Come From?
5. Drafting Written Law
6. Project: Dealing with Disputes
7. Quiz: The Rule of Law and Origins of Our Legal System
8. Civil Law
9. Project: Researching a Civil Lawsuit
10. Criminal Law
11. Appealing a Ruling
12. Project: An Appeals Case
13. Quiz: Civil, Criminal, and Appellate Law
14. Project: Special Project*
15. Test
16. Course Project Part 1: Criminal Law*
17. Glossary and Credits

LEGAL SERVICES

UNIT 2: THE COURTROOM AND THE CASE

Assignment Titles

1. Attorneys, Jurors, and Civic Responsibility
2. Project: Who Participates in a Trial?
3. Victims, Defendants, and Litigants
4. Project: Representing a Client at Trial
5. The Judge and Support Staff
6. Quiz: Roles Within the Courtroom
7. Pre-trial
8. Project: Writing an Opening Statement
9. Trial
10. Project: Death Penalty Appellate Process
11. The Appellate Process
12. Quiz: The Legal Process
13. Project: Special Project*
14. Test
15. Course Project Part 2: Trial*
16. Glossary and Credits

LEGAL SERVICES

UNIT 3: CONTEMPORARY LAW TOPICS

Assignment Titles

1. Freedoms in the Bill of Rights
2. Precedent; Judicial Activism; Evolution of Law
3. Project: Investigating Judicial Interpretation
4. Federal Statutes; 42USC1983 and 42USC1985
5. Project: Considering Federal Civil Rights Protections
6. Quiz: Civil Rights
7. Technology and Issues in Law
8. Project: Analyzing Copyright Protection
9. Technology for the Attorney
10. Project: Researching Case Law
11. Technology's Impact on Discovery
12. Quiz: The Law and Technology
13. Project: Special Project*
14. Test
15. Course Project Part 3: Technology*
16. Glossary and Credits

LEGAL SERVICES

UNIT 4: EVIDENCE AND FORENSICS

Assignment Titles

1. Types of Evidence
2. Project: Researching DNA Evidence
3. Scientific Evidence
4. Evidence Rules and Chain of Custody
5. Project: Examining Evidence
6. Quiz: Documentary and Forensic Evidence
7. Depositions
8. Project: Diagramming a Deposition
9. Hearsay and Rules of Evidence
10. Admissions and Confessions
11. Project: Admitting Guilt
12. Quiz: Testimonial Evidence
13. Project: Special Project*
14. Test
15. Course Project Part 4: Depositions*
16. Glossary and Credits

LEGAL SERVICES

UNIT 5: POST-SECONDARY LEGAL EDUCATION AND CAREERS IN THE LEGAL FIELD

Assignment Titles

1. The Juris Doctor Degree
2. Project: Practicing the LSAT
3. Other Legal Educational Paths
4. Beyond the J.D.
5. Project: Comparing Jobs
6. Quiz: Post-secondary Legal Education
7. Careers as an Attorney
8. Project: Researching Legal Practice Areas
9. Careers as a Legal Paraprofessional
10. Career Advancement in the Legal Field
11. Project: Planning a Career in Law
12. Quiz: Careers in the Legal Field
13. Project: Special Project*
14. Test
15. Course Project Part 5: Paralegals*
16. Glossary and Credits

LEGAL SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Representing a Criminal Client*
2. Review
3. Exam

(*) Indicates alternate assignment

Security and Protective Services

Course Overview

Security is critical for the safety and stability of life in the United States and many other nations. The security and protective services industry includes companies and professionals that provide the strategic, managerial, and legal knowledge and skills that are necessary to protect property and people.

The purpose of this course is to provide an overview of the security and protective services industry. Students will understand different types of security services and how they relate to one another. They will also understand the distinction between the criminal justice system within the public sector and private security. The course begins with an introduction to the history of private security, with subsequent units focusing on a specific sector. The concluding unit focuses on the emerging challenges facing security services in the twenty-first century, including international terrorism. In addition, the course will provide information about many different careers that are available to students who are interested in security and protective services.

Objectives

- Understand the security services industry and the regulations, methodologies, and practices that are applied as well as the technologies that are available.
- Recognize the different laws and regulations affecting the security field.
- Understand the policies that are used to maintain safe and productive work environments, and the importance of technology as part of the overall process of security.
- Construct ideas for overcoming challenges and issues related to security services, and identify the different career paths related to the security and protective services industry.
- Analyze the process of utilizing intelligence in crime prevention and security and the evolution of the security enterprise in the United States and worldwide.
- Apply analytical methods to gather intelligence and information for sustainable security practices
- Develop communication and critical thinking skills required for addressing complex security problems that have multiple perspectives and multiple vested interests.

For topics in this course, it is helpful to students to be familiar with general concepts about security services as well as the basics of conducting research on websites.

If students are not familiar with these topics, it is important for them to familiarize themselves with online resources for security and protective service concepts by visiting such sites as asisonline.org or securitymanagement.com. These websites will provide an introduction to important issues in the field of security and protective services.

SECURITY AND PROTECTIVE SERVICES

UNIT 1: PRIVATE SECURITY: HISTORY, CAREER PATHS, AND REGULATIONS

Assignment Titles

1. Course Overview
2. History of Private Security
3. Career Paths in Private Security
4. Project: Careers Slide Show
5. State Regulations Overview
6. Project: Security Video
7. Quiz: History and Career Paths
8. Constitutional Law and Private Security
9. State Regulation and the Private Security Field
10. Project: Diagram the Process of a Landmark Court Case
11. Legal Responsibilities in the Private Security Field
12. Project: Design a Private Security Services Video Game
13. Quiz: Constitutional and Legal Aspects of Private Security
14. Project: Special Project*
15. Test
16. Course Project Part 1: Building Security and Emergency Evacuation Plan*
17. Glossary and Credits

SECURITY AND PROTECTIVE SERVICES

UNIT 2: PHYSICAL SECURITY SERVICES

Assignment Titles

1. Daily Security Activities and Patrol Duties
2. Project: Crisis Intervention Skills
3. Personal Security Operations
4. Loss Prevention
5. Project: Cybercrime
6. Quiz: Security Services and Loss Prevention
7. Roles and Responsibilities of Private Investigators
8. Tools and Techniques for Private Investigations
9. Project: Skip Trace Investigator Report
10. Corporate Espionage
11. Project: Preventing Corporate Espionage
12. Quiz: Private Investigation and Corporate Espionage
13. Project: Special Project*
14. Test
15. Course Project Part 2: IT Security Plan*
16. Glossary and Credits

SECURITY AND PROTECTIVE SERVICES

UNIT 3: INTERACTIONS WITH THE PUBLC AND COMMUNICATIONS

Assignment Titles

1. Understanding the Fundamentals of Communications
2. Project: Interviewing Skills
3. Gathering Information for Reports
4. Report Writing
5. Project: DAR and Summary Report
6. Quiz: Interpersonal Communication and Report Writing
7. Conducting the Interview
8. Interviewing Techniques
9. Project: Take a Witness Statement
10. Conducting Interrogations
11. Project: Profiling a Great Interrogator
12. Quiz: Interviews and Interrogations
13. Project: Special Project*
14. Test
15. Course Project Part 3: Integrating the Security Systems for a Comprehensive Approach*
16. Glossary and Credits

SECURITY AND PROTECTIVE SERVICES

UNIT 4: SECURITY OPERATIONS

Assignment Titles

1. Good Management and Leadership Practices
2. Project: Management Case Study
3. Conducting Risk Analysis
4. Project: Produce a Risk Analysis
5. Risk Management
6. Quiz: Security Management
7. Security Operations
8. Basic First-Aid Practices
9. Project: CPR
10. Conducting Evacuations and Responding to Threats
11. Project: Physical Security Plan
12. Quiz: Incident Response
13. Project: Special Project*
14. Test
15. Course Project Part 4: Testing Parts of the Proposed Plan*
16. Glossary and Credits

SECURITY AND PROTECTIVE SERVICES

UNIT 5: SECURITY IN THE 21ST CENTURY

Assignment Titles

1. Identifying Terrorist Organizations
2. Preventing and Responding to Acts of Terrorism
3. Project: Write an Evacuation Plan
4. Responding to Weapons of Mass Destruction
5. Project: Responding to a WMD
6. Quiz: Combating Terrorism
7. Understanding IT Security
8. Understanding Technological Warfare
9. Project: Major Security Breach Case Study
10. How Technology Supplements Private Security
11. Project: Design a Surveillance System
12. Quiz: Technology and the Private Security Field
13. Project: Special Project*
14. Test
15. Course Project Part 5: Identifying Resources*
16. Glossary and Credits

SECURITY AND PROTECTIVE SERVICES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Finalize Your Proposal*
2. Review
3. Exam

(*) Indicates alternate assignment

MANUFACTURING

Introduction to Careers in Manufacturing

Course Overview

The Introduction to Careers in Manufacturing course provides the fundamentals of manufacturing in the United States and explores the jobs and career opportunities that manufacturing offers.

Unit 1 provides an overall view of manufacturing in the United States, including how it evolved, how manufacturers are organized, and the impact of manufacturing on our society and economy.

Unit 2 examines the elements of process design, management, and improvement through quality assurance plans, production and quality control, and performance measurement systems.

Unit 3 focuses on jobs and careers in manufacturing, including the need for skilled workers, the outlook for manufacturing in the U.S., and the competencies that manufacturers value and develop in their workers.

Unit 4 focuses on key elements in manufacturing systems and types of manufacturing processes. It also covers research and development, product design, process design and management, and lean manufacturing.

Unit 5 addresses two areas of concern for manufacturers: compliance and safety. It introduces the regulatory and safety environments in which manufacturers work and the steps they take to comply with regulations, as well as the steps some manufacturers take to go beyond compliance to create a high-performing workplace.

Objectives

- Evaluate the impact of manufacturing, including the Industrial Revolution and Second Industrial Revolution, on the U.S. society and economy.
- Describe the value of manufacturing to and its impact on American society and economy.
- Analyze possible careers available in manufacturing and its subsectors and in manufacturing operations.
- Interpret the trends in manufacturing technologies and how they will change the industry and our lives.
- List the benefits of standards in manufacturing processes and products.
- Identify the goals of quality assurance, including process redesign, management, and improvement.
- Estimate the diversity of and potential for growth in manufacturing career opportunities, including the need for skilled workers.
- Describe the personal effectiveness, academic, and workplace competencies, and evaluate their value to manufacturers.
- Summarize the manufacturing research and development process and the types of jobs needed to perform it.
- Characterize the role of product design in manufacturing, and list the steps in a typical product design process.
- Describe how manufacturers design, manage, and improve their processes.
- Compare the types of production systems and processes.
- Define manufacturing process, and identify the types of jobs such processes offer.
- Describe the benefits, key principles, and elements of lean manufacturing.
- Examine the purpose of regulations for manufacturers.
- List the main compliance areas for manufacturing.
- Evaluate the impact of regulations on manufacturing, on public health and safety, and on environmental protection.
- Summarize the most common safety hazards in manufacturing.
- Describe the key components of an effective workplace safety program.
- Characterize the attributes of a high-performing workplace.

Students will need access to the Internet to conduct research for the lesson assignments. They will also need a paper or electronic notebook to record their "Reflections" or "Notebook" responses from the lessons and their assignments.

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 1: SCOPE AND ECONOMIC EFFECT OF MANUFACTURING IN THE USA AND BEYOND

Assignment Titles

1. Course Overview
2. The Evolution of Manufacturing
3. How Manufacturers Are Organized
4. Project: Learning About Your Interests
5. The Impact of Manufacturing
6. Project: Emerging Technologies
7. Quiz 1: Manufacturing's Impact on the Economy
8. Manufacturing Industries
9. Project: Learning More about a Manufacturing Subsection
10. Manufacturing Technologies
11. Project: The Impact of a New Technology
12. Manufacturing Operations
13. Quiz 2: The Structure of Manufacturing
14. Project: Special Project*
15. Test
16. Course Project Part 1: Exploring a Career in Manufacturing*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 2: PROCESS IMPROVEMENT IN MANUFACTURING

Assignment Titles

1. Quality Assurance
2. Manufacturing Process Improvement
3. Project: Use PDSA to Problem Solve
4. Manufacturing Process Redesign
5. Project: Redesign a Process
6. Quiz 1: Process Management and Improvement
7. Production Planning and Inventory Control
8. Production Control and Quality Control
9. Project: Interpret Variation in a Process
10. Measuring Performance
11. Project: Compare Balanced Scorecards
12. Quiz 2: Production Quality, Planning, and Control
13. Project: Special Project*
14. Test
15. Course Project Part 2: Explore Jobs and Careers*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 3: CAREERS IN MANUFACTURING

Assignment Titles

1. Careers in Manufacturing
2. Project: Find Job Openings at a Manufacturer
3. The Outlook for Manufacturing Jobs
4. Education for Careers in Manufacturing
5. Project: Evaluate Your Readiness for Manufacturing Jobs
6. Quiz 1: Jobs and Careers in Manufacturing
7. Personal Effectiveness Competencies for Manufacturing
8. Academic Competencies for Manufacturing
9. Project: Improve Your Academic Competencies
10. Workplace Competencies for Manufacturing
11. Project: Explain a Business Fundamental
12. Quiz 2: Competencies for Manufacturing
13. Project: Special Project*
14. Test
15. Course Project Part 3: Prepare a Learning Plan*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 4: ADVANCED MANUFACTURING PROCESSES

Assignment Titles

1. Manufacturing Research and Development
2. Project: Research and Development: Is It for You?
3. Product Design
4. Process Design and Management
5. Project: Developing an Understanding of Continuous Improvement
6. Quiz 1: Product and Process Design
7. Manufacturing Systems
8. Project: The Baldrige Award
9. Manufacturing Processes
10. Lean Manufacturing
11. Project: A Case Study: Toyota's Lean Manufacturing Process
12. Quiz 2: Manufacturing Systems and Processes
13. Project: Special Project*
14. Test
15 Course Project Part 4: Think Process*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 5: SAFETY AND REGULATIONS IN MANUFACTURING

Assignment Titles

1. Manufacturing Regulations and Standards
2. Compliance for Manufacturers
3. Project: Research Manufacturing Compliance Jobs
4. The Impact of Regulations on Manufacturing
5. Project: Argue a Regulatory Issue
6. Quiz 1: Manufacturing Regulations and Compliance
7. Manufacturing Workplace Hazards
8. Manufacturing Workplace Safety Programs
9. Project: Study OSHA Violations
10. Developing a High-Performing Workplace
11. Project: Evaluate a Best U.S. Company
12. Quiz 2: Safety in a High-Performing Workplace
13. Project: Special Project*
14. Test
15. Course Project Part 5: Determine Potential Hazards*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MANUFACTURING

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Look to the Future*
2. Review
3. Exam

(*) Indicates alternate assignment

Careers in Manufacturing Processes

Course Overview

Careers in Manufacturing Production Process Development concerns the manufacturing process, from the conception of a new product through the prototype stage to fabrication, assembly, testing, and customer satisfaction. Manufacturing is the beating heart of American enterprise. Indeed, it is the heart of the economy of any advanced industrialized nation. This course examines every aspect of the manufacturing process from strategy and management to factory-floor tactics.

Objectives

- Analyze means for achieving excellence in a manufacturing company.
- Develop skills to draw up a manufacturing plan and schedule.
- Chart the manufacturing skills needed to research and create products that address the needs of current and future customers.
- Apply market research, analytical skills, and financial understanding to the concepts of entrepreneurial endeavors in manufacturing.
- Analyze engineering, quality, and manufacturing responsibilities needed to build an excellent process and team approach.
- Recognize the need for accurate records and for making decisions based on data and facts.
- Analyze data, records, and budgets to determine optimal business and management strategies for the company.
- Develop interpersonal, communication, and critical thinking skills to work in teams and to use the skills of all team members.
- Chart the job and skill types that create manufacturing processes from conception to postpurchase.
- Instruct others on the basics of maintaining safe working environments.
- Analyze the cultures of high-performing companies, and differentiate among various kinds of continuous improvement and lean manufacturing strategies.
- Analyze fabrication, assembly, inspection, and testing as they combine in a value stream to produce a quality product meeting or even exceed customer expectations.
- Analyze the function and requirements of product service in the field and warranty work on products and how these two activities affect budgets and manpower.

CAREERS IN MANUFACTURING PROCESSES

UNIT 1: INTRODUCTION TO MANUFACTURING AND CORPORATE CULTURE

Assignment Titles

1. Course Overview
2. Introduction to Manufacturing and Corporate Culture
3. The Economic Impact of Manufacturing
4. Project: Learning about a Manufacturing Company
5. The Manufacturing Career
6. Project: Looking at Work, Looking for Work
7. Quiz 1: The Role of Manufacturing
8. Customers' Values and Needs
9. Project: My Product to Improve the World
10. Market Research and Core Competencies
11. Project: Preparing to Work with Your Dream Company
12. Moving Forward into Preproduction
13. Quiz 2: Customers and Manufacturing
14. Project: Special Project*
15. Test
16. Course Project Part 1: Introduction of Your Product or the Improvement to a Product*
17. Glossary and Credits

CAREERS IN MANUFACTURING PROCESSES

UNIT 2: PRODUCT DEVELOPMENT PHASE

Assignment Titles

1. The Product Development Process
2. Organizing a Product Development Team
3. Project: Picking a Manufacturing Career
4. The Evaluation of Alternative Designs Using 3P
5. Project: What Do Others Think of an Idea?
6. Quiz 1: Developing a Product
7. Building and Testing Prototypes
8. Prototype Flow from Procurement to Testing
9. Project: Prototype Project Manager for an Industrial Dishwasher
10. Release to Production
11. Project: Project Assessment for Overseeing Testing of a Bicycle Trailer
12. Quiz 2: Prototypes and Preproduction Testing
13. Project: Special Project*
14. Test
15. Course Project Part 2: Prototype Phase*
16. Glossary and Credits

CAREERS IN MANUFACTURING PROCESSES

UNIT 3: PRODUCTION I

Assignment Titles

1. Production Planning
2. Bill of Materials and Cost Collection
3. Project: Bill of Materials and Cost Collection for a Fundraiser
4. Lean Manufacturing
5. Project: A System of Profound Knowledge
6. Quiz 1: Planning Production
7. Production Procurement
8. Project: Creating Documentation
9. Scheduling Material
10. Identifying Critical Parts and Materials
11. Project: Researching Supply Chain Risk
12. Quiz 2: Procurement
13. Project: Special Project*
14. Test
15. Course Project Part 3: Staffing*
16. Glossary and Credits

CAREERS IN MANUFACTURING PROCESSES

UNIT 4: PRODUCTION II

Assignment Titles

1. Core Competencies and Production
2. Project: Investigate the Flexible Manufacturing System (FMS)
3. Manufacturing Processes, Safety, and Jobs
4. Core Competencies and Production
5. Project: Working with TIM WOOD
6. Quiz 1: The Manufacturing Process
7. Assembly and Testing
8. Quality and Safety
9. Project: Ways OSHA Promotes Worker Safety
10. Continuous Improvement
11. Project: Baldrige Award Winners and How They Won
12. Quiz 2: Assembling and Testing Products
13. Project: Special Project*
14. Test
15 Course Project Part 4: Production Phase*
16. Glossary and Credits

CAREERS IN MANUFACTURING PROCESSES

UNIT 5: CUSTOMER SERVICE: BEFORE DELIVERY TO AFTER DELIVERY

Assignment Titles

1. Customer Acceptance
2. Project: Career Choices
3. The Packing Process
4. Project: Dunnage
5. Shipping
6. Quiz 1: Delivering the Product
7. Field Service
8. Project: Creating a Field Service Department
9. Warranty Service
10. Customer Satisfaction and Delight
11. Project: Customer Delight at a Car Accessories Store
12. Quiz 2: After Delivery
13. Project: Special Project*
14. Test
15 Course Project Part 5: Delivery*
16. Glossary and Credits

CAREERS IN MANUFACTURING PROCESSES

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Corporate Responsibility*
2. Review
3. Exam

(*) Indicates alternate assignment

MARKETING

Introduction to Careers in Marketing

Course Overview

The Introduction to Marketing course will provide students with an overview of marketing, which is an essential element for any company that produces products that are bought and used by individuals.

Students will learn about what marketing is and how the process of marketing works, the role of market research and how companies incorporate ethics into their marketing strategies.

They will also learn about the importance of strategic planning for marketers, the five step marketing strategic process, and strategies for growth.

Students will learn about the environment in which marketers operate. This includes the microenvironment, which refers to entities and influences close to the company or marketer, and the macroenvironment, which refers to influences that impact all of society, such as culture, social trends, and technology.

They will also learn about the Four P's of the marketing mix: product, price, promotion, and place. Students will evaluate the importance of each of these four elements and learn specifically about how technology has changed the approach to the marketing mix. They will also learn about international markets and how to approach marketing at a global level.

After completing this course, students will have a fundamental understanding of the principles of marketing. They will be able to explain the marketing process, marketing strategic planning, the marketing environment, and the trends, opportunities, and challenges in the marketing world today.

After completing this course, students will be able to:

Objectives

- Understand what marketing is and its role both within the company and society.
- Undesrtand how marketing achieves its primary objective of adding value.
- Learn the marketing process and how it impacts marketing strategic planning.
- Understand the various components of the marketing environment.
- Analyze the elements of the marketing mix (the Four P's) and determine how each element contributes to the marketing effort.
- Become aware of the impact technology has had on marketing.
- Recognize the need for ethical practices and know the types and consequences of unethical behavior.

INTRODUCTION TO CAREERS IN MARKETING

UNIT 1: OVERVIEW OF MARKETING

Assignment Titles

1. Course Overview
2. Marketing
3. Project: Is There Truth in Advertising?
4. The Marketing Process
5. Marketing Research
6. Project: Identifying a Market
7. Quiz 1: Marketing
8. Ethics
9. Ethical Issues
10. Project: Protecting Consumers from Harmful Products
11. Sustainability
12. Project: Sustainability Initiative
13. Quiz 2: Ethics and Sustainability
14. Project: Special Project*
15. Test
16. Course Project Part 1: Creating a Marketing Plan*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN MARKETING

UNIT 2: MARKETING STRATEGIC PLANNING

Assignment Titles

1. Defining the Business Mission
2. Project: Creating a Mission Statement
3. Conducting a Situational Analysis
4. Project: Analyzing a Company Using SWOT
5. Segmentation
6. Quiz 1: Strategic Planning (Part 1)
7. Targeting and Positioning
8. Project: Paying Attention to Marketing Messages
9. Implementation and Marketing Mix
10. Evaluating Performance
11. Project: Measuring Web Performance
12. Quiz 2: Strategic Planning (Part 2)
13. Project: Special Project*
14. Test
15. Course Project Part 2: Segmenting the Market*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MARKETING

UNIT 3: THE MARKETING ENVIRONMENT AND CONSUMER BEHAVIOR

Assignment Titles

1. The Microenvironment
2. Project: Conducting a Competitive Analysis
3. The Macroenvironment (Part 1)
4. The Macroenvironment (Part 2)
5. Project: Economic Analysis
6. Quiz 1: The Marketing Environment
7. The Consumer Decision-making Process
8. Project: Making a Purchase Decision
9. Psychological Factors
10. Social and Situational Factors
11. Project: Learning about Influences on Consumers
12. Quiz 2: Consumer Behavior
13. Project: Special Project*
14. Test
15. Course Project Part 3: Consumer Behavior*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MARKETING

UNIT 4: THE MARKETING MIX

Assignment Titles

1. The Marketing Mix: Products
2. Project: Developing a New Product
3. The Marketing Mix: Services
4. The Marketing Mix: Price
5. Project: Analyzing Price-fixing Cases
6. Quiz 1: The Marketing Mix (Part 1)
7. The Marketing Mix: Distribution
8. Project: Learning About Logistics
9. The Marketing Mix: Promotion (Part 1)
10. The Marketing Mix: Promotion (Part 2)
11. Project: Using Promotional Tools
12. Quiz 2: The Marketing Mix (Part 2)
13. Project: Special Project*
14. Test
15 Course Project Part 4: Promotional Strategy*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MARKETING

UNIT 5: MARKETING TODAY

Assignment Titles

1. Technology: Products
2. Project: The Evolution of a Technology-based Product
3. Technology: Price and Distribution
4. Technology: Promotion
5. Project: Impact of Technology on Marketers
6. Quiz 1: Technology
7. Global Marketing Evaluations
8. Global Marketing Entry Strategies
9. Project: Expanding Globally
10. Career Opportunities in Marketing
11. Project: Finding a Job
12. Quiz 2: Global Marketing
13. Project: Special Project*
14. Test
15 Course Project Part 5: Global Market Entry*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN MARKETING

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: The Completed Marketing Plan*
2. Review
3. Exam

(*) Indicates alternate assignment

Careers in Marketing Research

Course Overview

Marketing research is the foundation of all marketing activities because it provides the data needed to make key strategic decisions about products, promotions, pricing, and other key organizational decisions. This course will provide information about the process of investigation and problem analysis by using research to produce key marketing statistics that are communicated to management and used throughout the organization. This course concludes with the execution, interpretation, and presentation of marketing research.

Objectives

- Plan, organize, and manage day-to-day marketing research activities.
- Design and conduct research activities to facilitate marketing business decisions.
- Use information systems and tools to make marketing research decisions.
- Describe the impact of economics, economics systems and entrepreneurship on marketing.
- Implement marketing research to obtain and evaluate information for the creation of a marketing plan.
- Plan, monitor, manage, and maintain the use of financial resources for marketing activities.
- Plan, monitor, and manage the day-to-day activities required for continued marketing business operations.
- Describe career opportunities and the means to achieve those opportunities in each of the Marketing Career Pathways.
- Select, monitor, and manage sales and distribution channels.
- Determine and adjust prices to maximize return while maintaining customer perception of value.
- Obtain, develop, maintain, and improve a product or service mix in response to market opportunities.
- Communicate information about products, services, images, and/or ideas to achieve a desired outcome.
- Use marketing strategies and processes to determine and meet client needs and wants.

CAREERS IN MARKETING RESEARCH

UNIT 1: THE WORLD OF MARKETING RESEARCH

Assignment Titles

1. Course Overview
2. Introduction to Market Research
3. Project: Discovering Business Problems
4. Market Research and the Organization
5. Project: Pets and People's Attitudes Toward Them
6. Trends in Marketing Research
7. Quiz 1: Overview of Marketing Research
8. Functions of Marketing Research
9. Project: Utilizing the Functions of Marketing Research
10. Marketing Research for Decision-making
11. Project: Making Decisions Using Marketing Research
12. Types of Marketing Research
13. Quiz 2: Marketing Research and Decision-making
14. Project: Special Project*
15. Test
16. Course Project Part 1: Elements of Marketing Research*
17. Glossary and Credits

CAREERS IN MARKETING RESEARCH

UNIT 2: THE MARKETING RESEARCH INDUSTRY AND ETHICS

Assignment Titles

1. Overview of the Marketing Research Industry
2. Project: Making Decisions Using Marketing Research
3. Key Firms in the Industry
4. The Marketing Research Industry Structure
5. Project: Understanding and Utilizing the Marketing Research Industry Structure
6. Quiz 1: The Marketing Research Industry
7. Marketing Research Ethics
8. Project: Examining a Code of Marketing Research Standards
9. Ensuring Ethical Standards in Each Phase of Research
10. Project: Ethical Case Studies
11. Participants' Rights and Responsibilities
12. Quiz 2: Research Ethics
13. Project: Special Project*
14. Test
15. Course Project Part 2: Careers and Ethical Situations in Marketing Research*
16. Glossary and Credits

CAREERS IN MARKETING RESEARCH

UNIT 3: TYPES OF MARKETING RESEARCH

Assignment Titles

1. Overview of Traditional Research Methods
2. Using Surveys and Types of Surveys
3. Project: Creating a Survey
4. Secondary Data and its Role in Marketing Research
5. Project: Utilizing Secondary Data
6. Quiz 1: Traditional Survey Research and Secondary Data
7. Technology and Marketing Research
8. Project: Utilizing Technology in Marketing Research
9. Reaching Participants Online
10. Determining if Online Marketing Research is the Right Choice
11. Project: Determining if Online Marketing Research is the Best Choice
12. Quiz 2: Online Marketing Research
13. Project: Special Project*
14. Test
15. Course Project Part 3: Marketing Research Study Design*
16. Glossary and Credits

CAREERS IN MARKETING RESEARCH

UNIT 4: MARKET RESEARCH BASICS

Assignment Titles

1. Overview of Measurement and Labeling of Information
2. Project: Measurement in Marketing Research
3. Data Types and Marketing Research
4. Project: Examples of Nominal, Ordinal, Interval, and Ratio Scales
5. Data Examples and Their Uses
6. Quiz 1: Concepts of Measurement
7. Raw Data into Useful Information
8. The Five Steps in the Data Processing/Analysis Phase
9. Project: Careers in Data Processing and Analysis
10. Tabulating the Data
11. Project: Examples of One-Way Tabulation and Cross-Tabulation
12. Quiz 2: Data Processing
13. Project: Special Project*
14. Test
15 Course Project Part 4: Data Processing and Analysis*
16. Glossary and Credits

CAREERS IN MARKETING RESEARCH

UNIT 5: PUTTING IT ALL TOGETHER

Assignment Titles

1. Communicating the Research Results
2. Project: Marketing Research Report
3. Decisions Based on the Findings
4. Project: Examples of Conclusions and Recommendations/Decisions
5. Implementing the Decisions
6. Quiz 1: Communicating the Research Results
7. Managing Marketing Research for the Long Term
8. Project: Changes that Require New or Updated Decisions
9. Evaluating Decisions and Updating Information through Marketing Research
10. Continued Uses for Data
11. Project: Continued Uses of Data
12. Quiz 2: Managing Marketing Research
13. Project: Special Project*
14. Test
15 Course Project Part 5: Making a Marketing Research Presentation*
16. Glossary and Credits

CAREERS IN MARKETING RESEARCH

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Marketing Research: A Comprehensive Overview *
2. Review
3. Exam

(*) Indicates alternate assignment

STEM (SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS)

Introduction to STEM

Course Overview

This semester-length high school elective introduces students to the four areas of Science, Technology, Engineering, and Mathematics through an interdisciplinary approach that will increase awareness, build knowledge, develop problem solving skills, and potentially awaken an interest in pursuing a career in STEM. Students will be introduced to the history, fundamental principles, applications, processes, and concepts of STEM. Students will explore some of the great discoveries and innovations in STEM and review and analyze some of the world's problems that still exist today.

Students are introduced to several computer applications used to analyze and present technical or scientific information. They will also gain a higher understanding of the uses for images and measurement in everyday life. Finally, students will be challenged to use a selection of problem- solving strategies to solve a wide variety of unique problems representative of the kinds of strategies frequently used in these disciplines. Throughout the course, students will have the opportunity to gain a better awareness of their specific strengths through practical applications and awareness of the various careers in STEM.

Objectives

- Understand the STEM field along with the concepts, theories, practical applications, and STEM careers.
- Compare and contrast the different fields in STEM education, and examine the impact STEM education has on the world by reviewing some of the great STEM innovations and inventions.
- Describe the roles, duties, educational requirements, salaries, and outlook for different STEM careers.
- Formulate solutions to various world problems by conducting scientific experiments, collecting and analyzing the results of various experiments, and applying technology.

For topics in this lesson, students should have a basic knowledge of the STEM field: Science, Technology, Engineering, and Mathematics, and its importance in the world. They should also understand that people in the STEM field are dedicated to resolving and improving societal, economic, and environmental problems.

INTRODUCTION TO STEM

UNIT 1: ON WHOSE SHOULDERS ARE WE STANDING?

Assignment Titles

1. Course Overview
2. What is STEM Education?
3. The Great Discoverers and Discoveries
4. Project: Timeline of Great Discoverers and Discoveries in the STEM Field
5. Identify Careers in Science, Technology, Engineering, and Mathematics
6. Project: Exploring Careers in the STEM Field
7. Quiz 1: Introduction
8. Get Organized: Outlines and Outliners!
9. Project: Create a Google Website
10. Get Organized: Mind Maps and Mind Mapping!
11. Education and Training in STEM
12. Project: Mind Map of Personal STEM Education and Career Plan
13. Quiz 2: What Lies Ahead?
14. Project: Special Project*
15. Test
16. Course Project Part 1: Information on STEM, STEM Careers, and Education*
17. Glossary and Credits

INTRODUCTION TO STEM

UNIT 2: A PICTURE IS WORTH A THOUSAND WORDS

Assignment Titles

1. A Picture is Worth a Thousand Words
2. Project: Math is Everywhere
3. Seeing is Believing?
4. Project: STEM Campaign!
5. Images Saving Lives!
6. Quiz 1: Images, Images, Everywhere
7. Satellite Imagery: Space and Beyond
8. Project: NASA Internship Application Paper
9. Satellite Imagery: Observing Earth
10. Project: Saving the Planet
11. Satellite Imagery: The Eyes of the Military
12. Quiz 2: Fun with Images
13. Project: Special Project*
14. Test
15. Course Project Part 2: Create an Original Drawing, Avatar, or Animation*
16. Glossary and Credits

INTRODUCTION TO STEM

UNIT 3: HOW MUCH IS ENOUGH?

Assignment Titles

1. Terms of Measurement
2. Project: Room Makeover
3. Measuring the Really Big
4. Project: Metric Recipe
5. How Big are These?
6. Quiz 1: How BIG are Things?
7. Term Review
8. Project: Measuring Tall Structures
9. Small Things Need Measurement, Too
10. Project: Air Quality Index
11. Thinking about Measuring
12. Quiz 2: How Small are Things?
13. Project: Special Project*
14. Test
15. Course Project Part 3: Create a Walking/Running/Cycling Path*
16. Glossary and Credits

INTRODUCTION TO STEM

UNIT 4: HOW TO BE A DETECTIVE

Assignment Titles

1. The Scientific Method
2. Project: Scientific Method and STEM Career Exploration
3. Scientific Theory
4. Project: Scientific Laws and STEM Careers
5. Scientific Laws
6. Quiz 1: How Might I Solve a Problem?
7. Critical Thinking
8. Thinking Like a Detective
9. Project: Uncovering the World's Mysteries
10. Thinking Outside the Box
11. Project: Fibonacci Sequence
12. Quiz 2: What if I Fail?
13. Project: Special Project*
14. Test
15. Course Project Part 4: Create an Optical Illusion Drawing*
16. Glossary and Credits

INTRODUCTION TO STEM

UNIT 5: STEM IS EVERYWHERE

Assignment Titles

1. STEM and Politics
2. Project: Develop and Conduct a Survey
3. STEM and Sports
4. Project: Running with Proper Biomechanics
5. STEM and Art
6. Quiz 1: STEM and Politics, Sports, and Art
7. STEM and Music
8. Project: Music Editing
9. STEM and Fashion
10. STEM and Law Enforcement
11. Project: Forensic Footprinting
12. Quiz 2: STEM and Music, Fashion, and Law Enforcement
13. Project: Special Project*
14. Test
15. Course Project Part 5: Create Eco-Friendly Fashion*
16. Glossary and Credits

INTRODUCTION TO STEM

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Create a Google STEM Educational Website*
2. Review
3. Exam

(*) Indicates alternate assignment

Engineering and Design

Course Overview

Engineering and Design is part of the STEM (Science, Technology, Engineering, and Mathematics) education and career path. By building real-world problem-solving and critical thinking skills, students learn how to innovate and design new products and improve existing products. Students are introduced to the engineering design process to build new products and to the reverse engineering process, which enables engineers to adjust any existing product.

Students will also address how fluid power is used by engineers to make difficult maneuvers easier, increasing efficiency and minimizing effects on the environment. Students then identify how engineering and design have a direct impact on the sustainability of our environment and the greening of our economy. Finally, students incorporate the engineering design process, environmental life cycle, and green engineering principles to create a decision matrix to learn how to solve environmental issues.

Objectives

- Understand the basic STEM requirements of engineers and the skills required for the occupation.
- Define and understand how forces are transmitted with fluid systems to build efficiency and increase sustainability. With this knowledge, students can solve a problem with a new design solution using fluid power.
- Utilize sketching skills and techniques to produce detailed sketches of components in the design of a real-world object to scale. This allows students to determine the feasibility of a product or design.
- Use the engineering design process and reverse engineering techniques and apply them to a design. They will be able to create and use decision matrices to make design decisions based on logic and analysis. Students will be able to identify and research environmental issues and challenges with respect to energy and air quality.
- Identify and analyze the environmental life cycle of a product or process to solve sustainability challenges for social and industrial environmental issues.

It is helpful if students are familiar with renewable and nonrenewable resources.

Many of the principles discussed in this course can be better addressed through the use of broken machines, toys, and electronics. Collection of these materials prior to the course will greatly help the student in the course.

ENGINEERING AND DESIGN

UNIT 1: INTRODUCTION TO ENGINEERING AND DESIGN AND THE DESIGN PROCESS

Assignment Titles

1. Course Overview
2. Design Opportunities All Around Us
3. Design Improvements
4. Project: Creating a Product Discussion Forum
5. Improvements of Everyday Items
6. Project: Model or Prototype Suggestion Presentation
7 Quiz 1: Introduction to Design Opportunities
8. Basic Engineering Concepts
9. Choosing Materials for Design
10. Project: Researching Materials Designs
11. Application of Materials
12. Project: Designing a Destructive Test
13. Quiz 2: Fundamentals of Engineering
14. Project: Special Project*
15. Test
16. Course Project Part 1: Identifying the Product or Process*
17. Glossary and Credits

ENGINEERING AND DESIGN

UNIT 2: FLUID SYSTEMS: ENERGY AND POWER TECHNOLOGIES IN ENGINEERING

Assignment Titles

1. Fluid Power Systems
2. Fluid Power Devices
3. Project: Researching a Fluid Power System Goal
4. Designing Fluid Power Systems for Future Developments
5. Project: Creating a Fluid Power System for the Future
6. Quiz 1: Introduction to Fluid Power
7. Common Applications for Fluid Power Systems
8. Project: Identifying Fluid Power in Daily Life
9. Efficient Fluid Power Designs
10. Designing a Fluid Power Lifting System
11. Project: Designing a Fluid Power Lift System
12. Quiz 2: Fluid Power Applications and Capabilities
13. Project: Special Project*
14. Test
15. Course Project Part 2: Incorporating a Fluid Power System*
16. Glossary and Credits

ENGINEERING AND DESIGN

UNIT 3: MODELING AND SKETCHING

Assignment Titles

1. Introduction to Technical Sketching and Drawing
2. Project: Interview an Engineer About Sketching
3. Geometric Shapes and Solids in Engineering
4. Drawing to Scale
5. Project: Creating a Technical Sketch of an Everyday Object to Scale
6. Quiz 1: Introduction to Design and Technical Sketches
7. The Applications for Modeling in Engineering
8. Modeling and Prototypes
9. Project: Researching Model Uses in Remote or Dangerous Locations
10. Designing a Sketch Model
11. Project: Presenting a Sketch Model of a Designed Pet Toy
12. Quiz 2: Sketch Modeling
13. Project: Special Project*
14. Test
15. Course Project Part 3: Designing a Sketch Model*
16. Glossary and Credits

ENGINEERING AND DESIGN

UNIT 4: REVERSE ENGINEERING

Assignment Titles

1. Reverse Engineering: Visual Analysis
2. Reverse Engineering: Functional Analysis
3. Project: Creating a Function Structure Diagram or Product Teardown Chart
4. Reverse Engineering: Structural Analysis
5. Project: Creating a Morphological Matrix
6. Quiz 1: Introduction to Reverse Engineering
7. Finding the Product: The Reverse Engineering and Design Process Applied
8. Implementing the Procedure: Reverse Engineering a Product
9. Project: Reverse Engineering Documentation and Presentation
10. Calculating the Process: Materials, Time, and Cost for Improvement
11. Project: Researching Materials, Time, and Cost for Product Modifications
12. Quiz 2: Using Reverse Engineering for Product Improvement
13. Project: Special Project*
14. Test
15. Course Project Part 4: Calculating the Process: Materials, Time, and Cost Analyses*
16. Glossary and Credits

ENGINEERING AND DESIGN

UNIT 5: ENGINEERING TO IMPROVE SUSTAINABILITY

Assignment Titles

1. Environmental Engineering Introduction
2. Project: Researching a Local Sustainability Issue
3. Energy and Air Quality
4. Green Buildings and Green Initiatives
5. Project: LEED Ratings for Building Construction
6. Quiz 1: Introduction to Environmental Engineering
7. Environmental Assessment and Impacts
8. Project: Researching Life Cycles for Assessment
9. Green Design Principles: Systems and Environment
10. Incorporating Green Engineering Principles
11. Project: Creating a Decision Matrix for an Environmental Issue
12. Quiz 2: Environmental Life Cycle and Green Engineering Design
13. Project: Special Project*
14. Test
15. Course Project Part 5: Incorporating Green Engineering Principles*
16. Glossary and Credits

ENGINEERING AND DESIGN

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Conducting a Life Cycle Analysis*
2. Review
3. Exam

(*) Indicates alternate assignment

Engineering and Innovation

Course Overview

The Engineering and Innovation course will provide students with an understanding of the field of engineering and introduction to the concepts of invention and innovation, as well as some of the skills and tools necessary to invent and innovate. This information will provide students with the ability to invent and innovate in their field of choice.

Students will learn details about the scope and nature of the field of engineering. They will also learn about the history of invention and innovation and how those activities play a role in the advancement of human society. Students will be introduced to patents, regulations, and ethical and professional standards that apply in the fields of engineering and invention.

Students will also learn about analytical modeling and problem solving, interpreting the results of models and experiments, and understanding how bias impacts outcomes. In addition, students will learn about innovations and inventions in the fields of biomedicine and the environment and how those fields have impacted the health and well being of society. Lastly, students will learn about career choices and organizations and resources available for individuals who wish to incorporate invention and innovation into their careers and lives.

Objectives

- Understand the field of engineering as well as the concepts of invention and innovation.
- Understand the history of inventions and innovations and compare and contrast the roles of innovators, inventors, and engineers.
- Understand the changes that inventions have brought to society and how engineers and inventors collaborate with business.
- Understand how to search and apply for patents, find regulations, and research ethical and professional standards that apply in the fields of engineering and innovation.
- Understand the process of invention as problem solving, including using and interpreting models, and apply a model to a problem to solve it.
- Understand problem solving and innovation specifically in the fields of biomedicine and the environment.
- Identify career options and resources in interest areas, as well as understand how to bring a product or idea to market.

For topics in this course, it is helpful for students to be familiar with general concepts of the world of business as well as the basics of conducting research on websites.

If students are unfamiliar with these topics, it is recommended that they familiarize themselves with conducting online searches for business-related topics on the Internet by visiting sites such as Business.USA.gov or business magazine websites such as Forbes.com or BusinessWeek.com. These websites will provide an introduction to what is currently happening in the business world as well as give students an opportunity to practice navigating websites.

ENGINEERING AND INNOVATION

UNIT 1: INTRODUCTION TO ENGINEERING AND INNOVATION

Assignment Titles

1.	Course Overview	10.	Engineers as Inventors
2.	Who are Inventors and Innovators?	11.	Project: Researching an Innovator
3.	Exploring Engineering and Business	12.	Life-Altering Innovation
4.	Project: Innovating a Product	13.	Quiz 2: The History of Invention
5.	Who's the Hero: The Inventor or the Business?	14.	Project: Special Project*
6.	Project: Starting a Business	15.	Test
7	Quiz 1: Introduction	16.	Course Project Part 1: History of Related Inventions*
8.	The History of Invention		
9.	Project: Historical Inventions	17.	Glossary and Credits

ENGINEERING AND INNOVATION

UNIT 2: PATENTS AND REGULATIONS

Assignment Titles

1. Provisional and Traditional Patents
2. Types of Patents
3. Project: Comparing Patent Applications
4. Scope of Patent Protection
5. Project: Patent Search
6. Quiz 1: Patents
7. Laws and Regulations
8. Project: Apply for a Patent
9. Staying Current on New Laws
10. The Balance Between Excessive Regulation and Encouraging Innovation
11. Project: Apply for a Patent: Rules and Regulations
12. Quiz 2: Regulations and Innovations
13. Project: Special Project*
14. Test
15. Course Project Part 2: Patenting the Invention*
16. Glossary and Credits

ENGINEERING AND INNOVATION

UNIT 3: ETHICAL AND PROFESSIONAL PRACTICES

Assignment Titles

1. Ethics in Innovation
2. Project: Case Study: Ethical Innovation by a Company
3. Professional Standards
4. Project: Industry Ethics and Professional Standards
5. Familiarization with Rules and Requirements
6. Quiz 1: Ethical and Professional Innovators
7. Researching as Inventors
8. Analytical Approach to Innovation
9. Project: Practicing Analytical Skills
10. Modeling in Innovation
11. Project: Career Exploration
12. Quiz 2: Analytical Problem Solving
13. Project: Special Project*
14. Test
15. Course Project Part 3: Modeling the Invention*
16. Glossary and Credits

ENGINEERING AND INNOVATION

UNIT 4: ANALYTICAL MODELING AND OUTCOMES ASSESSMENT

Assignment Titles

1. Analytical Modeling
2. Project: Comparing Models
3. Choosing a Model and Limiting Bias
4. Interpreting Results
5. Project: Career Exploration
6. Quiz 1: Analytical Model Selection and Outcomes
7. The Green and Environmental Movements
8. Innovation in Environmental Causes
9. Project: Green Innovation
10. Interdependence: Innovation and Environment
11. Project: New Green Innovation
12. Quiz 2: Green and Environmental Issues in Innovation
13. Project: Special Project*
14. Test
15. Course Project Part 4: Solving Environmental Issues With This Invention*
16. Glossary and Credits

ENGINEERING AND INNOVATION

UNIT 5: BIOMEDICINE AND EMERGING INNOVATIONS

Assignment Titles

1. Biomedical Innovation
2. Project: Impact of Biomedical Innovation
3. Resources in Innovation for Biomedicine
4. Project: Researching the Biomedical Innovation Process
5. Advancement of Humankind from Biomedical Innovations
6. Quiz 1: Engineering and Technical Tools
7. Innovators, Inventions, and Modeling
8. Project: Your Invention
9. Careers in Innovation
10. Resources for Innovators
11. Project: Researching Innovative Groups
12. Quiz 2: Summary and Advancement
13. Project: Special project*
14. Test
15. Course Project Part 5: Identifying Resources*
16. Glossary and Credits

ENGINEERING AND INNOVATION

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Business Plan*
2. Review
3. Exam

(*) Indicates alternate assignment

Engineering and Product Development

Course Overview

Engineers address society's needs and problems by designing and producing products and services. The field is diverse and includes professionals who design skyscrapers, design machinery, oversee public works, and develop software and systems.

The purpose of this course is to provide an overview of the concepts of product engineering and development. Students will analyze the life cycle of a product to prepare a product for distribution and for target markets. The course begins with building an understanding of the product life cycle, from the initial idea to drafting requirements to using 3-D modeling tools and other design tools. The final unit focuses on assembling the pieces for a project plan for a product and evaluating the plans for a successful product launch. In addition, the course will provide information about the different careers available to students interested in engineering, product development, and project management.

Objectives

- Understand the field of engineering design and product development, as well as economic and project management concepts.
- Recognize the complex variables that need to be planned and coordinated as part of the product development life cycle. They will be able to summarize the challenges and issues facing engineers who prepare products and services for target markets and clients.
- Develop ideas for overcoming challenges and issues related to engineering and product development and identify different career paths related to engineering and project management. Students will analyze product development life cycle management and discuss the role of data and human resources.
- Identify best practices for project management in engineering and strategies for building successful projects that utilize communication and critical thinking skills required for addressing complex problems. Students will evaluate and critique multiple perspectives and multiple vested interests involved in engineering project management and product development.

For topics in this course, it is helpful for students to be familiar with general concepts about engineering, as well as the basics of accessing IT tools and resources for conducting research on Web sites.

If students are not familiar with these topics, it is important for them to familiarize themselves with online resources for engineering and product development.

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 1: INTRODUCTION TO ENGINEERING AND PRODUCT DEVELOPMENT

Assignment Titles

1. Course Overview
2. Introduction to Engineering
3. Fundamentals of Product Development
4. Project: Analyze Product Engineering
5. Identifying and Testing Product Concepts
6. Project: Product Development Process
7 Quiz 1: Engineering and Product Concepts
8. Requirements in Engineering, Design and Developing a Prototype
9. Project: Write Engineering Requirements for Your Product
10. Testing the Product
11. Deploying Products to Market
12. Project: Software Deployment Plan
13. Quiz 2: Specifications, Design and Testing Products
14. Project: Special Project*
15. Test
16. Course Project Part 1: Research Smart Grids*
17. Glossary and Credits

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 2: PROJECT CHARTER AND REQUIREMENTS (PDLC PHASES)

Assignment Titles

1. What is a Project Charter?
2. Writing Project Charters and Understanding Requirements
3. Project: Write a Project Charter
4. Analyzing Project Charters
5. Project: Write a Charter for a Recycling Project
6. Quiz 1: The Components of Project Charters
7. What Are Requirements?
8. Defining and Writing Requirements
9. Project: Competing with the Best
10. Writing Product Requirements
11. Project: Reverse Engineering
12. Quiz 2: Establishing Requirements
13. Project: Special Project*
14. Test
15. Course Project Part 2: Summarizing Case Studies of Selected Smart Grid Technology*
16. Glossary and Credits

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 3: DESIGN AND 3-D MODELING

Assignment Titles

1. Design Engineering
2. Project: Student Engineer Needed: Houseplant Watering System
3. Analyze Problems and Potential Solutions in Design Engineering
4. Analyze Design Plans
5. Project: Design a Running Shoe
6. Quiz 1: Exploring the Possibilities in Design
7. Engineering Modeling Tools
8. Practice Using Engineering Modeling Tools
9. Project: Design a Part in 3D
10. Evaluate Engineering Tools and Careers
11. Project: Evaluate 3D Modeling Tools
12. Quiz 2: Becoming Familiar with Design Tools
13. Project: Special Project*
14. Test
15. Course Project Part 3: Developing Components for the Final Project Plan*
16. Glossary and Credits

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 4: PRODUCT LAUNCH (IMPLEMENTATION)

Assignment Titles

1. The Implementation Stage
2. Analyze an Implementation Plan
3. Project: Write an Implementation Plan
4. PLM, Implementation, and Industry Concepts
5. Project: Prepare a Presentation about Engineering Contests
6. Quiz 1: Putting Implementation into Action
7. Implementation Plan and Product Launch
8. Implementation Plan and Product Life Cycle
9. Project: Timeline, Market, Budget
10. Marketing, Engineering, and Implementation
11. Project: Reverse Engineer a Marketing Plan
12. Quiz 2: Getting the Product Ready for the Market
13. Project: Special Project*
14. Test
15. Course project Part 4: Designing and Modeling the Smart Grid*
16. Glossary and Credits

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 5: REVIEW FULL PRODUCT DEVELOPMENT LIFE CYCLE

Assignment Titles

1. Reviewing the Product Development Life Cycle and Key Strategies
2. Project: Write a Project Plan
3. Assembling a Successful Project Plan
4. Planning, Structure, and Thinking Behind Project Plans
5. Project: Write Part of a Project Plan Chart
6. Quiz 1: Putting Together the Pieces of the Plan
7. Compare and Contrast Project Plans
8. Assembling Project Plans and Engineering for the Twenty-First Century
9. Project: Develop a 3-D Video Game Project Plan and Sample Game
10. How to Evaluate Project Plans
11. Project: Write a Project Brief and Evaluate It
12. Quiz 2: Perfecting Your Project Plan
13. Project: Special Project*
14. Test
15. Course Project Part 5: Implementation Plan*
16. Glossary and Credits

ENGINEERING AND PRODUCT DEVELOPMENT

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Finalize Your Proposal*
2. Review
3. Exam

(*) Indicates alternate assignment

Principles of Technology & Engineering

Course Overview

The Principles of Technology and Engineering course will introduce students to the field of engineering and the types of technology that can result from the engineering design process. Student will also gain an understanding of the career options available in this field, and the skills, education, and experience needed to obtain these careers.

Students will learn how to be successful problem solvers. They will become familiar with the steps in the invention process and will investigate the ways in which engineers take an idea from an initial concept to a working technology. They will learn about real-world examples of engineering innovations, including global civil engineering projects, cutting-edge medical technology, and environmentally friendly designs.

Students will also learn about the relationship between engineering, science, and technology. They will learn how scientific knowledge is applied to create technology that benefits society. Additionally, students will learn how design modifications can be made based on an analysis of the underlying principles from physics, chemistry, biology, and the earth sciences.

Objectives

- Understand the field of engineering and the technology that can result from the engineering design process.
- Distinguish the steps of the engineering design process and apply this process to solve a problem or meet a challenge.
- Use problem-solving and critical thinking skills to construct a prototype that presents a workable solution to a problem.
- Classify energy resources as renewable or nonrenewable and analyze energy usage and efficiency.
- Recognize the social, health, environmental, and economic costs and benefits of renewable energy sources in comparison with nonrenewable energies.
- Critique the technology that results from the engineering design process and suggest modifications based on scientific principles.
- Define terms and phrases associated with engineering products and systems and use them to communicate their analysis orally and in written form.
- Identify career options in the field of engineering, and explain the benefits and educational requirements for each option.

For the topics and assignments in this course, it would be helpful for the student to have a basic understanding of the scope of scientific investigations, including the types of questions that science does and does not address.

It will also be useful for the student to be familiar with conducting online research and be able to evaluate the credibility of online sources. If a student is not comfortable assessing the credibility of online sources, information on this topic can be found on a variety of educational websites, including library.columbia.edu and mason.gmu.edu.

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 1: THE ROLE OF ENGINEERING DESIGN IN SOCIETY AND THE ECONOMY

Assignment Titles

1.	Course Overview	10.	Designing to Scale
2.	What is Engineering Design?	11.	Prototype and Models
3.	Project: Understanding a Patent	12.	Project: Build Your Ideal Room
4.	History of Technology	13.	Quiz 2: Overview of the Applications of the Engineering Design Process
5.	Trying To Solve Problems	14.	Project: Special Project*
6.	Project: Engineering Design Process in Action	15.	Test
7	Quiz 1: Overview of Engineering Design	16.	Course Project Part 1: Inventing a Machine*
8.	Drawing	17.	Glossary and Credits
9.	Project: Engineering Drawings		

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 2: THE SCIENCE AND CAREERS OF ENGINEERING

Assignment Titles

1. The Relationship Between Science, Technology, and Engineering
2. Project: Create a Venn Diagram
3. Applied Sciences
4. Technologies
5. Project: Advertise Your Favorite Civil Engineering Technology
6. Quiz 1: Science, Technology, and Engineering: A Never-Ending Cycle
7. College Courses in Engineering
8. Project: Design Your Curriculum
9. How Engineering Pays
10. Project: The Next Big Thing
11. Careers and Projects for Your Future
12. Quiz 2: Finding Employment in Engineering
13. Project: Special Project*
14. Test
15. Course Project Part 2: Scientific Fundamentals*
16. Glossary and Credits

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 3: ENGINEERING AND THE ENVIRONMENT

Assignment Titles

1. Engineering that Destroys Instead of Builds
2. Project: Campaign for the Environment
3. Designs that Flow with the Environment
4. Making the Most of Energy in a Design
5. Project: Conduct an Energy Audit
6. Quiz 1: Saving the World One Design at a Time
7. Wind and Biomass
8. Project: Pitch a New Alternative Energy Plant to a Community
9. Hydro and Solar
10. How to Use Alternative Energy Sources in a Design
11. Project: Research a Green Technology
12. Quiz 2: Alternative Energy in Engineering
13. Project: Special Project*
14. Test
15. Course Project Part 3: Environmentally Friendly Design*
16. Glossary and Credits

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 4: INTERNATIONAL INNOVATION

Assignment Titles

1. European Buildings
2. Project: Build the Tallest Tower
3. Fighting a Lack of Land
4. European Cars
5. Project: Your Dream Car
6. Quiz 1: Europe, A Western Wonder
7. Asian Buildings
8. Project: Design an Asian Building
9. Water Designs
10. Unique Asian Bridges
11. Project: Build a Bridge
12. Quiz 2: The Awe-Inspiring Engineering of Asia
13. Project: Special Project*
14. Test
15. Course Project Part 4: Build a Tower or Bridge*
16. Glossary and Credits

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 5: BIOMEDICAL ENGINEERING

Assignment Titles

1. Restoring the Senses: Bionic Ears, Eyes, and Skin
2. Project: Advertising Bionics
3. Restoring Motion: Robotics and Prosthetic Limbs
4. Restoring Vital Body Functions: Artificial Organs
5. Project: Creating a Timeline
6. Quiz 1: Biomedical Bionics
7. What Is Nanotechnology?
8. Project: Breakthroughs in Nanotechnology
9. Medical Diagnostics
10. Cutting-Edge Treatment Options
11. Project: Contact a Research Team
12. Quiz 2: Biomedical Devices
13. Project: Special Project*
14. Test
15. Course Project Part 5: Mimicking the Human Body*
16. Glossary and Credits

PRINCIPLES OF TECHNOLOGY & ENGINEERING

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Patenting Your Rube Goldberg Machine*
2. Review
3. Exam

(*) Indicates alternate assignment

Science and Mathematics in the Real World

Course Overview

Science and mathematics are part of the STEM (Science, Technology, Engineering, and Mathematics) multi-dimensional strategy that can effectively sustain our twenty-first century knowledge-based economy. STEM careers provide a wide variety of opportunities to understand and address global issues. The most pressing issues of this generation include overpopulation, environmental degradation, pollution, and global warming. These are all subjects of intense and dedicated research by STEM professionals in very diverse fields.

In this course, students will focus on how to apply science and mathematics concepts to the development of plans, processes, and projects that address real world problems, including sustainability and "green" technologies. This course also highlights how science and mathematics and the applications of STEM will be impacted as a result of the development of a greener economy.

The course exposes students to a wide variety of STEM applications and to real world problems from the natural sciences, technology fields, and the world of sports, and emphasizes the diversity of STEM career paths. The importance of math, critical thinking, and mastering scientific and technological skill sets is highlighted throughout. Challenging and enjoyable activities provide multiple opportunities to develop critical thinking skills and the application of the scientific method, and to work on real world problems using STEM approaches.

Objectives

- In this course, students will learn about the many applications of STEM to real world problems. Using examples from a variety of STEM fields ranging from meteorology to sports medicine, students will learn about how STEM career paths provide opportunities for meaningful and challenging work. After completing this course, students will understand the STEM fields and the contributions made by professionals in these careers and will be prepared to begin to develop the specialized skill sets that will launch a successful STEM career.
- Students will finish this course with an understanding of the basic scientific, mathematical, and technical skills that are necessary for success in virtually all STEM fields. Each student will develop his or her understanding of the scientific method, critical thinking, and applied math and science during the course. Additionally, students will develop their understanding of global issues such as environmental change and global poverty and will enhance their understanding of the interconnected nature of today's global society. STEM fields play an important role in generating answers to many of the most pressing problems faced around the globe today. Students will learn about sustainability and how the STEM fields can be applied to generate sustainable, holistic solutions to global challenges.

For this course, students should know the following:

- Science and mathematics provide a myriad of opportunities for challenging, rewarding, and lucrative careers in the STEM fields.
- STEM career paths develop out of a combination of academic and professional experience.
- STEM provides effective tools to generate solutions to real world problems.

Students should have the following:

- An ability to access the Internet in order to review videos, articles, and additional educational materials provided throughout the course
- An ability to work in group settings

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 1: INTRODUCTION TO SCIENCE AND MATHEMATICS ALL AROUND US

Assignment Titles

1. Course Overview
2. The Importance of Science and Mathematics in Our Society
3. Exploring Science and Math Through Everyday Problem Solving
4. Project: Discerning Data
5. Engaging Science and Mathematics with Global Issues
6. Project: Scientists as Problem Solvers: Drawing Conclusions about Ocean Populations
7. Quiz 1: Introduction
8. The STEM Careers and STEM Career Paths
9. Critical Thinking and Other Core Skills in the STEM Careers
10. Project: Case Study: The Benefits of Compact Fluorescent Lamps
11. STEM Careers as Explained by STEM Professionals
12. Project: Meet the Experts
13. Quiz 2: Developing and Applying Science, Mathematics, and Critical Thinking Skills in the Real World
14. Project: Special Project*
15. Test
16. Course Project Part 1: Formulating the Question and Conducting Research*
17. Glossary and Credits

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 2: MAKING THE CONNECTION: MATH AND SCIENCE IN CONTEXT

Assignment Titles

1. Temperature Changes in Our Environment
2. Mathematics in Our Weather
3. Project: Calculating Temperature Based on Elevation
4. Temperature Comparisons: Charts, Graphs, and Conversions
5. Project: Adopt a Weather Buoy
6. Quiz 1: Technology as a Mathematical Tool
7. Discovering Environmental Issues
8. Understanding Environmental Data
9. Project: Predictions, Climate Data, and Effective Communication
10. Carbon Footprint: Using STEM to Quantify Environmental Impact
11. Project: Calculating Your Carbon Footprint
12. Quiz 2: Science in Our Environment
13. Project: Special Project*
14. Test
15. Course Project Part 2: Writing the Review of Literature and Formulating a Hypothesis*
16. Glossary and Credits

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 3: MATHEMATICS AND SCIENCE IN THE WORLD OF SPORTS

Assignment Titles

1. Baseball: Averages and Projectiles
2. Project: Mathematics and Baseball
3. Swimming: Drag and Lift
4. Running: Probability and Biomechanics
5. Project: Feeling the Burn: Determining Your Caloric Needs
6. Quiz 1: Winning the Game - How Mathematics and Science Play a Part
7. STEM Technologies: Changing How We View and Play Sports
8. How Technology Has Improved Sports Performance
9. Project: Identifying STEM Applications in Sports Technologies
10. STEM Careers in Sports
11. Project: STEM and Sports Careers
12. Quiz 2: Sports and Technology â€“ How New Developments Have Changed the Game
13. Project: Special Project*
14. Test
15. Course Project Part 3: Materials, Methods, and Procedures*
16. Glossary and Credits

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 4: GREENING OUR ENVIRONMENT USING SCIENCE AND MATHEMATICS

Assignment Titles

1. Recycling - The Economic Impact
2. Clean Water - Using and Conserving Fresh Water Resources
3. Project: Calculating Your Household Water Usage
4. The Oil Spill - What is the Impact?
5. Project: STEM and Restoration Efforts in the Gulf of Mexico
6. Quiz 1: Cleaning Up Our Environment - How Science and Mathematics Play a Part
7. Solar Energy
8. Water and Power: Hydroelectric Technologies
9. Project: Building a Waterwheel and a Turbine
10. Wind and Energy
11. Project: Calculating Alternative Energy Needs
12. Quiz 2: The Science of Alternative Energy
13. Project: Special Project*
14. Test
15. Course Project Part 4: Conducting the Experiment and Recording Data*
16. Glossary and Credits

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 5: SCIENCE AND MATHEMATICS INSIDE POPULATION GROWTH

Assignment Titles

1. Aging and the Effect on Global Population
2. Populations and Natural Disasters - What Are the Effects?
3. Project: Mapping Earthquakes
4. Poverty and Population Growth
5. Project: Ending Global Poverty by 2030: Possible or Not?
6. Quiz 1: Linking Population, Science, and Our Environment
7. Demographic Data and Trends
8. Project: Global Population: Challenges and Opportunities
9. Demographics: Graphing Populations
10. Probability and Statistics in Human Populations
11. Project: Lifestyle and Life Expectancy Predictions
12. Quiz 2: Population in Motion: Mathematics and Development
13. Project: Special Project*
14. Test
15. Course Project Part 5: Analyzing Your Data*
16. Glossary and Credits

SCIENCE AND MATHEMATICS IN THE REAL WORLD

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Interpreting and Presenting Your Findings*
2. Review
3. Exam

(*) Indicates alternate assignment

Scientific Research

Course Overview

The course Scientific Research describes these activities from the point of view of a professional scientist. While this inside look should appeal to students of all ages, the lessons provide support, accessible ideas, and specific language that do not dumb down the content but rather guide students at their own pace through most of the steps, insights, and experiences they would eventually face if they continue through higher education toward a graduate degree.

On the other hand, knowing the practical, everyday basics of scientific thinking and laboratory activity could also serve as a necessary first step to a career as a technician or a lab assistant. While these jobs are hands-on and technical, the intellectual and historical background covered in the course provides an awareness that is essential to working in such an atmosphere.

Objectives

- Identify research questions and generate testable hypotheses.
- Design, conduct, and evaluate a scientific research study.
- Apply the scientific method to the investigation of scientific questions.
- Determine appropriate statistical tests based on type of data generated.
- Report research findings.
- Explore ethical considerations in research.

This course is designed to help students develop a firm understanding of scientific exploration and a clear working knowledge of the scientific method as an integral tool for student-centered scientific research. There are no prerequisites for this course although students are advised to preview descriptions and design models that use the scientific method.

SCIENTIFIC RESEARCH

UNIT 1: INTRODUCTION TO SCIENTIFIC RESEARCH AND EXPLORATION

Assignment Titles

1. Course Overview
2. What is Scientific Research?
3. Why Do Scientists Change Their Minds?
4. Project: Mapping Scientists' Minds
5. Core Principles of Scientific Research
6. Project: Testing 1, 2, 3
7. Quiz 1: Principles of Scientific Discovery and Research
8. Fleming, Chain, and Florey: The Discovery of Penicillin
9. William Harvey and Blood Circulation
10. Project: Model of the Heart
11. Gregor Mendel and Genetics
12. Project: Punnett Square for Third Generation
13. Quiz 2: History of Scientific Discovery
14. Project: Special Project*
15. Test
16. Course Project Part 1: Choose a Research Question that is Meaningful and Empirically Based*
17. Glossary and Credits

SCIENTIFIC RESEARCH

UNIT 2: THE SCIENTIFIC METHOD AND SCIENTIFIC INQUIRY

Assignment Titles

1. Observation and Scientific Inquiry
2. Formulating Questions that Enable Scientific Investigation and Experimentation
3. Project: Now, That's Saying Something!
4. Creating a Testable Hypothesis: Simplicity is the Key!
5. Project: What Were They Thinking?
6. Quiz 1: Observations, Questions, and the Testable Hypothesis
7. Research Questions in Chemistry
8. Project: Chemistry Sub-Disciplines
9. Research Questions in Environmental Sciences
10. Genomics and Cancer
11. Project: Genomics in the Lab and the Courtroom
12. Quiz 2: Identifying a Research Topic
13. Project: Special Project*
14. Test
15. Course Project Part 2: Plan the Details and Methods; Perfect Your Research Design and Hypothesis*
16. Glossary and Credits

SCIENTIFIC RESEARCH

UNIT 3: DESIGNING AND CONDUCTING AN EXPERIMENT

Assignment Titles

1. Experimental Design
2. Dependent and Independent Variables
3. Project: Clearing up Confusion about Confounders
4. Experimental Controls: What Are They? Why Do We Need Them?
5. Project: Bias in Control Groups
6. Quiz 1: Applying the Scientific Method to Answer Research Questions
7. Random Sampling and Sample Size
8. Project: Sample Size and Medical Research
9. Record Keeping
10. Conducting the Experiment: Materials, Methods, Reproducibility
11. Project: The Role of the Lab Assistant
12. Quiz 2: Research Basics
13. Project: Special Project*
14. Test
15. Course Project Part 3: Conduct Tests, Gather Data*
16. Glossary and Credits

SCIENTIFIC RESEARCH

UNIT 4: THE DATA: EVALUATING RESULTS AND DRAWING CONCLUSIONS

Assignment Titles

1. What is Statistical Analysis?
2. Statistical Significance
3. Project: P-values
4. Commonly Used Statistical Tests
5. Project: Training Dolphins
6. Quiz 1: Statistical Analysis of Data
7. Data Replication, Reproducibility, and Accuracy
8. Project: Looking Behind the Curtain of Published Research
9. Making Assumptions and Drawing Conclusions
10. Controversy: Relevance and Research
11. Project: Research in Your Area
12. Quiz 2: Interpreting Results and Drawing Conclusions
13. Project: Special Project*
14. Test
15. Course Project Part 4: Analyze Data, Determine Statistical Significance*
16. Glossary and Credits

SCIENTIFIC RESEARCH

UNIT 5: REPORTING YOUR FINDINGS

Assignment Titles

1. Poster Presentations
2. Project: On Display: Creating a Scientific Poster
3. Scientific Papers
4. Publishing: Scholarly vs. Popular Press
5. Project: Comparing Science Reporting
6. Quiz 1: Posters and Publishing
7. Integrity in Research
8. Project: Validity of Research
9. Working with Human Subjects
10. Teamwork and Collaboration in Science
11. Project: Six-Step Social Networks
12. Quiz 2: Ethical Considerations in Research
13. Project: Special Project*
14. Test
15. Course Project Part 5: Make a Poster*
16. Glossary and Credits

SCIENTIFIC RESEARCH

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Report Your Results*
2. Review
3. Exam

(*) Indicates alternate assignment

STEM and Problem Solving

Course Overview

Science, technology, engineering, and math (STEM) are active components in the real world. This course will outline how to apply the concepts and principles of scientific inquiry, encouraging the use of problem-solving and critical-thinking skills to produce viable solutions to problems.

Students will learn the scientific method, how to use analytical tools and techniques, how to construct tests and evaluate data, and how to review and understand statistical information. This course is designed to help students understand what we mean by problem solving and to help understand and develop skills and techniques to create solutions to problems.

Advanced problem-solving skills are necessary in all science, technology, engineering, and math disciplines and career paths. This problem-solving course stresses analytic skills to properly format problem statements, use of the scientific method to investigate problems, the use of quantitative and qualitative approaches to construct tests, and an introduction to reviewing and interpreting statistical information.

Objectives

- Understand basic techniques of problem-solving skills in the real world.
- Learn to prioritize and evaluate complex problems using critical-thinking skills.
- Understand how to analyze data to formulate a problem statement.
- Understand how to apply the scientific method to the investigation of problems.
- Understand the standards for constructing tests for research and the methods for gathering and evaluating data.
- Understand statistics and models.
- Demonstrate how to interpret statistical information and present meaningful research results.

Students should understand how to research a topic through books, magazines, and the Internet. and have proficiency using Microsoft Word and PowerPoint, and a basic understanding of Excel.

STEM AND PROBLEM SOLVING

UNIT 1: INTRODUCTION TO PROBLEM SOLVING

Assignment Titles

1. Course Overview
2. What is Problem Solving?
3. Project: Applying Problem-Solving Steps to Global Issues
4. Understanding a Problem - Discerning Data and Identifying Gaps
5. Project: Fact Gathering to Research Global Issues
6. Principles of the Problem Statement
7 Quiz 1: Principles of Problem-Solving
8. Evaluating Problem-Solving Strategies
9. Project: Technical Problems and Complex Problems
10. Explore Steps to Generate Solutions to a Problem
11. Project: Forming Categories and Setting Benchmarks
12. Analyze Solutions in a Team Setting, Implement a Strategy, and Review Results
13. Quiz 2: Problem-Solving Strategies, Creating a Plan, Implementing, and Review
14. Project: Special Project*
15. Test
16. Course Project Part 1: Energy Use at Your Facility and Setting Benchmarks*
17. Glossary and Credits

STEM AND PROBLEM SOLVING

UNIT 2: CRITICAL THINKING AND PROBLEM SOLVING

Assignment Titles

1. Importance and Development of Critical Thinking Skills
2. Project: Tasks for Better Critical Thinking
3. Arguments, Inductive and Deductive Reasoning
4. Premises and Conclusions
5. Project: Building an Argument
6. Quiz 1: Principles of Critical Thinking
7. Evaluating Statements
8. Project: Design a Survey
9. Syllogisms and Fallacies
10. Project: Evaluate Reason and Fallacies
11. Developing Critical Judgments for Thinking and Analyzing Validity of a Statement
12. Quiz 2: Applying Critical Thinking in Problem Solving
13. Project: Special Project*
14. Test
15. Course Project Part 2: Presenting Your Argument for an Energy Efficiency Program*
16. Glossary and Credits

STEM AND PROBLEM SOLVING

UNIT 3: PROFESSIONAL RESEARCH AND THE SCIENTIFIC METHOD

Assignment Titles

1. Observation and Scientific Inquiry
2. Data-Gathering Methods and Reducing Bias
3. Project: Performing Observational and Survey Research
4. Review Research Studies Using Various Methodologies to Compare and Contrast Data
5. Project: Analyze Reports to Understand Data Collection
6. Quiz 1: Professional Research Methodology and Scientific Research
7. From Observation to Problem Statements
8. Project: Research Proposal
9. Quantitative, Qualitative, and Mixed Method Research Design
10. Project: Statistical Models: Making Graphs and Charts
11. Principles of the Problem Statement
12. Quiz 2: Scientific Study Methods and Analysis
13. Project: Special Project*
14. Test
15. Course Project Part 3: Building a Research Proposal for Energy-Saving Options*
16. Glossary and Credits

STEM AND PROBLEM SOLVING

UNIT 4: DESIGN A RESEARCH PROJECT

Assignment Titles

1. Research Problems and Populations
2. Project: Problems and Populations
3. Overview of Sampling, Data Collection, and Data Analysis
4. Project: Sampling and Planning
5. Validating Data
6. Quiz 1: Define a Population and a Sampling Method
7. Define a Population and a Sampling Method
8. Collecting Data
9. Project: Design an Experiment
10. Research Constructs and Research with People
11. Project: Studies with People
12. Quiz 2: Overview of Sampling, Data Collection, and Data Analysis
13. Project: Special Project*
14. Test
15. Course Project Part 4: Choosing the Population and Areas for Your Study*
16. Glossary and Credits

STEM AND PROBLEM SOLVING

UNIT 5: REVIEWING AND INTERPRETING STATISTICAL INFORMATION AND RESEARCH DATA

Assignment Titles

1. Using Statistics to Analyze Data
2. Selecting Statistical Tests and Software
3. Project: Coding Data and Statistical Analysis
4. Evaluating Statistical Results
5. Project: Testing a Hypothesis
6. Quiz 1: Collect and Interpret Data Using Statistics
7. Final Evaluation of Study and Results
8. Project: Preparing a Standard Research Paper
9. Reporting Results
10. Project: Analyzing Research Studies in the Media
11. Peer Review: Evaluate the Research Project and Results
12. Quiz 2: Evaluating Conclusions and Reporting Research Results
13. Project: Special Project*
14. Test
15. Course Project Part 5: Calculating and Coding Research Data from All Research*
16. Glossary and Credits

STEM AND PROBLEM SOLVING

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Preparing and Presenting a Proposal for an Energy Efficiency Program*
2. Review
3. Exam

(*) Indicates alternate assignment

TRANSPORTATION, DISTRIBUTION & LOGISTICS

Introduction to Careers in Transportation, Distribution, and Logistics

Course Overview

Transportation and Distribution Logistics is a course intended to introduce students to the complicated world of commercial transportation. This area of commerce is becoming increasingly complex and sophisticated, with work and career openings available at all levels of education. Most people, however, see only fragments of the big picture.

Transportation is among the most crucial and defining elements of modern commerce. The ability to move people and goods from place to place requires vast investments of technology, and of manpower. Without that investment almost all aspects of modern life would grind to a halt.

Objectives

- Describe the nature and scope of the Transportation, Distribution, and Logistics Career Cluster and the role of transportation, distribution, and logistics in society and the economy.
- Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution, and logistics problems.
- Describe the key operational activities required of successful transportation, distribution, and logistics facilities.
- Identify governmental policies and procedures for transportation, distribution, and logistics facilities.
- Describe transportation, distribution, and logistics employee rights, responsibilities, and employers' obligations concerning occupational safety and health.
- Describe career opportunities and means to achieve those opportunities in each of the transportation, distribution, and logistics career pathways.
- Understand the strengths and weaknesses of the major modes of transportation, and the technological innovations that are occurring in each area.
- Learn about the role of governmental agencies and their impact on transportation systems.
- Analyze financial data to develop budgets, and determine profitability, cost reduction, and asset utilization.
- Identify the job requirements and aptitude needed to successfully pursue different career pathways in the TDL areas.

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 1: TRANSPORTATION OVERVIEW

Assignment Titles

1. Course Overview
2. Characteristics of Each Transportation Mode
3. Project: Create a Shipping Plan
4. A Brief History of Transportation, Logistics, and the Economic Environment
5. Careers in Transportation
6. Project: A Week in the Life of a Transportation Worker
7. Quiz 1: Modes of Transportation
8. Mass Transportation
9. Project: FAA Guidelines for Pilots
10. The Regulatory and Competitive Environment for Transportation
11. Careers in Transportation That Move People
12. Project: Understanding Educational Requirements for Specific Jobs
13. Quiz 2: Transportation of People and the Regulatory Environment
14. Project: Special Project*
15. Test
16. Course Project Part 1: What's Your Niche?*
17. Glossary and Credits

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 2: DISTRIBUTION AND WAREHOUSING

Assignment Titles

1. The Roles of Distribution
2. Project: Design a Distribution Center
3. Warehouse Functions and Facilities Management
4. Facility Layout and Equipment
5. Project: Visit a Warehouse
6. Quiz 1: Inside Distribution Centers and Warehouses
7. Automation in Distribution
8. Project: Create an Advertisement
9. Managing Distribution Operations
10. Careers in Distribution Center Management
11. Project: Interview a Warehouse Employee
12. Quiz 2: Roles and Responsibilities in the Distribution Center
13. Project: Special Project*
14. Test
15. Course Project Part 2: Your Team*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 3: TRANSPORTATION SYSTEMS, INFRASTRUCTURE PLANNING, MANAGEMENT & REGULATION

Assignment Titles

1. History of Transportation Systems in the United States
2. Project: The Pony Express
3. History of Transportation Systems in Europe
4. Project: Early Transportation Systems
5. History of Transportation in Asia
6. Quiz 1: History of Transportation Systems
7. Modern Transportation Infrastructure
8. Project: Regulated Transportation Industries
9. Transportation Planning and Regulation in the United States
10. Careers in Transportation Planning and Regulation
11. Project: Getting Around Your Community
12. Quiz 2: Modern Transportation Infrastructure Management, Planning, and Regulation
13. Project: Special Project*
14. Test
15. Course Project Part 3: Job Descriptions*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 4: LOGISTICS & LOGISTICS SERVICES

Assignment Titles

1. Inventory Management
2. Project: Design an Inventory Ordering System for Your Household
3. Purchasing
4. Reverse Logistics
5. Project: Evaluate a Company's Reverse Logistics Policies
6. Quiz 1: Logistics Functions (Other than Transportation and Distribution)
7. Third- and Fourth-Party Logistics
8. Logistics in the Military
9. Project: United States Army Corps of Engineers: Their Contributions
10. Careers in Logistics
11. Project: You: The Logistician
12. Quiz 2: Outsourced and Military Logistics, and Logistics Careers
13. Project: Special Project*
14. Test
15. Course Project Part 4: Getting the Right People in the Right Seat*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 5: FUTURE TRENDS IN TRANSPORTATION, DISTRIBUTION & LOGISTICS

Assignment Titles

1. Self-Driving Vehicles
2. Project: Getting from Here to There without a Driver
3. Drones
4. Robots
5. Project: Robotics in Our Future
6. Quiz 1: Impact of Technology (Part 1)
7. Radio Frequency Identification (RFID)
8. Project: The Evolution of RFID Technology
9. Increased Supply Chain Visibility
10. Project: The Science Behind the Technology
11. The Rebirth of Manufacturing in the USA
12. Quiz 2: Impact of Technology (Part 2)
13. Project: Special Project*
14. Test
15. Course Project Part 5: Building the Company*
16. Glossary and Credits

INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: You're in Business
2. Review
3. Exam

(*) Indicates alternate assignment

Careers in Logistics Planning and Management Services

Course Overview

This course discusses careers in Logistics Planning and Management Services, and provides students with the history of logistics and recent advances in the field. The history of logistics creates a foundation of knowledge to build our understanding of the social and economic benefits of modern logistics. Modern societies and economic development depend on the ability to transport products from their point of origin to store shelves and then into the hands of consumers. Current trends in logistics favor low-cost methods, safety, technology, sustainability, and regulations to keep the goods flowing from their source to the consumers.

Packaging goods and materials for safe transport begins with knowing what is being handled. Goods that are intended for consumers have different packaging requirements than materials being shipped to manufacturers. Unitization makes it possible to move goods easily inside warehouse and distribution centers and between modes of transportation. Goods are often shipped through a combination of air, land, rail, and sea modes of transportation. When deciding which node to use, logistics managers consider the location, transportation plan, routing, convenience, security, and costs related to their node decision.

Managing inventory involves decision making and analysis to ensure the goods and materials flow through the logistics channels and supply chain properly. Inventory is an asset that the business carries to add revenues and profits. Identifying the need for goods and services is the first step in obtaining goods and services. Within the logistics process, many goods and services are obtained through a process of procurement. Space, time, and money are all important factors to consider when managing existing inventories and the need for future inventories.

Decision makers often look for a balance between the speed and the cost to ship goods. Documentation is needed to identify goods, enable tracking, indicate where the goods are from, and where they are being shipped. Liability for goods is common in all modes of shipping. Risk management identifies, analyzes, and evaluates elements of the business that can go wrong. These liabilities can be outside of the company's control, but many can be prevented. Regulatory agencies create rules and regulations that are intended to protect the public from many risks. Risk management considers the potential for risk— insurance is one way to minimize the risk. Everyone who holds a financial interest in the goods, vehicles, and property wants to know they are protected, so they buy insurance.

Regulatory agencies work in cooperation with other agencies to minimize the risks and liabilities for employers and their employees. OSHA advises employers, their staff, labor unions, and industry leaders on what they can do to keep the workplace safe. They also inspect the workplace to ensure the employers are in compliance with OSHA standards. Logistics offers many career opportunities across seven career pathways. Logistics is a high growth industry, and is a stable career choice. There is something for every career-seeker, ability, and experience level.

The objective of this course is to introduce the student to the field of logistics planning and management and to explain the career opportunities that are available in this field.

Objectives

- Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
- Demonstrate critical thinking skills while processing logistics management perspectives, warehouse and distribution operations, inventory controls, regulations, and safety procedures.
- Categorize risks to safety, health, and the environment in the logistics industry.
- Demonstrate collaboration skills to enhance professional objectives for the company and the customer.
- Describe the rights and responsibilities that apply to individuals and practitioners within the logistics industry.
- Define professional development requirements to maintain employment and to advance in their chosen career.
- Apply organizational skills and logic to enhance their abilities and aptitudes.
- Demonstrate skills that enhance their understanding of safety in the workplace.

CAREERS IN LOGISTICS PLANNING AND MANAGEMENT SERVICES

UNIT 1: PROVIDING AND MANAGING LOGISTICS SERVICES FOR THE COMPANY AND THE CUSTOMER

Assignment Titles

1. Course Overview
2. The Role of Transportation, Distribution, and Logistics in Society and the Economy
3. Project: From Origin to Consumer
4. Current Trends in Logistics
5. You Are the Future of Logistics
6. Project: Making Goals
7. Quiz 1: Transportation, Distribution, and Logistics - Then and Now!
8. Logistics Management and the Supply Chain
9. Project: Goods and Their Origins
10. The Challenges of Transporting Goods
11. Making Logistics Easier with Technology
12. Project: Process Improvement
13. Quiz 2: Logistics and the Supply Chain
14. Project: Special Project*
15. Test
16. Course Project Part 1: Distribution Facility Project*
17. Glossary and Credits

CAREERS IN LOGISTICS PLANNING AND MANAGEMENT SERVICES

UNIT 2: LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Assignment Titles

1. Material Handling: Packaging
2. Project: Consumer Goodies
3. Material Handling: Unitization
4. Material Handling: Weights & Measures
5. Project: The Space Shuttle Endeavor
6. Quiz 1: Material Handling
7. Warehousing
8. Project: Kansas City Smart Port
9. Distribution is the Center of Activity Within
10. Project: Where Did You Get That?
11. Pricing
12. Quiz 2: Warehousing, Distribution, and Pricing
13. Project: Special Project*
14. Test
15. Course Project Part 2: Innovation*
16. Glossary and Credits

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UNIT 3: INVENTORY AND INVENTORY MANAGEMENT

Assignment Titles

1. Inventory
2. Project: Taking Stock (Part 1)
3. Inventory Management
4. Project: Taking Stock (Part 2)
5. Inventory Accounting
6. Quiz 1: Inventory Management
7. Procurement and Purchasing
8. Project: Colgate's Procurement Process
9. Managing Procurement and Purchasing
10. Project: Business Culture
11. Optimizing Procurement Practices
12. Quiz 2: Procurement and Purchasing
13. Project: Special Project*
14. Test
15. Course Project Part 3: Inventory Controls*
16. Glossary and Credits

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UNIT 4: TRANSPORTATION MANAGEMENT

Assignment Titles

1. Modes of Transportation
2. Project: Mode to Go
3. Documentation
4. Project: Importing & Exporting
5. Liability
6. Quiz 1: Transportation, Documentation, and Liability
7. Managing Transportation Risk
8. Project: Risk Management
9. Regulating Risk
10. Project: Emergency Response
11. Insuring Risk
12. Quiz 2: Risk Management
13. Project: Special Project*
14. Test
15. Course Project Part 4: Modes of Transportation*
16. Glossary and Credits

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UNIT 5: LOGISTICS SAFETY & OPPORTUNITY

Assignment Titles

1. OSHA Rights & Responsibilities
2. Project: OSHA's Forms
3. Safety First
4. Project: Hazardous Materials
5. Working & Safety
6. Quiz 1: Safety First
7. Career Goals
8. Project: Personality Traits
9. Available Careers
10. Project: Creating a Resume
11. Career Credentials
12. Quiz 2: You are the Future of Logistics!
13. Project: Special Project*
14. Test
15. Course Project Part 5: Preparation & Prevention*
16. Glossary and Credits

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UNIT 6: COURSE PROJECT, REVIEW, AND EXAM

Assignment Titles

1. Course Project Part 6: Preparing Your Proposal*
2. Review
3. Exam

(*) Indicates alternate assignment