

# Curriculum Overview

Career and Technical Education Series



---

## Table of Contents

<b><u>MIDDLE SCHOOL</u></b> .....	<b>1</b>
CAREER EXPLORATIONS I.....	1
CAREER EXPLORATIONS II.....	4
KEYBOARDING AND APPLICATIONS .....	6
<b><u>ARCHITECTURE AND CONSTRUCTION</u></b> .....	<b>9</b>
INTRODUCTION TO CAREERS IN ARCHITECTURE AND CONSTRUCTION .....	9
CONSTRUCTION CAREERS .....	12
<b><u>ARTS, A/V TECHNOLOGY AND COMMUNICATIONS</u></b> .....	<b>16</b>
INTRODUCTION TO CAREERS IN ARTS, A/V TECHNOLOGY AND COMMUNICATIONS.....	16
<b><u>BUSINESS MANAGEMENT AND ADMINISTRATION</u></b> .....	<b>19</b>
BUSINESS LAW.....	19
CAREER MANAGEMENT .....	22
OFFICE 2013 APPLICATIONS I.....	26
OFFICE 2013APPLICATIONS II.....	30
OFFICE 2010 APPLICATIONS I.....	34
OFFICE 2010 APPLICATIONS II.....	38
SMALL BUSINESS ENTREPRENEURSHIP.....	42
TECHNOLOGY AND BUSINESS .....	46
<b><u>EDUCATION AND TRAINING</u></b> .....	<b>52</b>
INTRODUCTION TO CAREERS IN EDUCATION AND TRAINING.....	52
TEACHING AND TRAINING CAREERS .....	55
<b><u>FINANCE</u></b> .....	<b>58</b>
INTRODUCTION TO CAREERS IN FINANCE.....	58
BANKING SERVICES CAREERS .....	61
<b><u>GOVERNMENT AND PUBLIC ADMINISTRATION</u></b> .....	<b>63</b>
INTRODUCTION TO CAREER IN GOVERNMENT AND PUBLIC ADMINISTRATION .....	63
<b><u>HEALTH SCIENCE</u></b> .....	<b>66</b>
CAREERS IN ALLIED HEALTH .....	66
NURSING: UNLIMITED POSSIBILITIES AND UNLIMITED POTENTIAL.....	69
<b><u>HUMAN SERVICES</u></b> .....	<b>72</b>
INTRODUCTION TO CONSUMER SERVICES.....	72
<b><u>INFORMATION TECHNOLOGY</u></b> .....	<b>75</b>
INTRODUCTION TO INFORMATION TECHNOLOGY.....	75
FUNDAMENTALS OF COMPUTER SYSTEMS.....	78

**FUNDAMENTALS OF DIGITAL MEDIA .....81**  
**FUNDAMENTALS OF PROGRAMMING AND SOFTWARE DEVELOPMENT .....84**  
**INTRODUCTION TO INFORMATION TECHNOLOGY SUPPORT AND SERVICES.....87**  
**INTRODUCTION TO NETWORK SYSTEMS.....89**  
**NETWORK SYSTEM DESIGN .....91**  
**NEW APPLICATIONS: WEB DEVELOPMENT IN THE 21ST CENTURY.....93**  
**SOFTWARE DEVELOPMENT TOOLS.....96**  
**MARKETING .....99**  
**CAREERS IN MARKETING RESEARCH .....99**  
**STEM (SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS).....102**  
**ENGINEERING AND DESIGN .....102**  
**ENGINEERING AND PRODUCT DEVELOPMENT .....105**  
**TRANSPORTATION, DISTRIBUTION AND LOGISTICS.....108**  
**INTRODUCTION TO CAREERS IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS.....108**  
**CAREERS IN LOGISTICS PLANNING AND MANAGEMENT SERVICES.....111**

# Middle School

## Career Explorations I

The Career Explorations I 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.

- **Unit 1: Career Management:** This unit examines the elements of employment, from the purpose and personal benefits of work to lifelong learning and technology. Students learn about wages and employment benefits, find out how to maintain a time sheet, set lifestyle goals that match their work goals, and attain problem-solving skills. Students will also explore career clusters and begin a project that helps them which career clusters best match their talents and life goals.
- **Unit 2: Introduction to Careers in Health Sciences:** In this unit, students learn about the history of health care and its shift from a focus on religion and culture to one a more scientific approach. Students also explore important medical discoveries of the 17th and 18th centuries, and the integration of technology into medicine.
- **Unit 3: Hospitality and Tourism Systems:** Travel and tourism is the largest industry in the world, and it continues to grow each year. Employing 7.5 million people in the United States, the travel and tourism industry depends on visitors traveling to or within the United States. In 2010, sixty million international visitors came to the United States and spent \$134 billion. Travel is divided into two broad categories: leisure travel and business travel.

The industry is made up of various sectors that provide services to people going on vacation, taking a business trip, or visiting an attraction. These sectors include accommodations, transportation, entertainment and attractions, sightseeing and guide services, dining services, and shopping and retail. Within the travel industry, the types of vacation packages or travel products people buy are either considered commodities or experiences.

- **Unit 4: Human Services:** In this unit, students will learn about the human services professional who usually works for a government agency or nonprofit organization. He or she provides assistance, counseling, and training to help people change and acquire better coping skills. These professionals do not rescue people; they empower people, and they respect people's right to self-determination.

Some of the populations targeted for help by human services professionals include those living in poverty, those suffering from substance abuse and alcoholism, the homeless, victims of domestic abuse, the mentally or physically disabled, and the elderly. Organizations that seek to help such people and employ human services professionals include federal and state agencies, drug and alcohol treatment centers, nursing homes and elder care facilities, women's shelters, hospitals, psychiatric facilities, schools and universities, police departments, prisons, courts, and many others.

- Unit 5: Consumer Services:** Consumer services organizations are those that provide services to individual consumers, as opposed to businesses. There are many industries represented in consumer services, offering careers in fields such as advertising, apparel, consulting, entertainment, health care, hospitality, law, personal services, online services, real estate, and travel.

The largest part of any consumer services job is working well with people to solve problems, which requires a positive attitude and good communications skills. Because of the wide range of opportunities and types of jobs in consumer services, educational requirements can vary from a high school diploma and on-the-job training to internships and graduate degrees. Some consumer services career paths, particularly in counseling or sales, require licenses or certifications.

Unit 1: Career Management		
Assignments		
Career Explorations I	1. Course Overview	14. Project: Basic Employability Skills*
	2. The Purpose of Work	15. Problem Solving
	3. Personal Benefits of Work	16. Project: Problem Solving*
	4. Wages and Employment Benefits	17. Lifelong Learning and Technology
	5. Project: Time Sheet	18. Career Clusters
	6. Project: Earnings Statement	19. Project: Career Clusters Research Tri-fold Brochure*
	7. Lifestyle Goals	20. Quiz: Elements of Work
	8. Project: Lifestyle Budget	21. Special Project*
	9. Societal Benefits of Work	22. Review
	10. Quiz: What is Work?	23. Test
	11. Basic Work Qualifications	24. Glossary and Credits
	12. Work Environment	
	13. Basic Employability Skills	

Unit 2: Introduction to Careers in Health Sciences		
Assignments		
Career Explorations I	1. Medicine from Ancient Times Through the Middle Ages	8. Advances in Medical Imaging
	2. Medicine in the Seventeenth and Eighteenth Centuries	9. Innovations in Transplantation
	3. The Rise of Modern Medicine	10. Project: Genetics
	4. Project: Ancient vs. Modern Medical Practices	11. Project: How Technology is Used in Medicine
	5. Project: Different Health Career Possibilities	12. Quiz: Recent Advances in Science and Technology
	6. Quiz: History of Medicine and Medical Discovery	13. Special Project*
	7. Molecular Technology: Gene Chips	14. Test
	15. Glossary and Credits	

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

Unit 4: Introduction to Human Services		
Assignments		
Career Explorations I	1. Solving Problems vs. Teaching Problem-Solving Skills	8. Policy and Program-Planning Interventions
	2. Types of Populations, Services, and Fulfilling Needs	9. Project: Designing A Human Services Organization
	3. Project: Let's Get Happy and Let's Get Rich	10. Administration
		11. Project: Life After High School

	4. What Human Services Organizations Do	12. Quiz: Providers of Human Services
	5. Project: Know Your Surroundings	13. Special Project*
	6. Quiz: History, Standards, and Overarching Mission	14. Test
	7. Direct Service Interventions	15. Glossary and Credits

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

Unit 6: Course Review, Project, and Exam		
CE1	Assignments	
	1. Course Project: Decisions, Decisions*	3. Exam
	2. Review	

(\*) Indicates alternative assignment

## Career Explorations II

The Career Explorations II 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.

### Objectives

- 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.

Unit 1: Information Technology	
Career Explorations II	<b>Assignments</b>
	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. Special Project*	
15. Test	
16. Glossary and Credits	

Unit 2: Introduction to Information Support and Services	
Career Explorations II	<b>Assignments</b>
	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	
14. Special Project*	
15. Test	
16. Glossary and Credits	

Unit 3: Introduction to Network Systems	
Career Explorations II	<b>Assignments</b>
	1. Networking Concepts
	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. Special Project*
	14. Test
15. Glossary and Credits	

Unit 4: Introduction to Agriculture, Food, and Natural Resources	
Career Explorations II	<b>Assignments</b>
	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 Pool!
	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. Special Project*
	14. Test
15. Glossary and Credits	

Unit 5: Introduction to Stem	
Career Explorations II	<b>Assignments</b>
	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. Special Project*
	14. Test
15. Glossary and Credits	

Unit 6: Course Project, Review and Final Exam	
CE2	<b>Assignments</b>
	1. Course Project: And the Results Are...*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Keyboarding and Applications

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.

### Objectives

- 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.

Unit 1: Computer Hardware	
Keyboarding and Applications	Assignments
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
16.	Test
17.	Alternate Test—Form A*
18.	Alternate Test—Form B *
19.	Glossary and Credits

Unit 2: Keyboarding	
Keyboarding and Applications	Assignments
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

Unit 3: Computer Operating Systems	
Keyboarding and Applications	<b>Assignments</b>
	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	

Unit 4: Word Processing	
Keyboarding and Applications	<b>Assignments</b>
	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	

Unit 5: Presentation Technology	
Keyboarding and Applications	<b>Assignments</b>
	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	

Unit 6: Internet	
Keyboarding and Applications	<b>Assignments</b>
	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	

Unit 7: Communication Skills	
Keyboarding and Applications	<b>Assignments</b>
	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	

Unit 8: Course Review and Exam	
K&A	<b>Assignments</b>
	1. Review
	2. Exam
	3. Alternate Exam—Form A*
4. Alternate Exam—Form B*	

(\*) Indicates alternative assignment

# Architecture and Construction

## Introduction to Careers in Architecture and Construction

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.

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

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

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

Unit 4: The Arts and the Built Environment: Jobs for Creatives	
Intro. to Careers in Architecture and Construction	<b>Assignments</b>
	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. Special Project*	
14. Test	
15. Course Project Part 4: Sustainable Development Presentation*	
16. Glossary and Credits	

Unit 5: Building the City	
Intro. to Careers in Architecture and Construction	<b>Assignments</b>
	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. Special Project*	
14. Test	
15. Course Project Part 5: Computer-Aided Design and You*	
16. Glossary and Credits	

Unit 6: Course Review, and Exam	
ICAC	<b>Assignments</b>
	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 alternative assignment

## Construction Careers

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 grey-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.

Unit 1: Introduction to Careers in Construction Technology	
Assignments	
Construction Careers	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. Special Project*
	15. Test
	16. Course Project Part 1: Design and Build Your Dream House*
	17. Glossary and Credits

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

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

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

<b>Unit 5: Green Technology, Sustainability, and Preservation</b>	
<b>Assignments</b>	
<b>Construction Careers</b>	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. Special Project*	
14. Test	
15. Course Project Part 5: Schedule Your Dream Home Build*	
16. Glossary and Credits	

<b>Unit 6: Course Review, and Exam</b>	
<b>Assignments</b>	
<b>CC</b>	1. Course Project Part 6: Your Dream House: Putting It All Together*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

---

# Arts, A/V Technology and Communications

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

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 units covers a specific area within its two chapters. Unit 1 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 2 covers the performing arts, including careers both on and offstage. Unit 3 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 4 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 U.S.) 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 5, students examine the telecommunications industry and 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. However, there are many technical and writing careers 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, and 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.

Unit 1: Audio/Video Technology and Film	
Assignments	
Intro. to Careers in Arts, AV Technology and Communications	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. Special Project*	
15. Test	
16. Course Project Part 1: A/V Tech and You*	
17. Glossary and Credits	

Unit 2: Performing Arts	
Assignments	
Intro. to Careers in Arts, AV Technology and Communications	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. Special Project*
	14. Test
	15. Course Project Part 2: Your Pathway to Performing Arts*
	16. Glossary and Credits

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

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

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

IAAVTC	Unit 6: Course Project, Review, and Exam	
	Assignments	
	1. Course Project Part 6: Describing Plans for Exhibition or Distribution*	2. Review
		3. Exam

(\*) Indicates alternative assignment

# Business Management and Administration

## Business Law

This course is designed to provide students with the knowledge of some of the vital legal concepts that affect commerce and trade. First, they will gain some familiarity with how laws are created and interpreted. Then, they will 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.

As the students work through matters of law and business, they will also consider scriptural principles.

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. This global emphasis will also survey what is prophesied in the Bible about buying and selling in the last days.

Consumer and environmental protections will be explained as well as bankruptcy options, should a business go insolvent. In particular, students will look at what the Bible has to say about the ethics of bankruptcy. 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 encourage creative thinking within the confines of the legal and ethical parameters. For the Christian student who is considering a career in the law, this course is a good primer.

<b>Unit 1: Role of Law and Its Impact on Business</b>	
<b>Assignments</b>	
Business Law	1. Course Overview
	2. Law Sources: The Legislative and the Executive Branches
	3. Project: Drafting a Bill
	4. Law Sources: The Constitution and the Judicial Branch
	5. Project: A Supreme Court Case
	6. The Bill of Rights and Fundamental Guarantees
	7. Project: A Comparison of Human Rights Bills
	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	

<b>Unit 2: Legal Considerations in Business Law</b>	
<b>Assignments</b>	
Business Law	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	

<b>Unit 3: Regulating a Business</b>	
<b>Assignments</b>	
Business Law	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: News Stories on Federal Agencies	
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	

<b>Unit 4: Global Commerce</b>	
<b>Assignments</b>	
Business Law	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. Sources of International Law
	9. Project: Look Up a Treaty
10. International Trade, GATT, and the WTO	
11. Governmental Systems of the United Nations	
12. Project: International Courts and Adjudication	
13. Quiz 2: International Governmental Systems and Law	
14. Special Project*	
15. Test	
16. Course Project – Part 4: Global Commerce*	
17. Glossary and Credits	

<b>Unit 5: Protections and Resolutions</b>	
<b>Assignments</b>	
Business Law	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: Constructing a Dispute, Arbitration, and Resolution	
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	

<b>Unit 6: Course Review and Exam</b>	
<b>Assignments</b>	
Business Law	1. Course Project – Part 6: Pitching Your Product*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Career Management

Career Management 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 determine 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.

### Objectives

- Examine the idea of work and what work entails.
- Analyze personal skills, aptitudes, and interests in order to choose a compatible career.
- Conduct career research while utilizing a variety of resources, both print and online.
- Create a lifestyle budget and career plan.
- Identify the steps necessary to prepare for chosen careers.
- Identify important elements of a resume and cover letter.
- Analyze and implement steps for problem solving and decision making.

Students will have to research different aspects of careers and will rely heavily on the Career Clusters developed by the U.S. Department of Education. They also will be asked to find and summarize job related information such as potential income, job requirements, and basic employability skills.

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.

Unit 1: What Is Work?	
Assignments	
Career Management	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 1: What is Work?
	11. Alternate Quiz 1: Form A: What is Work?*
	12. Alternate Quiz 1: Form B: What is Work?*
	13. Basic Work Qualifications
	14. Work Environment
	15. Basic Employability Skills
16. Project: Basic Employability Skills*	
17. Problem Solving	
18. Project: Problem Solving*	
19. Lifelong Learning and Technology	
20. Career Clusters: Part 1	
21. Project: Hospitality and Tourism Brochure*	
22. Quiz 2: Elements of Work	
23. Alternate Quiz 2: Form A: Elements of Work*	
24. Alternate Quiz 2: Form B: Elements of Work*	
25. Special Project*	
26. Review	
27. Test	
28. Alternate Test: Form A*	
29. Alternate Test: Form B*	
30. Glossary and Credits	

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

Unit 3: Career Research	
Assignments	
Career Management	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
	19. Project: Career Portfolio
	20. Project: Post-Secondary Education Portfolio
	21. Career Clusters: Part 3
	22. Project: Transportation, Distribution and Logistics Brochure*
	23. Special Project*
	24. Review
	25. Test
	26. Alternate Test: Form A*
	27. Alternate Test: Form B*
	28. Glossary and Credits

Unit 4: Planning for Your Career	
Assignments	
Career Management	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: Academics Portfolio
	21. Project: Activities Portfolio
	22. Career Clusters: Part 4
	23. Project: Marketing Brochure*
	24. Special Project*
	25. Review
	26. Test
	27. Alternate Test: Form A*
	28. Alternate Test: Form B*
	29. Glossary and Credits

<b>Unit 5: Preparing for Your Career</b>		
<b>Assignments</b>		
<b>Career Management</b>	1. Resumes	13. What to Expect During an Interview
	2. Project: Resume*	14. Researching Potential Employers
	3. Cover Letters	15. Interview Behavior/Skills
	4. Project: Cover Letters*	16. Interview Follow-up
	5. Job Applications	17. Quiz 2: Contact with Employers
	6. Project: Job Application*	18. Alternate Quiz 2: Form A: Contact with Employers*
	7. Your Professional Online Presence	19. Alternate Quiz 2: Form B: Contact with Employers*
	8. Project: Professional Presence*	20. Special Project*
	9. Quiz 1: Creating Employment Documents	21. Review
	10. Alternate Quiz 1: Form A: Creating Employment Documents*	22. Test
	11. Alternate Quiz 1: Form B: Creating Employment Documents*	23. Alternate Test: Form A*
	12. Finding Job Leads	24. Alternate Test: Form B*
	25. Glossary and Credits	

<b>Unit 6: Course Review and Exam</b>		
<b>Assignments</b>		
<b>CM</b>	1. Course Review	3. Alternate Exam: Form A*
	2. Exam	4. Alternate Exam: Form B*

(\*) Indicates alternative assignment

## Office 2013 Applications I

Office 2013 Applications I is a semester-length, high school elective that explores the use of application skills in Microsoft® Word®, Publisher®, and PowerPoint® 2013. 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.

MICROSOFT, MICROSOFT WORD, MICROSOFT POWERPOINT, MICROSOFT EXCEL, MICROSOFT ACCESS, AND MICROSOFT PUBLISHER ARE EITHER REGISTERED TRADEMARKS OR TRADEMARKS OF MICROSOFT CORPORATION IN THE UNITED STATES AND/OR OTHER COUNTRIES.

Unit 1: Microsoft Word Beginning Skills	
Assignments	
Office 2013 Applications I	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. Project: Unit 1 - Capstone	
22. Special Project*	
23. Review	
24. Test	
25. Alternate Test—Form A*	
26. Alternate Test—Form B*	
27. Glossary and Credits	

Unit 2: Microsoft Word Intermediate Skills	
Assignments	
Office 2013 Applications I	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: Unit 2 - Capstone	
23. Special Project*	
24. Review	
25. Test	
26. Alternate Test—Form A*	
27. Alternate Test—Form B*	
28. Glossary and Credits	

Unit 3: Microsoft Word Advanced Skills	
Assignments	
Office 2013 Applications I	1. Recording a Macro
	2. Project: Record a Macro
	3. Merging to Create Letters
	4. Project: Creating a Merge
	5. Quiz 1: Word Advanced Skills
	6. Alternate Quiz 1—Form A: Word Advanced Skills*
	7. Alternate Quiz 1—Form B: Word Advanced Skills*
	8. Endnotes and Footnotes
	9. Citations and Captions
	10. Hyperlinks
	11. Table of Contents
	12. Project: Inserting Special Report Features
	13. Quiz 2: References
	14. Alternate Quiz 2—Form A: References*
	15. Alternate Quiz 2—Form B: References*
16. Share, Protect, and Modify Document Properties	
17. Using and Creating a Template	
18. Project: Creating a document template	
19. Quiz 3: Backstage View	
20. Alternate Quiz 3—Form A: Backstage View*	
21. Alternate Quiz 3—Form B: Backstage View*	
22. Project: Unit Simulation*	
23. Project: Unit 3 – Capstone	
24. Special Project*	
25. Review	
26. Test	
27. Alternate Test—Form A*	
28. Alternate Test—Form B*	
29. Glossary and Credits	

Unit 4: Microsoft Publisher Application	
Assignments	
Office 2013 Applications I	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: Unit 4 - Capstone	
20. Special Project*	
21. Review	
22. Test	
23. Alternate Test—Form A*	
24. Alternate Test—Form B*	
25. Glossary and Credits	

Unit 5: Microsoft PowerPoint Application	
Assignments	
Office 2013 Applications I	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: Unit 5 - Capstone	
22. Special Project*	
23. Review	
24. Test	
25. Alternate Test—Form A*	
26. Alternate Test—Form B*	
27. Glossary and Credits	

  

Unit 6: Course Review, and Final Exam	
Assignments	
OA-2013I	1. Course Review
	2. Final Exam
	3. Alternate Final Exam: Form A*
	4. Alternate Final Exam: Form B*

(\*) Indicates alternative assignment

## Office 2013 Applications II

Office 2013 Applications II is a semester-length, high school elective course that explores the use of application skills in the 2013 versions of 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.

MICROSOFT, MICROSOFT WORD, MICROSOFT POWERPOINT, MICROSOFT EXCEL, MICROSOFT ACCESS, AND MICROSOFT PUBLISHER ARE EITHER REGISTERED TRADEMARKS OR TRADEMARKS OF MICROSOFT CORPORATION IN THE UNITED STATES AND/OR OTHER COUNTRIES.

Unit 1: Microsoft Excel Spreadsheets Basics	
Assignments	
Office 2013 Applications II	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

Unit 2: Creating Microsoft Excel Spreadsheets	
Assignments	
Office 2013 Applications II	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	

Unit 3: Microsoft Excel Graphical Representations	
Assignments	
Office 2013 Applications II	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 – 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

Unit 4: Microsoft Access Database Basics		
Assignments		
Office 2013 Applications II	1. What is a Database and Its Uses?	18. Modifying a Table
	2. Database Design	19. Importing Data from an Excel File
	3. Field Names, Data Types, and Properties	20. Sorting and Filtering
	4. Project: Designing a Customer Information Database	21. Creating Relationships
	5. Quiz 1: Database Design	22. Project: Creating a Customer Information Database
	6. Alternate Quiz 1—Form A: Database Design*	23. Quiz 3: Creating an Access Database
	7. Alternate Quiz 1—Form B: Database Design*	24. Alternate Quiz 3—Form A: Creating an Access Database*
	8. The Access Screen	25. Alternate Quiz 3—Form B: Creating an Access Database*
	9. Navigating in Table Datasheets, Forms, and Reports	26. Project: Designing an Address List Database*
	10. Working in the Navigation Pane	27. Project: Creating an Address List Database*
	11. Save Options and Compact and Repair	28. Project: Designing and Creating an Inventory Database*
	12. Project: Managing the Access Environment	29. Special Project*
	13. Quiz 2: Managing the Access Environment	30. Review
	14. Alternate Quiz 2—Form A: Managing the Access Environment*	31. Test
	15. Alternate Quiz 2—Form B: Managing the Access Environment*	32. Alternate Test—Form A*
	16. Creating an Access Database and Table	33. Alternate Test—Form B*
	17. Entering Data	34. Glossary and Credits

Unit 5: Microsoft Access Forms, Queries, and Reports		
Assignments		
Office 2013 Applications II	1. Creating Forms	19. Editing the Design of a Report
	2. Editing the Design of a Form	20. Sorting and Filtering Records in a Report
	3. Creating Multi-table Forms	21. Creating Multi-table Reports
	4. Editing Multi-table Forms	22. Editing the Design of a Multi-Table Report
	5. Project: Address List Forms	23. Project: Address List Reports
	6. Quiz 1: Microsoft Access Forms	24. Quiz 3: Microsoft Access Reports
	7. Alternate Quiz 1—Form A: Microsoft Access Forms*	25. Alternate Quiz 3—Form A: Microsoft Access Reports*
	8. Alternate Quiz 1—Form B: Microsoft Access Forms*	26. Alternate Quiz 3—Form B: Microsoft Access Reports*
	9. Creating Simple Queries	27. Project: Creating Forms for the Address List Database*
	10. Creating Advanced Queries	28. Project: Creating Queries for the Address List Database*
	11. Creating Multi-table Queries	29. Project: Creating Reports for the Address List Database*
	12. Calculating Totals in a Query	30. Special Project*
	13. Creating Calculated Fields in a Query	31. Review
	14. Project: Address List Queries	32. Test
	15. Quiz 2: Microsoft Access Queries	33. Alternate Test—Form A*
	16. Alternate Quiz 2—Form A: Microsoft Access Queries*	34. Alternate Test—Form B*
	17. Alternate Quiz 2—Form B: Microsoft Access Queries*	35. Glossary and Credits
	18. Creating Reports	

Unit 6: Course Review, and Final Exam		
Assignments		
OA 2013II	1. Course Review	3. Alternate Final Exam: Form A*
	2. Final Exam	4. Alternate Final Exam: Form B*

(\*) Indicates alternative assignment

## Office 2010 Applications I

Office 2010 Applications I 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.

MICROSOFT, MICROSOFT WORD, MICROSOFT POWERPOINT, MICROSOFT EXCEL, MICROSOFT ACCESS, AND MICROSOFT PUBLISHER ARE EITHER REGISTERED TRADEMARKS OR TRADEMARKS OF MICROSOFT CORPORATION IN THE UNITED STATES AND/OR OTHER COUNTRIES.

Unit 1: Microsoft® Word® Beginning Skills	
Assignments	
Office 2010 Applications I	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

Unit 2: Microsoft® Word® Intermediate Skills	
Assignments	
Office 2010 Applications I	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

Unit 3: Microsoft® Word® Advanced Skills	
Assignments	
Office 2010 Applications I	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	

Unit 4: Microsoft® Publisher® Application	
Assignments	
Office 2010 Applications I	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	

Unit 5: Microsoft® PowerPoint® Application	
Assignments	
Office 2010 Applications I	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	
Unit 6: Course Review, and Exam	
Assignments	
O2010A I	1. Course Review
	2. Final Exam
	3. Alternate Final Exam: Form A*
	4. Alternate Final Exam: Form B*

(\*) Indicates alternative assignment

## Office 2010 Applications II

Office 2010 Applications II 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.

MICROSOFT, MICROSOFT WORD, MICROSOFT POWERPOINT, MICROSOFT EXCEL, MICROSOFT ACCESS, AND MICROSOFT PUBLISHER ARE EITHER REGISTERED TRADEMARKS OR TRADEMARKS OF MICROSOFT CORPORATION IN THE UNITED STATES AND/OR OTHER COUNTRIES.

Unit 1: Microsoft Excel Spreadsheets Basics	
Assignments	
Office 2010 Applications II	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	

Unit 2: Creating Microsoft Excel Spreadsheets	
Assignments	
Office 2010 Applications II	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	

Unit 3: Microsoft Excel Graphical Representations		
Assignments		
Office 2010 Applications II	1. Why Use Graphical Representations of Data?	15. Project: Stock Market Project Part 6 – Creating Advanced Charts
	2. Creating Charts	16. Quiz 3: Advanced Charting Options
	3. Quiz 1: Creating Charts in Microsoft Excel	17. Alternate Quiz 3: Form A: Advanced Charting Options*
	4. Alternate Quiz 1: Form A: Data Entry*	18. Alternate Quiz 3: Form B: Advanced Charting Options*
	5. Alternate Quiz 1: Form B: Data Entry*	19. Project: Research and Chart Product Price Comparisons*
	6. Formatting Charts	20. Project: Chart Budget Expenses*
	7. Enhancing Charts with Illustrations	21. Special Project*
	8. Formatting Illustrations	22. Review
	9. Project: Stock Market Project Part 5 - Creating and Enhancing Charts	23. Test
	10. Quiz 2: Enhancing Microsoft Excel Charts	24. Alternate Test: Form A*
	11. Alternate Quiz 2: Form A: Enhancing Microsoft Excel Charts*	25. Alternate Test: Form B*
	12. Alternate Quiz 2: Form B: Enhancing Microsoft Excel Charts*	26. Glossary and Credits
	13. Creating Picture Charts	
	14. Sparklines	

Unit 4: Microsoft Access Database Basics		
Assignments		
Office 2010 Applications II	1. What is a Database and Its Uses?	18. Modifying a Table
	2. Database Design	19. Importing Data from an Excel File
	3. Field Names, Data Types, and Properties	20. Sorting and Filtering
	4. Project: Designing a Customer Information Database	21. Creating Relationships
	5. Quiz 1: Database Design	22. Project: Creating Customer Information Database
	6. Alternate Quiz 1: Form A: Database Design*	23. Quiz 3: Creating an Access Database
	7. Alternate Quiz 1: Form B: Database Design*	24. Alternate Quiz 3: Form A: Creating an Access Database*
	8. The Access Screen	25. Alternate Quiz 3: Form B: Creating an Access Database*
	9. Navigating in Table Datasheets, Forms, and Reports	26. Project: Designing an Address List Database*
	10. Working in the Navigation Pane	27. Project: Creating an Address List Database*
	11. Save Options and Compact and Repair	28. Project: Designing and Creating an Inventory Database*
	12. Project: Managing the Access Environment	29. Special Project*
	13. Quiz 2: Managing the Access Environment	30. Review
	14. Alternate Quiz 2: Form A: Managing the Access Environment*	31. Test
	15. Alternate Quiz 2: Form B: Managing the Access Environment*	32. Alternate Test: Form A*
	16. Creating an Access Database and Table	33. Alternate Test: Form B*
	17. Entering Data	34. Glossary and Credits

Unit 5: Microsoft Access Forms, Queries, and Reports		
Assignments		
Office 2010 Applications II	1. Creating Forms	20. Sorting and Filtering Records in a Report
	2. Editing the Design of a Form	21. Creating Multi-table Reports
	3. Creating Multi-table Forms	22. Editing the Design of a Multi-Table Report
	4. Editing Multi-table Forms	23. Project: Address List Reports
	5. Project: Address List Forms	24. Quiz 3: Microsoft Access Reports
	6. Quiz 1: Microsoft Access Forms	25. Alternate Quiz 3: Form A: Microsoft Access Reports*
	7. Alternate Quiz 1: Form A: Microsoft Access Forms*	26. Alternate Quiz 3: Form B: Microsoft Access Reports*
	8. Alternate Quiz 1: Form B: Microsoft Access Forms*	27. Project: Creating Forms for the Address List Database*
	9. Creating Simple Queries	28. Project: Creating Queries for the Address List Database*
	10. Creating Advanced Queries	29. Project: Creating Reports for the Address List Database*
	11. Creating Multi-table Queries	30. Special Project*
	12. Calculating Totals in a Query	31. Review
	13. Creating Calculated Fields in a Query	32. Test
	14. Project: Address List Queries	33. Alternate Test: Form A*
	15. Quiz 2: Microsoft Access Queries	34. Alternate Test: Form B*
	16. Alternate Quiz 2: Form A: Microsoft Access Queries*	35. Glossary and Credits
	17. Alternate Quiz 2: Form B: Microsoft Access Queries*	
	18. Creating Reports	
	19. Editing the Design of a Report	

Unit 6: Course Review, and Exam		
Assignments		
O2010A II	1. Review	3. Alternate Final Exam: Form A*
	2. Test	4. Alternate Final Exam: Form B*

(\*) Indicates alternative assignment

## Small Business Entrepreneurship

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.

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

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

<b>Unit 3: Financing</b>	
<b>Assignments</b>	
Small Business Entrepreneurship	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

<b>Unit 4: Marketing</b>	
<b>Assignments</b>	
Small Business Entrepreneurship	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

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

Unit 6: Course Review, and Exam		
Assignments		
SBE	1. Review	3. Alternate Exam - Form A*
	2. Exam	4. Alternate Exam - Form B*

(\*) Indicates alternative assignment

## Technology and Business

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	<b>Unit 1: Business Technology</b>	
	<b>Assignments</b>	
	1. Course Overview	10. Project: Defining Technical Terms

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

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

Unit 3: Word Processing	
Assignments	
Technology and Business	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	

Unit 4: Spreadsheets	
Assignments	
Technology and Business	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	

Unit 5: Databases																											
Technology and Business	<b>Assignments</b>																										
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">1. Comparing Databases and Spreadsheets</td> <td style="width: 50%;">14. Project: Data Warehouse*</td> </tr> <tr> <td>2. Understanding Database Terms</td> <td>15. Project: Using a Database to Create a Business Report*</td> </tr> <tr> <td>3. Project: Creating a Database</td> <td>16. <b>Quiz 2: Database Features</b></td> </tr> <tr> <td>4. Working with Data and Records</td> <td>17. Alternate Quiz 2—Form A: Database Features*</td> </tr> <tr> <td>5. Project: Creating a Database</td> <td>18. Alternate Quiz 2—Form B: Database Features*</td> </tr> <tr> <td>6. Quiz 1: Database Basics</td> <td>19. Special Project*</td> </tr> <tr> <td>7. Alternate Quiz 1—Form A: Database Basics*</td> <td>20. <b>Review</b></td> </tr> <tr> <td>8. Alternate Quiz 1—Form B: Database Basics*</td> <td>21. <b>Test</b></td> </tr> <tr> <td>9. Using Databases to Search and Query</td> <td>22. Alternate Test—Form A*</td> </tr> <tr> <td>10. Project: Working with Queries</td> <td>23. Alternate Test—Form B*</td> </tr> <tr> <td>11. Project: Using a Database to Generate Mailings*</td> <td>24. <b>Glossary and Credits</b></td> </tr> <tr> <td>12. Importing and Exporting Data</td> <td></td> </tr> <tr> <td>13. Data Analysis</td> <td></td> </tr> </table>	1. Comparing Databases and Spreadsheets	14. Project: Data Warehouse*	2. Understanding Database Terms	15. Project: Using a Database to Create a Business Report*	3. Project: Creating a Database	16. <b>Quiz 2: Database Features</b>	4. Working with Data and Records	17. Alternate Quiz 2—Form A: Database Features*	5. Project: Creating a Database	18. Alternate Quiz 2—Form B: Database Features*	6. Quiz 1: Database Basics	19. Special Project*	7. Alternate Quiz 1—Form A: Database Basics*	20. <b>Review</b>	8. Alternate Quiz 1—Form B: Database Basics*	21. <b>Test</b>	9. Using Databases to Search and Query	22. Alternate Test—Form A*	10. Project: Working with Queries	23. Alternate Test—Form B*	11. Project: Using a Database to Generate Mailings*	24. <b>Glossary and Credits</b>	12. Importing and Exporting Data		13. Data Analysis	
	1. Comparing Databases and Spreadsheets	14. Project: Data Warehouse*																									
	2. Understanding Database Terms	15. Project: Using a Database to Create a Business Report*																									
	3. Project: Creating a Database	16. <b>Quiz 2: Database Features</b>																									
	4. Working with Data and Records	17. Alternate Quiz 2—Form A: Database Features*																									
	5. Project: Creating a Database	18. Alternate Quiz 2—Form B: Database Features*																									
	6. Quiz 1: Database Basics	19. Special Project*																									
	7. Alternate Quiz 1—Form A: Database Basics*	20. <b>Review</b>																									
	8. Alternate Quiz 1—Form B: Database Basics*	21. <b>Test</b>																									
	9. Using Databases to Search and Query	22. Alternate Test—Form A*																									
	10. Project: Working with Queries	23. Alternate Test—Form B*																									
	11. Project: Using a Database to Generate Mailings*	24. <b>Glossary and Credits</b>																									
	12. Importing and Exporting Data																										
	13. Data Analysis																										

Unit 6: Semester Review and Exam	
T&B	<b>Assignments</b>
	1. Review
	2. Exam
	3. Alternate Exam—Form A*
	4. Alternate Exam—Form B*

Unit 7: Communication Skills																											
Technology and Business	<b>Assignments</b>																										
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">1. Communication Skills</td> <td style="width: 50%;">14. Finding Reliable Internet Resources</td> </tr> <tr> <td>2. Electronic Communication Skills</td> <td>15. Paraphrasing and Summarizing</td> </tr> <tr> <td>3. Project: Revising E-mail Messages</td> <td>16. Organizing Information</td> </tr> <tr> <td>4. Quiz 1: Overview of Effective Communication Skills</td> <td>17. <b>Quiz 3: Using Written Information</b></td> </tr> <tr> <td>5. Alternate Quiz 1—Form A: Overview of Effective Communication Skills*</td> <td>18. Alternate Quiz 3—Form A: Using Written Information*</td> </tr> <tr> <td>6. Alternate Quiz 1—Form B: Overview of Effective Communication Skills*</td> <td>19. Alternate Quiz 3—Form B: Using Written Information*</td> </tr> <tr> <td>7. Workplace Skills, Habits, and Attitudes</td> <td>20. <b>Report: Business Skills</b></td> </tr> <tr> <td>8. Active Listening</td> <td>21. Special Project*</td> </tr> <tr> <td>9. Constructive Feedback</td> <td>22. <b>Review</b></td> </tr> <tr> <td>10. Project: Employee Action Plan</td> <td>23. <b>Test</b></td> </tr> <tr> <td>11. Quiz 2: Desirable Workplace Skills, Habits, and Attitudes</td> <td>24. Alternate Test—Form A*</td> </tr> <tr> <td>12. Alternate Quiz 2—Form A: Desirable Workplace Skills, Habits, and Attitudes*</td> <td>25. Alternate Test—Form B*</td> </tr> <tr> <td>13. Alternate Quiz 2—Form B: Desirable Workplace Skills, Habits, and Attitudes*</td> <td>26. <b>Glossary and Credits</b></td> </tr> </table>	1. Communication Skills	14. Finding Reliable Internet Resources	2. Electronic Communication Skills	15. Paraphrasing and Summarizing	3. Project: Revising E-mail Messages	16. Organizing Information	4. Quiz 1: Overview of Effective Communication Skills	17. <b>Quiz 3: Using Written Information</b>	5. Alternate Quiz 1—Form A: Overview of Effective Communication Skills*	18. Alternate Quiz 3—Form A: Using Written Information*	6. Alternate Quiz 1—Form B: Overview of Effective Communication Skills*	19. Alternate Quiz 3—Form B: Using Written Information*	7. Workplace Skills, Habits, and Attitudes	20. <b>Report: Business Skills</b>	8. Active Listening	21. Special Project*	9. Constructive Feedback	22. <b>Review</b>	10. Project: Employee Action Plan	23. <b>Test</b>	11. Quiz 2: Desirable Workplace Skills, Habits, and Attitudes	24. Alternate Test—Form A*	12. Alternate Quiz 2—Form A: Desirable Workplace Skills, Habits, and Attitudes*	25. Alternate Test—Form B*	13. Alternate Quiz 2—Form B: Desirable Workplace Skills, Habits, and Attitudes*	26. <b>Glossary and Credits</b>
	1. Communication Skills	14. Finding Reliable Internet Resources																									
	2. Electronic Communication Skills	15. Paraphrasing and Summarizing																									
	3. Project: Revising E-mail Messages	16. Organizing Information																									
	4. Quiz 1: Overview of Effective Communication Skills	17. <b>Quiz 3: Using Written Information</b>																									
	5. Alternate Quiz 1—Form A: Overview of Effective Communication Skills*	18. Alternate Quiz 3—Form A: Using Written Information*																									
	6. Alternate Quiz 1—Form B: Overview of Effective Communication Skills*	19. Alternate Quiz 3—Form B: Using Written Information*																									
	7. Workplace Skills, Habits, and Attitudes	20. <b>Report: Business Skills</b>																									
	8. Active Listening	21. Special Project*																									
	9. Constructive Feedback	22. <b>Review</b>																									
	10. Project: Employee Action Plan	23. <b>Test</b>																									
	11. Quiz 2: Desirable Workplace Skills, Habits, and Attitudes	24. Alternate Test—Form A*																									
	12. Alternate Quiz 2—Form A: Desirable Workplace Skills, Habits, and Attitudes*	25. Alternate Test—Form B*																									
	13. Alternate Quiz 2—Form B: Desirable Workplace Skills, Habits, and Attitudes*	26. <b>Glossary and Credits</b>																									

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

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

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

Unit 11: Project Management	
Technology and Business	<b>Assignments</b>
	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	

Unit 12: Semester Review and Exam	
T&B	<b>Assignments</b>
	1. Review
	2. Exam
	3. Alternate Exam—Form A*
	4. Alternate Exam—Form B*

Unit 13: Course Review and Exam	
T&B	<b>Assignments</b>
	1. Review
	2. Exam
	3. Alternate Exam—Form A*
	4. Alternate Exam—Form B*

(\*) Indicates alternative assignment

# Education and Training

## Introduction to Careers in Education and Training

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.

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

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

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

Unit 4: Ethical and Legal Policies of Careers in Education and Training	
Intro. to Careers in Education and Training	<b>Assignments</b>
	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. Special Project*	
14. Test	
15. Course Project Part 4: Research Local, State, and Federal Education Laws*	
16. Glossary and Credits	

Unit 5: Health and Safety in Education and Training	
Intro. to Careers in Education and Training	<b>Assignments</b>
	1. Health and Safety Regulations in Early Child-care Settings
	2. Project: Create an Informational Brochure
	3. Health and Safety Regulations in K-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. Special Project*	
14. Test	
15. Course Project Part 5: Design a Safe and Healthy Learning Space*	
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
ICET	<b>Assignments</b>
	1. Course Project Part 6: Write an Educational Grant Proposal *
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Teaching and Training Careers

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

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

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

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

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

TTC	<b>Unit 6: Course Project, Review, and Exam</b>	
	<b>Assignments</b>	
	1. Course Project Part 6: Putting it All Together*	3. Exam
	2. Review	

(\* ) Indicates alternative assignment

# Finance

## Introduction to Careers in Finance

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.

Intro. to Careers in Finance	<b>Unit 1: Finance Overview and Financial Services</b>			
	<b>Assignments</b>			
	1.	Course Overview	11.	Project: The Fiscal Cliff
	2.	Introduction to the Financial Services Industry	12.	International Finance
	3.	Project: Exploring Careers in Financial Services	13.	Project: When Financial Services Fail to serve the Consumer
4.	Financial System and Financial Intermediaries			

Intro. to Careers in Finance	5. Project: Exploring Stock Market Fraud	14. Quiz 2: Constantly Changing Financial Systems
	6. Dynamics of Financial Services Systems	15. Special Project*
	7. Quiz 1: Market Organization and Structure	16. Test
	8. Traits for a Healthy Financial System	17. Course Project Part 1: Find the Right Company*
	9. Project: Mortgage Meltdown	18. Glossary and Credits
	10. Financial Regulation and Compliance	

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

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

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

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

---

Unit 6: Course Project, Review, and Exam	
ICF	<b>Assignments</b>
	1. Course Project Part 6: Look to the Future*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Banking Services Careers

The exchange of money in the United States is generally managed with the services of banks and other financial institutions, whose reputations depend greatly on customer satisfaction and trust. Many of the products we use on a daily basis, like checking and savings accounts, debit cards, credit cards, and loans, are the backbone of the banking industry. This course will provide an overview of how the banking system works, what the Federal Reserve is, and the technical and social skills needed to work in banking and related services. Students will explore career paths and the required training or higher education necessary, and will gain an understanding of the basic functions of customer transactions (i.e., setting up an account, processing a loan, or establishing a business), cash drawer activity, check collection processes, and other customer service–related transactions. This course will also discuss how technology has changed banking in the 21st century. The banking industry is responsible for many of the products that we use on a daily basis, from checking and savings accounts to debit cards, credit cards, and loans.

This course will focus on the specific skills related to banking and related services. In addition, you will explore career paths and the required training or higher education preparation necessary to obtain a career in banking and related services. Also, you will gain an understanding of the basic functions of customer transactions, cash drawer activity, check collection processes, and other customer service–related transactions. This course will also discuss how technology has changed the banking and related services industry. Finally, this course will provide an overview of the technical and people skills necessary to aid consumers with setting up an account, processing a loan, or establishing a business.

### Objectives

- Examine laws and regulations to manage business operations and transactions in the banking services industry.
- Identify positive, ongoing relationships with banking customers.
- Analyze the use of financial resources to enhance banking performance.
- Demonstrate the use of banking technology and equipment.
- Plan the day-to-day activities within a banking organization to ensure secure operations.
- Evaluate career-planning concepts, tools, and strategies to explore, obtain, and/or develop a career in banking services.
- Label client needs and wants and compose a response through planned, personalized communication to guide purchase decisions and enhance future business opportunities in banking services.

Unit 1: Description of the Banking Industry	
Assignments	
Banking Services Careers	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. Special Project*
	15. Test
	16. Course Project Part 1: Introduction of Your Product or the Improvement to a Product*
	17. Glossary and Credits

Unit 2: Bank Performance	
Banking Services Careers	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 2: Choosing a Charter*
16. Glossary and Credits	

Unit 3: Bank Products	
Banking Services Careers	<b>Assignments</b>
	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. Special Project*
	15. Test
	16. Course Project Part 3: Bank Services*
17. Glossary and Credits	

Unit 4: Customer Relationships	
Banking Services Careers	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 4: Corporate Social Responsibility Strategy*
16. Glossary and Credits	

Unit 5: Banking and Consumers	
Banking Services Careers	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 5: Finding Key Employees*
16. Glossary and Credits	

Unit 5: Banking and Consumers	
BSC	<b>Assignments</b>
	1. Course Project Part 6: Planning for the Trends*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

# Government and Public Administration

## Introduction to Career in Government and Public Administration

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, students 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.

### 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.

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

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

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

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

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

ICGPA	Unit 6: Course Project, Review, and Exam	
	Assignments	
	1. Course Project Part 6: Serving the People: The Final Product *	2. Review
		3. Exam

(\* ) Indicates alternative assignment

# Health Science

## Careers in Allied Health

As a Christian, it is important to do your best in whatever career path you choose. Your desire should be to help others achieve and maintain a healthy lifestyle. A career in allied health provides you the opportunity to meet the physical needs of many people. What is allied health in relation to the healthcare industry?

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 is not always true.

Allied health career paths can be divided into general roles like diagnostic (testing to see what is 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 is 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.

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

Unit 2: Art and Technology	
Assignments	
Careers in Allied Health	1. Medical Arts and Special Skills: Medical Illustrator
	2. Project: Medical Illustration/Emergency Medicine Career Comparison
	3. Medical Arts and Special Skills: Orthotists and Prosthetists
	4. Project: Orthotics and Prosthetics
	5. Medical Arts and Special Skills: Art Therapist
	6. Quiz: 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: Caring for Others	
10. Therapists and Technologists: Polysomnographic Technologists and Sleep Apnea	
11. Project: Polysomnographic Technologist (PT) Scenario	
12. Quiz: Therapists and Technologists	
13. Special Project*	
14. Test	
15. Course Project Part 2: Situs Inversus*	
16. Glossary and Credits	

Unit 3: Exercise Science and Patient Evaluation	
Assignments	
Careers in Allied Health	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: Compassion Ministries
	5. Fitness Instructor and the New Year's Resolution
	6. Quiz: Exercise Science
	7. Audiologists and Hearing Loss
	8. Project: The Hip Hop Mogul
9. Electro-Neurodiagnostic (END) Technologist and the Nervous System	
10. Project: Epilepsy Research Paper	
11. Cardiovascular Technologist	
12. Quiz: Evaluating the Patient	
13. Special Project*	
14. Test	
15. Course Project Part 3: Blogging about an Echocardiogram*	
16. Glossary and Credits	

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

Unit 5: Counseling, Dietetics and Choosing a Career in Allied Health		
Assignments		
Careers in Allied Health	1. Genetic Counseling II An Introduction to the Career	9. Diet and the Body
	2. Bioinformatics and the Human Genome	10. Project: Stewardship and You
	3. Project: Mapping Genes	11. Career Exploration Activities
	4. Prenatal Counseling and Anomalies, Choice, Ethics, Science	12. Project: The Case Study
	5. Project: The Sanctity of Life	13. Quiz: Dietetics and Nutrition
	6. Quiz: Genetic Counseling	14. Special Project*
	7. Dietetics and Nutrition: An Introduction to the Career	15. Test
	8. Project: The Debate Between the Nutritionist and Dietician	16. Course Project Part 5: Personal Trainer and Dietician Consulting*
		17. Glossary and Credits

Unit 6: Course Project, Review, and Exam		
Assignments		
CAH	1. Course Project Part 6: Final Blogging Project*	3. Exam
	2. Review	

(\*) Indicates alternative assignment

## Nursing: Unlimited Possibilities and Unlimited Potential

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.

In a world that is increasingly secularized, there is a tremendous need for godly, Christian nurses who not only meet the physical needs of patients, but who can also provide prayer and spiritual support. They assist patients as well as lift up hurting families while placing a strong emphasis on the sanctity of human life.

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 32 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 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.

Unit 1: The Nursing Profession					
Assignments					
Nursing	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">1. Course Overview</td> <td style="width: 50%;">11. Project: Case Study: The Nursing Code of Ethics</td> </tr> <tr> <td>2. History of Nursing</td> <td>12. Professionalism in Nursing</td> </tr> </table>	1. Course Overview	11. Project: Case Study: The Nursing Code of Ethics	2. History of Nursing	12. Professionalism in Nursing
1. Course Overview	11. Project: Case Study: The Nursing Code of Ethics				
2. History of Nursing	12. Professionalism in Nursing				

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

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

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

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

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

Unit 6: Course Project, Review, and Exam		
Assignments		
Nursing	1. Course Project - Part 6: Your Final Presentation*	3. Exam
	2. Course Review	

(\*) Indicates alternative assignment

# Human Services

## Introduction to Consumer Services

In this introductory Consumer Services course, students will analyze various career paths in terms of employment opportunities. Educational requirements, including applicable hard and soft skills, certifications, and licensures for different pathways, will be discussed. 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, as well as Biblical principles and standards. 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 of the impact of local, state, national, and global issues on consumer services.

### Objectives

- Analyze careers 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 coworkers to comply with ethical and legal responsibilities in the workplace.
- 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 clearly articulate 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 Web sites. Basic math skills at the Algebra I level (arithmetic, ratios, graphing) are required. Intermediate-level proficiency with word processing, spreadsheet, and presentation software is highly encouraged, as is access to these programs for use in producing projects.

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

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

Introduction to Consumer Services	<b>Unit 3: Counseling, Advisement, Education</b>	
	<b>Assignments</b>	
	1. Financial Counseling	10. Risk Management in Financial Planning
	2. Developing a Financial Plan	11. Project: Building an Estate Plan
	3. Project: Building a Financial Plan	12. Quiz 2: Credit Counseling and Risk Management
	4. Spending Patterns and Budgeting	13. Special Project*
	5. Project: Building a Budget	14. Test
	6. Quiz 1: Financial Counseling Roles	15. Course Project Part 3: Our Town's Children Programs*
	7. Credit Counseling and Risk Management	16. Glossary and Credits
	8. Applying for Credit and Credit Scoring	

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

Unit 5: Management, Sales, Public Relations	
Introduction to Consumer Services	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 5: Growing a Sustainable Organization*
16. Glossary and Credits	

Unit 6: Course Review and Exam	
ICS	<b>Assignments</b>
	1. Course Project Part 6: Our Town's Children, Inc. Annual Report 20XX*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

# Information Technology

## Introduction to Information Technology

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.

Unit 1: Hardware and Communications Technology Introduction	
Intro. to Information to Technology	<b>Assignments</b>
	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. Special Project*
	15. Unit 1 Test
	16. Course Project Part 1: Capstone Project*
17. Glossary and Credits	

Unit 2: Operating Systems, System Software, Mobile Applications	
Intro. to Information to Technology	<b>Assignments</b>
	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. Special Project*
	14. Unit 2 Test
	15. Course Project Part 2: Capstone Project*
16. Glossary and Credits	

Unit 3: Introduction to Information Systems	
Intro. to Information to Technology	<b>Assignments</b>
	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. Special Project*
	14. Unit 3 Test
	15. Course Project Part 3: Capstone Project*
16. Glossary and Credits	

Unit 4: Internet Utilization and Information Literacy	
Intro. to Information to Technology	<b>Assignments</b>
	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. Special Project*
	14. Unit 4 Test
	15. Course Project Part 4: Capstone Project*
16. Glossary and Credits	

Unit 5: Mobile Application Programming and Productivity	
Intro. to Information to Technology	<b>Assignments</b>
	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. Special Project*
	14. Unit 5 Test
	15. Course Project Part 5: Capstone Project*
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
IIT	<b>Assignments</b>
	1. Course Project Part 6: Capstone Project*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Fundamentals of Computer Systems

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

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

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

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

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

FCS	<b>Unit 6: Course Review and Exam</b>	
	<b>Assignments</b>	
	1. Course Project Part 6: Help Desk Policies and Procedures*	2. Review
		3. Exam

(\*) Indicates alternative assignment

## Fundamentals of Digital Media

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 canons 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.

Unit 1: Introduction to Digital and Online Media Types	
Assignments	
Fundamentals of Digital Media	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. Special Project*
	15. Unit 1 Test
	16. Course Project Part 1: Digital Media Cuts Paper Use*
	17. Glossary and Credits

Unit 2: Digital Media: Effectiveness and Production	
Fundamentals of Digital Media	<b>Assignments</b>
	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. Special Project*
	14. Unit 2 Test
	15. Course Project Part 2: E-waste*
16. Glossary and Credits	

Unit 3: Project Management and Social Media	
Fundamentals of Digital Media	<b>Assignments</b>
	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. Special Project*
	14. Unit 3 Test
	15. Course Project Part 3: Social Media and Environmental Activism*
16. Glossary and Credits	

Unit 4: Gaming, Simulations, Web Sites, and Apps	
Fundamentals of Digital Media	<b>Assignments</b>
	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. Special Project*
	14. Unit 4 Test
	15. Course Project Part 4: Environmental Gaming*
16. Glossary and Credits	

Unit 5: Trends in Digital and Online Media	
Fundamentals of Digital Media	<b>Assignments</b>
	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. Special Project*
	14. Unit 5 Test
	15. Course Project Part 5: Powering a Digital World*
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
FDM	<b>Assignments</b>
	1. Course Project Part 6: Digital media and Sustainability*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Fundamentals of Programming and Software Development

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.

Additionally, activities in this course require that the Java Software Development Kit (SDK) and the NetBeans Integrated Development Environment (IDE) is installed on students' computers. Instructions are included in the Unit 1 lesson titled "Introduction to Java Programming."

Unit 1: Introduction to Computers	
Fundamentals of Programming and Software Development	<b>Assignments</b>
	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. Special Project*
	15. Unit 1 Test
	16. Course Project Part 1: The Impact of GUI Computing*
17. Glossary and Credits	

Unit 2: Programming Languages	
Fundamentals of Programming and Software Development	<b>Assignments</b>
	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. Special Project*
	14. Unit 2 Test
	15. Course Project Part 2: Ethics in Programming*
16. Glossary and Credits	

Unit 3: Introduction to Programming	
Fundamentals of Programming and Software Development	<b>Assignments</b>
	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. Special Project*
	14. Unit 3 Test
	15. Course Project Part 3: The Life of a Software or Web Developer*
16. Glossary and Credits	

Unit 4: Control Blocks	
Fundamentals of Programming and Software Development	<b>Assignments</b>
	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. Special Project*
	14. Unit 4 Test
	15. Course Project Part 4: Open-Source Programming*
16. Glossary and Credits	

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

FPSD	<b>Unit 6: Course Project, Review, and Exam</b>	
	<b>Assignments</b>	
	1. Course Project Part 6: Issues and Experiences in the World of Software Development*	2. Review
		3. Exam

(\*) Indicates alternative assignment

## Introduction to Information Technology Support and Services

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 standalone 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.

### 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.

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

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

Intro. to Information Technology Support	Unit 3: End-User Support	
	Assignments	
	1. Types of Help Desk Systems and Support	10. Building a Knowledge Base
	2. Project: Training for a Service Desk	11. Project: Creating a Knowledge Management Site
	3. Resolution Methodologies for Help Desks	12. Quiz 2: Ticketing System / Knowledge Base
	4. Project: Branding and Customer Service	13. Special Project*

	<ol style="list-style-type: none"> <li>5. Customer Service</li> <li>6. Quiz 1: Helpdesk</li> <li>7. Ticketing Systems</li> <li>8. Protocols and Procedures</li> <li>9. Project: From Plato to Technical Support, a Paper on Problem Solving in History</li> </ol>	<ol style="list-style-type: none"> <li>14. Unit 3 Test</li> <li>15. Course Project 3: How, How Much, and When?*</li> <li>16. Glossary and Credits</li> </ol>
--	---	--

Unit 4: Management Collaboration and Reporting		
Intro. to Information Technology Support and Services	Assignments	
	<ol style="list-style-type: none"> <li>1. Working with the Management Team</li> <li>2. Project: Role-playing Senior Management Meeting</li> <li>3. Departmental Reporting</li> <li>4. Project: Role-playing with Departmental Reports</li> <li>5. Emerging Technologies</li> <li>6. Quiz 1: Management Collaboration and Reporting</li> <li>7. Creating and Managing an IT Project</li> <li>8. Project: Create a Feasibility Study</li> <li>9. Managing IT Projects</li> </ol>	<ol style="list-style-type: none"> <li>10. Project Management Applications</li> <li>11. Project: Creating a Project in Open Project</li> <li>12. Quiz 2: Leading Technology Projects</li> <li>13. Special Project*</li> <li>14. Unit 4 Test</li> <li>15. Course Project Part 4: Management Collaboration and Reporting*</li> <li>16. Glossary and Credits</li> </ol>

Unit 5: Continuing Education and Career Opportunities		
Intro. to Information Technology Support and Services	Assignments	
	<ol style="list-style-type: none"> <li>1. Pursuing Technical Education</li> <li>2. Technical Education Degree Programs</li> <li>3. Project: Take a Free Course in Computing</li> <li>4. On-the-Job Training</li> <li>5. Project: Developing a Personal Syllabus</li> <li>6. Quiz 1: Continuing Education</li> <li>7. On-Premise (Insource) IT Support</li> <li>8. Project: Understanding Job Requirements and Certifications</li> </ol>	<ol style="list-style-type: none"> <li>9. Off-Premise (Outsource) IT Support</li> <li>10. Consultant/Educator</li> <li>11. Project: Imagining a Consulting Practice</li> <li>12. Quiz 2: Emerging Trends</li> <li>13. Special Project*</li> <li>14. Unit 5 Test</li> <li>15. Course Project Part 5: Presenting your plan*</li> <li>16. Glossary and Credits</li> </ol>

Unit 6: Course Review, and Exam		
IITSS	Assignments	
	<ol style="list-style-type: none"> <li>1. Course Project Part 6: Describing What You Learned*</li> </ol>	<ol style="list-style-type: none"> <li>2. Review</li> <li>3. Exam</li> </ol>

(\*) Indicates alternative assignment

## Introduction to Network Systems

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.

Unit 1: Networking Fundamentals	
Intro. to Network Systems	<b>Assignments</b>
	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. Special Project*
	15. Test
	16. Course Project Part 1: Uses of a Small Business Network*
17. Glossary and Credits	
Unit 2: Network Access Concepts	
Intro. to Network Course	<b>Assignments</b>
	1. Physical Layer: Transmission Media, Properties, and Components
	2. Project: The Physical Layer
	3. Fundamentals of Electrical Circuits: Signaling and
	4. Components of the Data-link Layer
5. Project: FAQ: A Data-Link Sublayer	
6. Data-link Layer Devices	
7. Project: Video: Data-Link Hardware	

	Circuit Configuration	12. Quiz 2: Data Link Layer Networking Concepts
4.	Network Security at the Physical Layer	13. Special Project*
5.	Project: Under Attack	14. Test
6.	Quiz 1: Physical Layer Networking Concepts	15. Course Project Part 2: Physical Standards*
7.	The Data-Link Layer	16. Glossary and Credits

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

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

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

Unit 6: Course Review, and Exam		
INS	Assignments	
	1. Course Project Part 6: Slide show: Introducing Your Network*	2. Review
		3. Exam

(\* Indicates alternative assignment)

## Network System Design

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.

Unit 1: Introduction to Network Design	
Assignments	
Network System Design	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. Special Project*
	15. Unit 1 Test
	16. Course Project Part 1: Physical and Functional Requirements of a Network*
	17. Glossary and Credits

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

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

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

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

Unit 6: Course Review, And Exam		
Assignments		
NSD	1. Course Project Part 6: Network Administration*	3. Exam
	2. Review	

(\*) Indicates alternative assignment

## New Applications: Web Development in the 21st Century

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.

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

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

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

<b>Unit 4: Internet Distributed Applications</b>	
<b>Assignments</b>	
New Applications	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. Special Project*
	15. Unit 4 Test
	16. Course Project Part 4: Reviewing Web Applications*
	17. Glossary and Credits

<b>Unit 5: New Apps: Creativity and Careers</b>	
<b>Assignments</b>	
New Applications	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. Special Project*
	14. Unit 5 Test
	15. Course Project Part 5: The Mobile App Hall of Fame*
	16. Glossary and Credits

<b>Unit 6: Course Review, and Exam</b>	
<b>Assignments</b>	
NA	1. Course Project Part 6: The Future of Apps Blog*
	2. Review
	3. Exam

(\*) Indicates alternative assignment

## Software Development Tools

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).
- Identify three levels of programming languages.
- Identify 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.

Unit 1: Introduction to Software Development Tools	
Assignments	
Software Development Tools	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. Special Project*
	15. Unit 1 Test
	16. Glossary and Credits

Unit 2: Software Development	
Software Development Tools	<b>Assignments</b>
	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. Special Project*
	14. Unit 2 Test
15. Glossary and Credits	

Unit 3: Debugging	
Software Development Tools	<b>Assignments</b>
	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. Special Project*
	14. Unit 3 Test
15. Glossary and Credits	

Unit 4: Software Configuration Management	
Software Development Tools	<b>Assignments</b>
	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. Special Project*
	14. Unit 4 Test
15. Glossary and Credits	

Unit 5: Object Modeling UML and Software Testing	
Software Development Tools	<b>Assignments</b>
	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. Special Project*
	14. Unit 5 Test
15. Glossary and Credits	

Unit 6: Course Project, Review and Exam	
SDT	<b>Assignments</b>
	1. Course Project: The Design Team: Creating a Tablet GUI*
	2. Review
	3. Exam

(\*) Indicates alternative assignment



# Marketing

## Careers in Marketing Research

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.

Unit 1: The World of Marketing Research		
Assignments		
Careers in Marketing Research	1. Course Overview	10. Marketing Research for Decision-making
	2. Introduction to Market Research	11. Project: Making Decisions Using Marketing Research
	3. Project: Discovering Business Problems	12. Types of Marketing Research
	4. Market Research and the Organization	13. Quiz 2: Marketing Research and Decision-making
	5. Project: Pets and People's Attitudes Toward Them	14. Special Project*
	6. Trends in Marketing Research	15. Test
	7. Quiz 1: Overview of Marketing Research	16. Course Project Part 1: Elements of Marketing Research*
	8. Functions of Marketing Research	17. Glossary and Credits
	9. Project: Utilizing the Functions of Marketing Research	

Unit 2: The Marketing Research Industry and Ethics	
Careers in Marketing Research	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 2: Careers and Ethical Situations in Marketing Research*
16. Glossary and Credits	

Unit 3: Types of Marketing Research	
Careers in Marketing Research	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 3: Marketing Research Study Design*
16. Glossary and Credits	

Unit 4: Market Research Basics	
Careers in Marketing Research	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 4: Data Processing and Analysis*
16. Glossary and Credits	

Unit 5: Putting It All Together	
Careers in Marketing Research	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 5: Making a Marketing Research Presentation*
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
CMR	<b>Assignments</b>
	1. Course Project Part 6: Marketing Research: A Comprehensive Overview *
	2. Review
	3. Exam

(\*) Indicates alternative assignment

# STEM (Science, Technology, Engineering and Mathematics)

## Engineering and Design

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.

Parallels and analogies from Scriptural examples will firmly seat the course in Bible truth, since God is the master engineer, designer, and creator of everything. Popular topics and issues that are politically controversial will be explored from a Biblical perspective.

A second and equally important emphasis will address how fluid power is used by engineers to make difficult maneuvers easier, increasing efficiency and minimizing effects on the environment. Students will then identify how engineering and design have a direct impact on environmental sustainability and economic greening, with Bible principles incorporated when appropriate. Finally, students will incorporate the engineering design process, environmental life cycle, and green engineering principles to create a decision matrix to learn how to solve environmental issues, while identifying how following God's original principles would have avoided producing those issues in the first place.

### 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.

Unit 1: Introduction to Engineering and Design and the Design Process	
Engineering and Design	<b>Assignments</b>
	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. Special Project*
	15. Test
	16. Course Project Part 1: Identifying the Product or Process*
17. Glossary and Credits	

Unit 2: Fluid Systems: Energy and Power Technologies in Engineering	
Engineering and Design	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 2: Incorporating a Fluid Power System*
16. Glossary and Credits	

Unit 3: Modeling and Sketching	
Engineering and Design	<b>Assignments</b>
	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. Special Project*
14. Test	
15. Course Project Part 3: Designing a Sketch Model*	
16. Glossary and Credits	

Unit 4: Reverse Engineering	
Engineering and Design	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 4: Calculating the Process: Materials, Time, and Cost Analyses*
16. Glossary and Credits	

Unit 5: Engineering to Improve Sustainability	
Engineering and Design	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 5: Incorporating Green Engineering Principles*
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
E&D	<b>Assignments</b>
	1. Course Project Part 6: Conducting a Life-Cycle Analysis*
	2. Course Review
	3. Exam

(\*) Indicates alternative assignment

## Engineering and Product Development

Engineers address society's needs and problems by designing and producing products and services. The field is diverse and includes Christian 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 from a Christ-centered perspective. Students will analyze the life cycle of a product to prepare it for distribution and 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 project plan pieces 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, as well as, organizations that provide encouragement to Christian engineers.

### 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.
- Develop ideas for overcoming challenges and issues related to engineering and product development and identify different career paths related to engineering and project management.
- 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.
- 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.

Unit 1: Introduction to Engineering and Product Development	
Assignments	
Engineering and Product Development	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. 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)	
	Assignments	
	1. What is a Project Charter?	9. Project: Competing with the Best
	2. Writing Project Charters and Understanding Requirements	10. Writing Product Requirements
	3. Project: Write a Project Charter	11. Project: Reverse Engineering
	4. Analyzing Project Charters	12. Quiz 2: Establishing Requirements
	5. Project: Write a Charter for a Recycling Project	13. Special Project*
	6. Quiz 1: The Components of Project Charters	14. Test
	7. What Are Requirements?	15. Course Project Part 2: Summarizing Case Studies of Selected Smart Grid Technology*
	8. Defining and Writing Requirements	16. Glossary and Credits

Engineering and Product Development	Unit 3: Design and 3-D Modeling	
	Assignments	
	1. Design Engineering	9. Project: Design a Part in 3-D
	2. Project: Student Engineer Needed: Houseplant Watering System	10. Evaluate Engineering Tools and Careers
	3. Analyze Problems and Potential Solutions in Design Engineering	11. Project: Evaluate 3-D Modeling Tools
	4. Analyze Design Plans	12. Quiz 2: Becoming Familiar with Design Tools
	5. Project: Design a Running Shoe	13. Special Project*
	6. Quiz 1: Exploring the Possibilities in Design	14. Test
	7. Engineering Modeling Tools	15. Course Project Part 3: Developing Components for the Final Project Plan*
	8. Practice Using Engineering Modeling Tools	16. Glossary and Credits

Engineering and Product Development	Unit 4: Product Launch (Implementation)	
	Assignments	
	1. The Implementation Stage	9. Project: Timeline, Market, Budget
	2. Analyze an Implementation Plan	10. Marketing, Engineering, and Implementation
	3. Project: Write an Implementation Plan	11. Project: Reverse Engineer a Marketing Plan
	4. PLM, Implementation, and Industry Concepts	12. Quiz 2: Getting the Product Ready for the Market
	5. Project: Prepare a Presentation about Engineering Contests	13. Special Project*
	6. Quiz 1: Putting Implementation into Action	14. Test
	7. Implementation Plan and Product Launch	15. Course Project Part 4: Designing and Modeling the Smart Grid*
	8. Implementation Plan and Product Life Cycle	16. Glossary and Credits

Unit 5: Review Full Product Development Life Cycle	
Engineering and Product Development	<b>Assignments</b>
	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. Special Project*	
14. Test	
15. Course Project Part 5: Implementation Plan*	
16. Glossary and Credits	

Unit 6: Course Project, Review, and Exam	
E&PD	<b>Assignments</b>
	1. Course Project Part 6: Finalize Your Proposal*
	2. Course Review
	3. Exam

(\*) Indicates alternative assignment

# Transportation, Distribution and Logistics

## Introduction to Careers in Transportation, Distribution, and Logistics

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, and 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.

Unit 1: Transportation Overview		
Assignments		
Intro. to Careers in Transportation, Distribution, and Logistics	1. Course Overview	10. The Regulatory and Competitive Environment for Transportation
	2. Characteristics of Each Transportation Mode	11. Careers in Transportation That Move People
	3. Project: Create a Shipping Plan	12. Project: Understanding Educational Requirements for Specific Jobs
	4. A Brief History of Transportation, Logistics, and the Economic Environment	13. Quiz 2: Transportation of People and the Regulatory Environment
	5. Careers in Transportation	14. Special Project*
	6. Project: A Week in the Life of a Transportation Worker	15. Test
	7. Quiz 1: Modes of Transportation	16. Course Project Part 1: What's Your Niche?*
	8. Mass Transportation	17. Glossary and Credits
	9. Project: FAA Guidelines for Pilots	

Unit 2: Distribution and Warehousing	
Intro. to Careers in Transportation, Distribution, and Logistics	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 2: Your Team*
16. Glossary and Credits	

Unit 3: Transportation Systems, Infrastructure Planning, Management & Regulation	
Intro. to Careers in Transportation, Distribution, and Logistics	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 3: Job Descriptions*
16. Glossary and Credits	

Unit 4: Logistics & Logistics Services	
Intro. to Careers in Transportation, Distribution, and Logistics	<b>Assignments</b>
	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. Special Project*
	14. Test
	15. Course Project Part 4: Getting the Right People in the Right Seat*
16. Glossary and Credits	

Intro. to Careers in Transportation, Distribution, and Logistics	<b>Unit 5: Future Trends in Transportation, Distribution &amp; Logistics</b>	
	<b>Assignments</b>	
	1. Self-Driving Vehicles	9. Increased Supply Chain Visibility
	2. Project: Getting from Here to There without a Driver	10. Project: The Science Behind the Technology
	3. Drones	11. The Rebirth of Manufacturing in the USA
	4. Robots	12. Quiz 2: Impact of Technology (Part 2)
	5. Project: Robotics in Our Future	13. Special Project*
	6. Quiz 1: Impact of Technology (Part 1)	14. Test
	7. Radio Frequency Identification (RFID)	15. Course Project Part 5: Building the Company*
	8. Project: The Evolution of RFID Technology	16. Glossary and Credits

ICTDL	<b>Unit 6: Course Project, Review, and Exam</b>	
	<b>Assignments</b>	
	1. Course Project Part 6: You're in Business	3. Exam
	2. Review	

(\*) Indicates alternative assignment

## Careers in Logistics Planning and Management Services

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 mode to use, logistics managers consider the location, transportation plan, routing, convenience, security, and costs related to their mode 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	<b>Unit 1: Providing and Managing Logistics Services for the Company and the Customer</b>	
	<b>Assignments</b>	
	1. Course Overview	9. Project: Goods and Their Origins

Careers in Logistics Planning and Management Services	2. The Role of Transportation, Distribution, and Logistics in Society and the Economy	10. The Challenges of Transporting Goods
	3. Project: From Origin to Consumer	11. Making Logistics Easier with Technology
	4. Current Trends in Logistics	12. Project: Process Improvement
	5. You Are the Future of Logistics	13. Quiz 2: Logistics and the Supply Chain
	6. Project: Making Goals	14. Special Project*
	7. Quiz 1: Transportation, Distribution, and Logistics - Then and Now!	15. Test
	8. Logistics Management and the Supply Chain	16. Course Project Part 1: Distribution Facility Project*
		17. Glossary and Credits

Careers in Logistics Planning and Management Services	<b>Unit 2: Logistics and Supply Chain Management</b>	
	<b>Assignments</b>	
	1. Material Handling: Packaging	9. Distribution is the Center of Activity Within
	2. Project: Consumer Goodies	10. Project: Where Did You Get That?
	3. Material Handling: Unitization	11. Pricing
	4. Material Handling: Weights & Measures	12. Quiz 2: Warehousing, Distribution, and Pricing
	5. Project: The Space Shuttle Endeavor	13. Special Project*
	6. Quiz 1: Material Handling	14. Test
	7. Warehousing	15. Course Project Part 2: Innovation*
	8. Project: Kansas City Smart Port	16. Glossary and Credits

Careers in Logistics Planning and Management Services	<b>Unit 3: Inventory and Inventory Management</b>	
	<b>Assignments</b>	
	1. Inventory	9. Managing Procurement and Purchasing
	2. Project: Taking Stock (Part 1)	10. Project: Business Culture
	3. Inventory Management	11. Optimizing Procurement Practices
	4. Project: Taking Stock (Part 2)	12. Quiz 2: Procurement and Purchasing
	5. Inventory Accounting	13. Special Project*
	6. Quiz 1: Inventory Management	14. Test
	7. Procurement and Purchasing	15. Course Project Part 3: Inventory Controls*
	8. Project: Colgate's Procurement Process	16. Glossary and Credits

Careers in Logistics Planning and Management Services	<b>Unit 4: Transportation Management</b>	
	<b>Assignments</b>	
	1. Modes of Transportation	9. Regulating Risk
	2. Project: Mode to Go	10. Project: Emergency Response
	3. Documentation	11. Insuring Risk
	4. Project: Importing & Exporting	12. Quiz 2: Risk Management
	5. Liability	13. Special Project*
	6. Quiz 1: Transportation, Documentation, and Liability	14. Test
	7. Managing Transportation Risk	15. Course Project Part 4: Modes of Transportation*
		16. Glossary and Credits

Careers in Logistics Planning and Management Services	<b>Unit 5: Logistics Safety &amp; Opportunity</b>	
	<b>Assignments</b>	
	1. OSHA Rights & Responsibilities	9. Available Careers
	2. Project: OSHA's Forms	10. Project: Creating A Resume
	3. Safety First	11. Career Credentials
	4. Project: Hazardous Materials	12. Quiz 2: You Are the Future of Logistics!
	5. Working & Safety	13. Special Project*
	6. Quiz 1: Safety First	14. Test
	7. Career Goals	15. Course Project Part 5: Preparation & Prevention*
	8. Project: Personality Traits	16. Glossary and Credits

CLPMS	<b>Unit 6: Course Project, Review, and Exam</b>	
	<b>Assignments</b>	

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

(\*) Indicates alternative assignment