

# Learning Standards for Career Development and Occupational Studies at Three Levels

- Standard 1: Career Development  
Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.
- Standard 2: Integrated Learning  
Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.
- Standard 3a: Universal Foundation Skills  
Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.
- and
- Standard 3b: Career Majors  
Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.

CAREER PLAN as prescribed in these learning standards is intended to promote exploration and research into broad career areas of interest to individual students. Basic principles of career planning such as decision-making, self-evaluation, and goal setting have been integrated within the sample tasks. It is not the intent of these learning standards to limit options or narrowly define the educational preparation of students.

# Standard 1—Career Development

## Elementary

## Intermediate

Students will learn about the changing nature of the workplace, the value of work to society, and the connection of work to the achievement of personal goals.

### Students:

begin a career plan that would assist in the transition from school to eventual entry into a career option  
demonstrate an awareness of their interests, aptitudes, and abilities

know the value of work to the individual and society in general

describe the changing nature of the workplace brought about by global competition and technology  
explore their preferences for working with people, information, and/or things  
demonstrate understanding of the relationship of decision making to the attainment of future goals  
describe the changing roles of men and women at home and in the workplace.

### *This is evident, for example, when students:*

classify hobbies, favorite school subjects, interests, and special talents with their relationship to working with people, information, or things\*

identify favorite school subjects and special talents and relate them to specific occupations\*  
explain reasons why people work, describe different occupations in their community, including those in public service, and how these occupations benefit others (e.g., firefighter, police officer, pharmacist, attorney, teacher)

identify long-range personal goals and relate their attainment to successful employment\*  
identify common skills that would be important for success in the workplace and relate them to personal strengths and areas in need of improvement\*  
describe nontraditional career options and provide examples of how the roles of men and women are changing in the home, workplace, and community (e.g., women in law enforcement and men in nursing)

explain how global competition and technology have changed three specific occupations  
relate the negative impact of unemployment to the health of the individual and the economy in general.

Students will learn about the changing nature of the workplace, the value of work to society, and the connection of work to the achievement of personal goals.

### Students:

continue development of a career plan that would assist in the transition from school to eventual entry into a career option of their choosing  
demonstrate an understanding of the relationship among personal interests, skills and abilities, and career research

understand the relationship of personal interests, skills, and abilities to successful employment  
demonstrate an understanding of the relationship between the changing nature of work and educational requirements

understand the relationship of personal choices to future career decisions.

### *This is evident, for example, when students:*

identify characteristics and educational requirements of three career options, including those considered nontraditional\*  
reassess personal interests and abilities and match them to career options\*

contrast the advantages and disadvantages of working for someone else with owning a business  
reevaluate long-range personal goals, including employment priorities such as salary, working conditions, and status\*  
explain the importance of punctuality, dependability, integrity, and getting along with others for success in a work environment  
work cooperatively in group situations and analyze the importance of using collective abilities in achieving group goals and objectives\*

explain through example how work can influence an individual's life style.

Key ideas are identified by numbers (1). Performance indicators are identified by bullets (\*). Sample tasks are identified by triangles (▲). Sample tasks appropriate for inclusion in a student's career plan are followed by (\*).

STANDARD 1

**Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.**

## Commencement

**Students will learn about the changing nature of the workplace, the value of work to society, and the connection of work to the achievement of personal goals.**

### Students:

**complete the development of a career plan that would permit eventual entry into a career option of their choosing**

**apply decision-making skills in the selection of a career option of strong personal interest**

**analyze skills and abilities required in a career option and relate them to their own skills and abilities.**

*This is evident, for example, when students:*

reevaluate long-range personal goals and match them to a career option\*

prepare a personal balance sheet showing an inventory of acquired skills, qualities, and experiences needed for successful employment in a career option\*

prepare a research paper that contains:

- details of three specific jobs within the career option
- the education and/or training level and qualifications necessary for entry-level/career-sustaining employment
- the number of job openings in the career option
- list of three postsecondary programs offering advanced study/training in the career option
- entrepreneurial possibilities\*

develop resumes and letters of application and demonstrate effective interviewing techniques that could be used to gain entry into a career option\*

design a personal school-to-work plan containing specific steps/activities toward attainment of a career goal.\*

STANDARD 1

# Standard 2—Integrated Learning

## Elementary

## Intermediate

**Integrated learning encourages students to use essential academic concepts, facts, and procedures in applications related to life skills and the world of work. This approach allows students to see the usefulness of the concepts that they are being asked to learn and to understand their potential application in the world of work.**

### Students:

- 1. identify academic knowledge and skills that are required in specific occupations
- 1. demonstrate the difference between the knowledge of a skill and the ability to use the skill
- 1. solve problems that call for applying academic knowledge and skills.

*This is evident, for example, when students:*

- describe jobs in the local community; list academic knowledge and technical skills needed to perform a specific job, and make a diorama showing a person engaged in work\*
- retell a story about how a school cafeteria employee uses mathematical and English language arts skills on the job
- interview a person from the community in an occupation of interest and describe for the class how the competencies they are learning in school (mathematics, science, health, English language arts) are used in the selected occupation
- integrate mathematical/science concepts to plan and design a garden, basketball court, or fish pond
- describe jobs in the local community, list academic knowledge and technical skills needed to perform a specific job, and make a diorama showing a person engaged in work
- apply mathematical skills to purchase items from a grocery store, compare prices, total their purchases, and count change
- explain why being able to tell time is important to an airline pilot, a football referee, or a teacher
- participate in a show-and-tell exercise to inform their classmates how reading, writing, speaking, and mathematics are used by a poet, musician, nurse, clown, or police officer
- select four samples of their work (completed hands-on projects depicting various occupations) and describe the academic knowledge and technical skills needed for those particular jobs.\*

**Integrated learning encourages students to use essential academic concepts, facts, and procedures in applications related to life skills and the world of work. This approach allows students to see the usefulness of the concepts that they are being asked to learn and to understand their potential application in the world of work.**

### Students:

- 1. apply academic knowledge and skills using an interdisciplinary approach to demonstrate the relevance of how these skills are applied in work-related situations in local, state, national, and international communities
- 1. solve problems that call for applying academic knowledge and skills
- 1. use academic knowledge and skills in an occupational context, and demonstrate the application of these skills by using a variety of communication techniques (e.g., sign language, pictures, videos, reports, and technology).

*This is evident, for example, when students:*

- match an inventory of academic knowledge and technical skills to specific careers in which they would be useful
- prepare job descriptions with emphasis on language arts and mathematic requirements
- work in teams to complete a promotional campaign, applying the principles of various disciplines (e.g., art, music, language arts and languages other than English) to sell products on a national level\*
- attend a school or community theater production and then interview the director, cast, and stage crew, and prepare a presentation illustrating academic knowledge and technical skills applied in various theater careers\*
- complete a project that demonstrates how two or more academic disciplines are applied to implement news media presentations
- prepare a report based on a shadowing experience, describing the various jobs observed and the academic knowledge and technical skills needed for these jobs
- use mathematical skills to compute performance statistics for a school athletic team
- edit the work of other students for a school newsletter
- use language arts skills to evaluate a student debate
- select six samples of their work (completed hands-on projects depicting various occupations) and describe the academic knowledge and technical skills that are applied for occupations.\*

Key ideas are identified by numbers (1). Performance indicators are identified by bullets (•). Sample tasks are identified by triangles (▲). Sample tasks appropriate for inclusion in a student's career plan are followed by (\*).

STANDARD 2

## **Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.**

### **Commencement**

**Integrated learning encourages students to use essential academic concepts, facts, and procedures in applications related to life skills and the world of work. This approach allows students to see the usefulness of the concepts that they are being asked to learn and to understand their potential application in the world of work.**

#### **Students:**

**demonstrate the integration and application of academic and occupational skills in their school learning, work, and personal lives.**

**use academic knowledge and skills in an occupational context, and demonstrate the application of these skills by using a variety of communication techniques (e.g., sign language, pictures, videos, reports, and technology)**

**research, interpret, analyze, and evaluate information and experiences as related to academic knowledge and technical skills when completing a career plan.**

#### *This is evident, for example, when students:*

read a series of job descriptions or training plans of interest to identify the necessary application of academic knowledge and technical skills that are required for particular careers as well as the job outlook (decline/growth) and possible earnings\*

interview a medical specialist and develop a presentation using a variety of tools/technology to depict knowledge and skills that are required for this career\*

select several local employers as well as employers with global operations and complete a project (e.g., video, photo collage, or report) that reflects the academic knowledge and technical skills required, along with the job outlook and potential earning capacity in a competitive international marketplace\*

complete an internship which focuses on a particular career of interest (e.g., architect, electrician, or veterinarian) and develop a slide presentation to demonstrate how concepts from mathematics, science, and/or English language arts are applied in a particular career\*

work in teams to formulate a historical presentation on specific careers and demonstrate how job requirements and training are changing due to new technology

use various forms of technology and communication techniques (e.g., a CD-ROM, a video, slide show and sign language) to describe and illustrate how societal, economic, and governmental changes may require exploring a variety of careers and developing broad-based transferable skills that are needed for gainful employment\*

produce an annual career plan that includes eight samples of their work (e.g., completed hands-on projects, reports based on internships and/or depicting various occupations) and describe why they selected the particular samples of work, and indicate possible career choices of interest\*

use effective skills and techniques in a simulated job interview.

# Standard 3a—Universal Foundation Skills

Elementary

## Basic Skills

Basic skills include the ability to read, write, listen, and speak as well as perform arithmetical and mathematical functions.

**Students:**

**listen to and read the ideas of others and express themselves both orally and in writing; they use basic mathematical concepts and computations to solve problems.**

*This is evident, for example, when students:*

listen to and repeat simple directions  
read a variety of materials and prepare a report  
follow directions to power up a computer  
compile an inventory of office equipment  
use probability to solve a problem or use a single statistic to make a prediction  
measure an area for a swimming pool, basketball court, or employee work station.

## Thinking Skills

Thinking skills lead to problem solving, experimenting, and focused observation and allow the application of knowledge to new and unfamiliar situations.

**Students:**

**use ideas and information to make decisions and solve problems related to accomplishing a task.**

*This is evident, for example, when students:*

provide examples of ways to raise money for a school field trip  
solve a riddle, puzzle, or problem, using written or oral instructions  
set up a computer, a monitor, and a keyboard according to written or oral instructions.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Elementary

## Personal Qualities

**Personal qualities generally include competence in self-management and the ability to plan, organize, and take independent action.**

**Students:**

**demonstrate the personal qualities that lead to responsible behavior.**

*This is evident, for example, when students:*

arrive at school and complete assignments on time; explain why these behaviors would be important to an employer  
provide examples of people acting responsibly/irresponsibly in the community  
complete an inventory of personal strengths and select areas in which they would like to improve  
demonstrate positive behaviors through interactions in the classroom (e.g., sharing resources, helping classmates).

## Interpersonal Skills

**Positive interpersonal qualities lead to teamwork and cooperation in large and small groups in family, social, and work situations.**

**Students:**

**relate to people of different ages and from diverse backgrounds.**

*This is evident, for example, when students:*

work cooperatively with peers to accomplish a task  
describe, as models, successful people of varied backgrounds  
display skills needed to resolve conflicts with other people  
explain the importance of getting along with people in a work environment who are different from oneself.

# Standard 3a—Universal Foundation Skills

Elementary

## Technology

**Technology is the process and product of human skill and ingenuity in designing and creating things from available resources to satisfy personal and societal needs and wants.**

**Students:**

**demonstrate an awareness of the different types of technology available to them and of how technology affects society.**

*This is evident, for example, when students:*

- select the appropriate technology for designing and creating a flyer for a school-sponsored event
- identify examples of technology found at home, at school, and in a business environment
- choose a career area and research how technology has changed that cluster of occupations.

## Managing Information

**Information management focuses on the ability to access and use information obtained from other people, community resources, and computer networks.**

**Students:**

**describe the need for data and obtain data to make decisions.**

*This is evident, for example, when students:*

- explain the practical uses of weather forecasting data as it relates to the farm industry
- plan a school store and determine what items might sell best
- listen to a presentation about a career area and write a report summarizing the information.

Key ideas are identified by numbers (1).

Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Elementary

## Managing Resources

**Using resources includes the application of financial and human factors, and the elements of time and materials to successfully carry out a planned activity.**

**Students:**

**demonstrate an awareness of the knowledge, skills, abilities, and resources needed to complete a task.**

*This is evident, for example, when students:*

describe the resources needed to inventory the art supply cabinet in the classroom  
explain the resources needed to build a simple item (e.g., footstool, sandbox).

## Systems

**Systems skills include the understanding of and ability to work within natural and constructed systems.**

**Students:**

**demonstrate understanding of how a system operates and identify where to obtain information and resources within the system.**

*This is evident, for example, when students:*

understand the process used to order supplies for a school store or local business  
explain the various components of the school system.

# Standard 3a—Universal Foundation Skills

Intermediate

## Basic Skills

Basic skills include the ability to read, write, listen, and speak as well as perform arithmetical and mathematical functions.

Students:

**listen to and read the ideas of others and analyze what they hear and read; acquire and use information from a variety of sources; and apply a combination of mathematical operations to solve problems in oral or written form.**

*This is evident, for example, when students:*

- follow directions that involve a series of actions
- locate and use information on a wide range of topics from many different sources
- present an oral report to the class after investigating several career clusters
- record data and prepare a graph on the movement of the stock market or a particular stock
- explore ways in which geometry is used in everyday life
- solve basic problems involving integers, fractions, and decimals.

## Thinking Skills

Thinking skills lead to problem solving, experimenting, and focused observation and allow the application of knowledge to new and unfamiliar situations.

Students:

**evaluate facts, solve advanced problems, and make decisions by applying logic and reasoning skills.**

*This is evident, for example, when students:*

- describe the best method to evaluate customer interest in the establishment of a new product line for a business
- describe the best method to evaluate student interest in the establishment of a new school sport or club
- create a work schedule to ensure equity in employee hours and days worked
- sequence facts in a logical order to solve a problem.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Intermediate

## Personal Qualities

**Personal qualities generally include competence in self-management and the ability to plan, organize, and take independent action.**

**Students:**

**demonstrate an understanding of the relationship between individuals and society and interact with others in a positive manner.**

*This is evident, for example, when students:*

participate in a fund-raising activity in or out of school such as carwash, flower sale, etc. (refer to Regents Rule 19.6 governing student fund-raising)  
volunteer to participate in a local charitable organization's activities

work with other students on a group project to improve one aspect of the school's operation.

## Interpersonal Skills

**Positive interpersonal qualities lead to teamwork and cooperation in large and small groups in family, social, and work situations.**

**Students:**

**demonstrate the ability to work with others, present facts that support arguments, listen to dissenting points of view, and reach a shared decision.**

*This is evident, for example, when students:*

react positively to constructive criticism  
work as a member of a team toward a common goal.

# Standard 3a—Universal Foundation Skills

Intermediate

## Technology

**Technology is the process and product of human skill and ingenuity in designing and creating things from available resources to satisfy personal and societal needs and wants.**

**Students:**

- **select and use appropriate technology to complete a task.**

*This is evident, for example, when students:*

- use a telecommunications service to check current airline schedules and price information for a trip to another state or country
- use appropriate technology to present information in table/chart form
- use word processing software to make an inquiry to a business
- make a presentation explaining how technology has changed the work site.

## Managing Information

**Information management focuses on the ability to access and use information obtained from other people, community resources, and computer networks.**

**Students:**

- select and communicate information in an appropriate format (e.g., oral, written, graphic, pictorial, multimedia).**

*This is evident, for example, when students:*

- prepare a financial report showing the annual revenue and expenses of a business or club for three years and presenting that information to a group
- design a chart or graph to evaluate personal progress toward a goal or objective
- collect the necessary data from local employers to develop a speakers' bureau for their school
- given directions, correctly complete a job application.

Key ideas are identified by numbers (1).

Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Intermediate

## Managing Resources

**Using resources includes the application of financial and human factors, and the elements of time and materials to successfully carry out a planned activity.**

**Students:**

**understand the material, human, and financial resources needed to accomplish tasks and activities.**

*This is evident, for example, when students:*

develop a plan for a work experience (e.g., lawn mowing, snow removal, paper route) by formulating a budget, allocating equipment, and recording expenses and income  
create and follow a personal schedule to maximize the use of time.

## Systems

**Systems skills include the understanding of and ability to work within natural and constructed systems.**

**Students:**

**understand the process of evaluating and modifying systems within an organization.**

*This is evident, for example, when students:*

survey teachers to develop modifications in the school's discipline policy  
observe how customer returns have been handled in a store over a period of time and develop strategies to improve the system  
describe the functioning of a simple ecosystem.

# Standard 3a—Universal Foundation Skills

Commencement

## Basic Skills

Basic skills include the ability to read, write, listen, and speak as well as perform arithmetical and mathematical functions.

Students:

use a combination of techniques to read or listen to complex information and analyze what they hear or read; convey information confidently and coherently in written or oral form; and analyze and solve mathematical problems requiring use of multiple computational skills.

*This is evident, for example, when students:*

gather and use information presented in print and electronic sources to create a research report and database  
examine a case study to evaluate whether the information contained within it is adequate to support generalizations about the topic

participate in debates, interviews, and panel discussions  
use word processing and desktop publishing software to present information on a sales campaign  
analyze a company's balance sheet and income statement for industry-recognized ratios for assets, liabilities, and net income/loss

order and price inventory appropriately as part of a work experience program.

## Thinking Skills

Thinking skills lead to problem solving, experimenting, and focused observation and allow the application of knowledge to new and unfamiliar situations.

Students:

demonstrate the ability to organize and process information and apply skills in new ways.

*This is evident, for example, when students:*

provide examples of ways to alter a work schedule to allow for more job sharing among two or more employees  
evaluate a variety of options suggested, select an option, explain the reason for the selection, and provide the strategies for implementation

recognize a problem and design steps to solve the problem  
prepare and present a report on how knowledge gained from one content area helped solve a problem in another area.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Commencement

## Personal Qualities

**Personal qualities generally include competence in self-management and the ability to plan, organize, and take independent action.**

**Students:**

**demonstrate leadership skills in setting goals, monitoring progress, and improving their performance.**

*This is evident, for example, when students:*

- work with a local employer to establish a sales goal and devise a plan to reach that goal
- motivate other group members and demonstrate leadership skills in a student leadership organization or job experience
- give and accept constructive criticism in a group project
- evaluate decisions for legal and ethical implications
- establish a set of personal goals and record progress in attaining them.

## Interpersonal Skills

**Positive interpersonal qualities lead to teamwork and cooperation in large and small groups in family, social, and work situations.**

**Students:**

**communicate effectively and help others to learn a new skill.**

*This is evident, for example, when students:*

- demonstrate how to respond effectively to a dissatisfied customer
- assist in the teaching of an acquired skill in an elementary/ middle school class or business environment
- provide feedback to others in a group project
- participate in a job interview.

# Standard 3a—Universal Foundation Skills

Commencement

## Technology

**Technology is the process and product of human skill and ingenuity in designing and creating things from available resources to satisfy personal and societal needs and wants.**

**Students:**

**apply their knowledge of technology to identify and solve problems.**

*This is evident, for example, when students:*

evaluate why a school or business facsimile (fax) machine is not working

take the proper steps to make an inoperative printer work  
use a software program to compile and analyze statistical data and prepare a presentation for a group  
use an integrated software program to solve a business-related problem

prepare a report predicting how technology may change various aspects of life 50 years from now.

## Managing Information

**Information management focuses on the ability to access and use information obtained from other people, community resources, and computer networks.**

**Students:**

**use technology to acquire, organize, and communicate information by entering, modifying, retrieving, and storing data.**

*This is evident, for example, when students:*

construct a computer-generated form to survey local employers for possible participation in a work-study program  
use graphics software to present survey findings to the student body

use telecommunications software to access and communicate information  
use presentation graphics software which will illustrate to a group of employers the increase in work-based learning experiences

use a computer to record and organize statistical information to assist a coach of a school athletic team.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3a Sample tasks are identified by triangles (▲).

**Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.**

Commencement

## Managing Resources

**Using resources includes the application of financial and human factors, and the elements of time and materials to successfully carry out a planned activity.**

**Students:**

- **allocate resources to complete a task.**

*This is evident, for example, when students:*

plan a two-week activity that requires tasks to be divided among students or coworkers, including determining priorities and following timelines

prepare a long-range budget for a school organization or hypothetical business

complete multiple tasks for concurrent activities by adjusting personal schedules or negotiating deadlines

work as a team to decide how resources should be allocated to accomplish a task.

## Systems

**Systems skills include the understanding of and ability to work within natural and constructed systems.**

**Students:**

**demonstrate an understanding of how systems performance relates to the goals, resources, and functions of an organization.**

*This is evident, for example, when students:*

evaluate the roles or positions within an organization and make suggestions for improvement of the organization

write a proposal for ways a company can reduce expenses

prepare an organizational chart for a club or business

develop a presentation using visual aids to explain how an automobile or other machine operates.

# Standard 3b—Career Majors

Core

## Business/Information Systems

### 1. Basic Business Understanding

Students:

**demonstrate an understanding of business, marketing, and multinational economic concepts, perform business-related mathematical computations, and analyze/interpret business-related numerical information.**

*This is evident, for example, when students:*

explain the meaning of basic business and global economic terms

provide examples of typical problems (e.g., declining sales, outdated hardware) that could arise in a business and explain how steps in the decision-making process could be used to solve such problems

use spreadsheet software to forecast expenses for a business for three consecutive years

interpret a 10-year graph of the Gross National Product (GNP) or Gross Domestic Product (GDP)

demonstrate an understanding of basic international business concepts

identify and locate major cities and trade regions throughout the world.

#### Business-Related Technology

Students:

**select, apply, and troubleshoot hardware and software used in the processing of business transactions.**

*This is evident, for example, when students:*

use touch keyboarding techniques to produce business documents (e.g., letters, memorandums, reports)  
use the components of various business technologies (e.g., CPU, disk drive, CD-ROM, modem, fax machine, scanner)  
enter data into various technological systems, using a variety of input devices (e.g., handwriting, keyboard, mouse, scanner, voice recognition)

produce business documents and reports, using appropriate technology (e.g., business letter/word processing; business graphs and charts/spreadsheet and graphics software; inventory control reports/hand-held bar code scanners)

use word processing software to prepare a form letter and do a mail merge soliciting customers for a simulated business

use electronic media (e.g., e-mail, Internet/World Wide Web, fax) to communicate internationally.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

### 3. Information Management/Communication

Students:

**prepare, maintain, interpret/analyze, and transmit/ distribute information in a variety of formats while demonstrating the oral, nonverbal, and written communication skills essential for working in today's international service-/information-/technological-based economy.**

*This is evident, for example, when students:*

compose and produce simple business documents (e.g., letters, memos, reports)

prepare and deliver a three-minute oral presentation using at least one visual aid (e.g., marketing research report, stock market analysis)

identify and interpret positive/negative facial expressions and other body language indicators

identify and explain how and why specialized communication tools are used (e.g., voice mail, electronic mail, beepers, pagers)

use simple electronic databases and spreadsheet information systems to manage a membership list or prepare a payroll ledger

recognize challenges in business related to people speaking various languages

identify international cultural similarities and differences and explain their relationship to international trade.

#### Business Systems

Students:

**demonstrate an understanding of the interrelatedness of business, social, and economic systems/subsystems.**

*This is evident, for example, when students:*

identify and explain the social, organizational, economic, business, and technological systems that stimulated the transition from an agricultural-based economy through an industrial-based economy to the current service-/information-/technological-based economy

identify and explain aspects of basic systems that typically function in a business enterprise (e.g., administrative, financial, marketing)

diagram the components (input, processing, output, feedback) of a typical business system and explain what documents/-materials/products are used in each component (e.g., billing, legal, marketing)

explain and provide examples of the interrelationship of the free enterprise system and the marketing concept

identify basic features of the sole proprietorship, partnership, corporation, and franchise systems, and decide which form of organization would be best for given situations

identify the currency systems of major countries and calculate currency exchange transactions.

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Core

## 5. Resource Management

**Students:**

**identify, organize, plan, and allocate resources (e.g., financial, materials/facilities, human, time) in demonstrating the ability to manage their lives as learners, contributing family members, globally competitive workers, and self-sufficient individuals.**

*This is evident, for example, when students:*

explain the need for and the steps incurred by a business in setting goals and priorities to meet company objectives  
identify and discuss the process for constructing a simple operating budget for a specific purpose in a small business (e.g., advertising budget)

list and explain various personal and business needs related to banking, investments, and insurance (e.g., personal checkbook, mutual funds, life insurance)

explain various paycheck deductions (e.g., federal and State taxes, FICA)

open and use personal savings and checking accounts

assist Red Cross personnel in scheduling student volunteers for participation in a local blood donor event.

## Interpersonal Dynamics

**Students:**

**exhibit interpersonal skills essential for success in the multinational business world, demonstrate basic leadership abilities/skills, and function effectively as members of a work group or team.**

*This is evident, for example, when students:*

outline essential personal attributes/attitudes for successful interpersonal relationships (e.g., appearance/cleanliness, integrity, punctuality, dedication/commitment)

explain the many benefits inherent in a business with a culturally diverse workforce

demonstrate an understanding of how the traditions of various major cultures affect international business practices

use a case study to illustrate how a business might use a team approach, flextime, or job sharing in its daily operations

list the key elements necessary to facilitate a business-related meeting

teach a classmate how to reconcile a checking account or how to use telecommunications software

participate in a job interview.

STANDARD 3b

# Standard 3b—Career Majors

Specialized

## Business/Information Systems

### 1. Basic Business Understanding

Students:

**demonstrate an understanding of business, marketing, and multinational economic concepts, perform business-related mathematical computations, and analyze/interpret business-related numerical information.**

*This is evident, for example, when students:*

explain and interpret advanced business and economics terms associated with their occupational cluster of study (e.g., reading and interpreting articles in business publications)  
develop a viable solution(s) for a case problem in a business simulation  
conduct a research project and make a presentation illustrating how the “law of supply and demand” applies to the local community  
  
use accounting or spreadsheet software to prepare an income statement and balance sheet for a simulated service business  
use appropriate software to produce several types of graphs (e.g., bar, pie) of the operating budget for the school district, the school store, or a local business for each of the past five years and provide an analysis of the financial trends  
describe the impact of international business activities on the local, regional, national, and international economies.

### 2. Business-Related Technology

Students:

**select, apply, and troubleshoot hardware and software used in the processing of business transactions.**

*This is evident, for example, when students:*

use advanced touch keyboarding techniques to produce complex business documents pertinent to the occupational cluster of study (e.g., purchase orders, newsletters)  
apply user manuals to set up and troubleshoot hardware devices and software programs  
integrate applications and files from various technologies/ operating systems (hardware and software) to produce complex, business-quality products and documents (e.g., Apple OS files to MS-DOS files; integrating graphics into a newsletter)  
conduct a research project and provide a report about the various technologies used at a variety of local businesses  
evaluate which telecommunications technologies/methods are most appropriate for various given international business situations.

### 3. Information Management/Communication

Students:

**prepare, maintain, interpret/analyze, and transmit/ distribute information in a variety of formats while demonstrating the oral, nonverbal, and written communication skills essential for working in today’s international service-/information-/technological-based economy.**

*This is evident, for example, when students:*

compose/produce a multipage, complex business memorandum or business sales letter  
prepare and deliver a persuasive sales presentation and effectively handle customer questions and objections in a simulated situation  
  
use specialized communication tools, such as voice and electronic mail systems, at typical business productivity standards  
  
participate in a panel discussion on a business topic which will be critiqued for communication effectiveness  
analyze the effectiveness of individuals communicating in an international business environment, given a specific situation.

### Business Systems

Students:

**demonstrate an understanding of the interrelatedness of business, social, and economic systems/subsystems.**

*This is evident, for example, when students:*

analyze the effects that changes in internal and external influences (e.g., human resources, suppliers, government, technology, customs/traditions) have on various business systems  
  
identify, describe, and diagram systems and subsystems associated with typical businesses in the occupational cluster of study  
  
plan, implement, analyze, and modify systems and subsystems for a student-operated school store or business in which students are employed  
  
describe the international monetary system, including the International Monetary Fund, World Bank, and Eurocurrencies.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Specialized

## 5. Resource Management

**Students:**

**identify, organize, plan, and allocate resources (e.g., financial, materials/facilities, human, time) in demonstrating the ability to manage their lives as learners, contributing family members, globally competitive workers, and self-sufficient individuals.**

*This is evident, for example, when students:*

participate on a team to develop a mission statement, goals, objectives, and an annual work plan for a DECA or Future Business Leaders of America (FBLA) chapter  
demonstrate through simulation how an individual business raises capital by selling stock  
visit a bank and meet with a business loan officer to discuss the process involved in applying for a small business start-up loan  
develop a simple budget proposal to refurbish and/or remodel an office or small retail business  
diagram and explain an organizational chart of a small corporation  
identify organizations, government agencies, and other resources that a small or medium-sized business might use to investigate international trade opportunities.

### **Interpersonal Dynamics**

**Students:**

**exhibit interpersonal skills essential for success in the multinational business world, demonstrate basic leadership abilities/skills, and function effectively as members of a work group or team.**

*This is evident, for example, when students:*

interact congenially, harmoniously, and effectively with comembers of a school club, community youth leadership organization, or business in which they are employed  
plan and implement a meeting between class representatives and the principal to discuss concerns/needs of the class  
survey the personnel policies of a business and develop a report on employer requirements/guidelines  
interview students for positions in a simulated business  
teach a ninth-grade class how to read the stock page  
serve as a negotiator on behalf of the vice principal and students in the handling of student code-of-conduct violations  
identify potential human relations problems/conflict areas in a company with a multinational workforce.

STANDARD 3b

# Standard 3b—Career Majors

## Experiential

## Business/Information Systems

### 1. Basic Business Understanding

#### Students:

**demonstrate an understanding of business, marketing, and multinational economic concepts, perform business-related mathematical computations, and analyze/interpret business-related numerical information.**

*This is evident, for example, when students:*

participate effectively with coworkers, supervisors, suppliers, customers, and others in an employment experience related to their occupational cluster of study  
solve problems/make decisions for a business in which they are employed or for a student-managed school store  
use application software to prepare purchase orders, record inventory received, and maintain accounts receivable/payable records for a business through a Cooperative Occupational Education or a General Education Work Experience Program  
plan an itinerary, make reservations, and prepare a travel expense report for supervisors in a volunteer community service experience  
  
conduct research, prepare a chart, and make a presentation about the sales volume and market share for a local business  
evaluate and compare the overall effectiveness of global marketing plans for several companies in the community  
conducting international business  
develop a business plan for an international business venture based on an analysis of current economic statistics.

### 2. Business-Related Technology

#### Students:

**select, apply, and troubleshoot hardware and software used in the processing of business transactions.**

*This is evident, for example, when students:*

use business-related hardware and software to process transactions in an employment setting related to the student's occupational program (e.g., order-processing technology to assist customers in an auto parts store or CD-ROM software to identify retail outlets for customers)  
  
demonstrate the ability to set up, maintain, and troubleshoot a fax machine or computer system in a simulated or real employment environment  
  
use vendor "help lines" to solve business technology hardware and software problems in an employment or volunteer experience  
  
conduct a research project to determine the cost-effectiveness of recently upgraded production technology installed at their place of employment, and make a presentation about the project, using state-of-the-art software and media tools  
conduct a study and write a proposal to justify the expense of adding new business-related equipment to the school office (e.g., fax machine, electronic mail or voice mail system).

### 3. Information Management/Communication

#### Students:

**prepare, maintain, interpret/analyze, and transmit/ distribute information in a variety of formats while demonstrating the oral, nonverbal, and written communication skills essential for working in today's international service-/information-/technological-based economy.**

*This is evident, for example, when students:*

use local, regional, national, and/or international telecommunications networks to obtain and/or communicate business information for a capstone project  
facilitate a panel discussion as part of an employment experience  
prepare and deliver a 10-minute oral presentation using a variety of visual aids on an employment or volunteer experience  
develop/produce complex, business-quality documents (e.g., business letters, inventory reports, financial/accounting reports, proposals, advertising/sales brochures) for a capstone business simulation, a work experience situation, or a community service project  
  
communicate effectively with coworkers and supervisors during an employment or volunteer experience at a company or organization involved in international business  
participate in the public speaking competitive event at a local, State, regional, and/or national leadership conference of DECA or FBLA.

### 4. Business Systems

#### Students:

**demonstrate an understanding of the interrelatedness of business, social, and economic systems/subsystems.**

*This is evident, for example, when students:*

contribute to the effective operation of various systems and subsystems (e.g., office support system, data processing system, computer programming systems) during an employment experience in a Cooperative Occupational Education or a General Education Work Experience Program  
  
develop a system/subsystem modification to enhance productivity during an internship experience in a community service organization  
  
start a student-owned and -managed small business through the Junior Achievement program or other school-sponsored program.

STANDARD 3b

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Experiential

### 5. Resource Management

#### Students:

**identify, organize, plan, and allocate resources (e.g., financial, materials/facilities, human, time) in demonstrating the ability to manage their lives as learners, contributing family members, globally competitive workers, and self-sufficient individuals.**

#### *This is evident, for example, when students:*

use application software to prepare federal and State income tax returns

develop an operating budget for the year for a school-sponsored extracurricular organization or the DECA or FBLA chapters  
use calendar-type software to design a student work schedule for a student-operated school store or a business in which students are employed through a Cooperative Occupational Education or a General Education Work Experience Program  
assist in planning a conference for a business or community service organization.

### Interpersonal Dynamics

#### Students:

**exhibit interpersonal skills essential for success in the multinational business world, demonstrate basic leadership abilities/skills, and function effectively as members of a work group or team.**

#### *This is evident, for example, when students:*

participate in a job performance and attitude evaluation as part of an employment experience  
participate in the job interview competitive event at a local, State, regional, and/or national DECA or FBLA leadership conference

facilitate a team or work group meeting during an employment or volunteer experience  
conduct a training session for new employees during an employment experience or in a student-operated school store  
conduct a study comparing different approaches to managing human resources in several community businesses involved in international trade.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

# Standard 3b—Career Majors

## Core Health Services

### 1. Academic Foundations

#### Students:

**apply knowledge/skills acquired in academic subjects to the health care environment.**

*This is evident, for example, when students:*

- identify and describe science concepts (anatomy and physiology, biology, chemistry, physics, growth/development) as they apply to biotechnology equipment and health care
- write an essay describing the importance of understanding science concepts in health careers
- perform mathematical conversions of temperature readings.

### 2. Health Care Systems

#### Students:

**understand the current health care system and its impact on health careers.**

*This is evident, for example, when students:*

- list services provided by the health care system
- tour a local general hospital and prepare a report of various services provided
- identify social and economic factors that affect health care delivery

explain the relationship of economics and health care in our society.

### 3. Health Maintenance

#### Students:

**develop knowledge of the concept of optimal health and identify factors that affect health maintenance.**

*This is evident, for example, when students:*

- describe the physical, mental, and social aspects of health and their interrelationship
- demonstrate good personal health habits to promote physical, mental, and social health
- make a list of their current physical activities and identify how these activities contribute to optimal health
- identify specific community resources involved in the promotion of health
- discuss feelings resulting from school/group social involvement
- develop an individual plan for ideal physical, mental, and social health.

### 4. Legal and Ethical Responsibilities

#### Students:

**know the importance of performing their role in the health care system in accordance with laws, regulations, policies, ethics, and the rights of clients.**

*This is evident, for example, when students:*

- demonstrate equitable treatment of all people
- differentiate between legal and ethical rules
- identify and describe client rights and confidentiality
- obtain and discuss the “Patient’s Bill of Rights” from a local health care agency
- contrast licensure and certification in a selected career area and discuss limitations of each
- develop a code of ethics for the class.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Core

### 5. Safety

**Students:**

**identify safety hazards in a health care setting and prevent illness or injury through safe work practices.**

*This is evident, for example, when students:*

- describe fire hazards and other safety hazards and their impact on the health care environment
- define and discuss universal precautions and regulatory guidelines such as those developed by the Occupational Safety and Health Administration (OSHA)
- identify principles of good body mechanics
- discuss procedures/protocols used in classroom emergencies
- list general principles of first aid and their adaptation to the health care environment
- invite a safety officer from a health care agency to speak to the class.

### Communications

**Students:**

**communicate information in a variety of formats and media.**

*This is evident, for example, when students:*

- use basic medical terminology appropriately
- discuss the importance of effective communication in the health care field
- access electronically produced information commonly used in a health care setting
- demonstrate differences between verbal and nonverbal communication and the impact on consumers of health care
- demonstrate various communication methods used to give and obtain information
- role-play effective communication involving health care workers.

### 7. Interpersonal Dynamics

**Students:**

**interact effectively and sensitively with all other members of the health care team in order to provide high-quality client care.**

*This is evident, for example, when students:*

- work cooperatively in a group and respect the diversity of classmates
- role-play team membership skills (e.g., cooperation, leadership, and listening) and apply them to the health care hierarchy
- discuss the impact of client diversity on health care.

### Technical Skills

**Students:**

**identify procedures within their scope of practice and job description and perform them accurately and in a timely fashion.**

*This is evident, for example, when students:*

- identify technical skills for a specific job within the health services area
- demonstrate basic patient/health care skills such as measuring a client's blood pressure.

# Standard 3b—Career Majors

## Specialized Health Services

### 1. Academic Foundations

**Students:**

**apply knowledge/skills acquired in academic subjects to the health care environment.**

*This is evident, for example, when students:*

apply life sciences and mathematical concepts in a work-site situation

conduct laboratory tests on body fluid samples

write an informative, persuasive essay on a health care topic

research and discuss different cultural responses to health and illness.

### 2. Health Care Systems

**Students:**

**understand the current health care system and its impact on health careers.**

*This is evident, for example, when students:*

describe the American free enterprise system and its effect on the health care system

describe how social, political, or economic factors affect delivery of health care services in a health care agency.

### 3. Health Maintenance

**Students:**

**develop knowledge of the concept of optimal health and identify factors that affect health maintenance.**

*This is evident, for example, when students:*

describe the effects of alcohol, tobacco, and drugs on health (physical, mental, and social)

identify and describe risk behaviors that can jeopardize optimal health

research the effects of stress on health

explain preventative health practices (e.g., stress management, good nutrition)

analyze the effects of risk behaviors for the individual, family, community, and world

develop a plan that accommodates nutritional needs, stress management, and physical activity.

### 4. Legal and Ethical Responsibilities

**Students:**

**know the importance of performing their role in the health care system in accordance with laws, regulations, policies, ethics, and the rights of clients.**

*This is evident, for example, when students:*

describe legal/ethical rules and responsibilities of workers within the health delivery system and determine what constitutes liability

describe the consequences of legal and ethical wrongdoing in the health care field

extract and analyze legal documentation from a case study.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Specialized

### 5. Safety

**Students:**

**identify safety hazards in a health care setting and prevent illness or injury through safe work practices.**

*This is evident, for example, when students:*

- implement methods of preventing accidents in classroom and work-site situations
- use principles of infection control according to OSHA requirements in simulated health care situations
- complete a first aid course
- cite examples of safe practices in a health care work site.

### Communications

**Students:**

**communicate information in a variety of formats and media.**

*This is evident, for example, when students:*

- ask appropriate questions to assess the level of understanding of others
- use appropriate medical terminology in work-related situations
- demonstrate ability to ask for clarification as necessary and to report/record accurately information in a work-related situation.

### 7. Interpersonal Dynamics

**Students:**

**interact effectively and sensitively with all other members of the health care team in order to provide high-quality client care.**

*This is evident, for example, when students:*

- demonstrate the ability to assume the role of leader, recorder, and team member in a health care work setting.

### Technical Skills

**Students:**

**identify procedures within their scope of practice and job description and perform them accurately in a timely fashion.**

*This is evident, for example, when students:*

- provide direct care for clients in a health care setting
- use equipment and instruments according to manufacturer guidelines and facility policy and procedure
- organize assignments and their own work.

STANDARD 3b

# Standard 3b—Career Majors

## Experiential Health Services

### 1. Academic Foundations

**Students:**

**apply knowledge/skills acquired in academic subjects to the health care environment.**

*This is evident, for example, when students:*

select a patient and relate his/her specific illness to science concepts that are involved  
compute medication dosages.

### 2. Health Care Systems

**Students:**

**understand the current health care system and its impact on health careers.**

*This is evident, for example, when students:*

prepare insurance forms for services rendered in a health facility  
participate in a debate involving current and proposed national health care policies.

### 3. Health Maintenance

**Students:**

**develop knowledge of the concept of optimal health and identify factors that affect health maintenance.**

*This is evident, for example, when students:*

contact community health agencies to determine the services provided and present this information to the class  
measure and report a client's vital signs or other indicators of health status  
access appropriate community resources to help resolve health problems for clients in a health services environment  
conduct classes for diabetic clients  
give a presentation to an elementary school class about preventative health practices such as nutrition, stress management, or dental care.

### Legal and Ethical Responsibilities

**Students:**

**know the importance of performing their role in the health care system in accordance with laws, regulations, policies, ethics, and the rights of clients.**

*This is evident, for example, when students:*

demonstrate legal and ethical behavior in caring for clients with communicable diseases  
comply with legal requirements for documentation of care.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Experiential

### 5. Safety

**Students:**

**identify safety hazards in a health care setting and prevent illness or injury through safe work practices.**

*This is evident, for example, when students:*

participate in a first aid competition in a local or State competitive events conference of Health Occupations Students of America or Vocational Industrial Clubs of America (HOSA/VICA)

demonstrate specific first aid techniques  
prevent accidents by using principles of body mechanics when caring for hospitalized clients  
wear protective equipment while working with dental clients  
handle specimens and chemicals appropriately.

### Communications

**Students:**

**communicate information in a variety of formats and media.**

*This is evident, for example, when students:*

record results of serological examinations  
adapt communication to the individual needs of a client within the health care system  
respond to concerns and fears of a nursing home client.

### 7. Interpersonal Dynamics

**Students:**

**interact effectively and sensitively with all other members of the health care team in order to provide high-quality client care.**

*This is evident, for example, when students:*

interact effectively with clients, coworkers, and supervisors in a health-care-related situation  
deal with differences in opinion in work-related situations by showing respect for the point of view of others.

### Technical Skills

**Students:**

**identify procedures within their scope of practice and job description and perform them accurately in a timely fashion.**

*This is evident, for example, when students:*

recognize abnormal results and take action consistent with level of training and scope of practice  
monitor and evaluate work to ensure continuous improvement.

# Standard 3b—Career Majors

Core

## Engineering/Technologies

### 1. Foundation Development

Students:

- **develop practical understanding of engineering technology through reading, writing, sample problem solving, and employment experiences.**

*This is evident, for example, when students:*

research current labor and working condition laws as per OSHA rules and regulations  
use materials, tools, instruments, equipment, and procedures safely in a laboratory  
research and record data through use of computerized information services such as the Internet and World Wide Web  
use general carpentry-related vocabulary to order building materials for a simple construction job  
use simple engineering-related mathematical/scientific concepts to construct a simple series/parallel electrical circuit  
provide examples of simple problems that managers/employees need to solve, and explain the steps in the problem-solving process

describe how ethics are applied in the world of work.

### 2. Technology

Students:

**demonstrate how all types of engineering/technical organizations, equipment (hardware/software), and well-trained human resources assist and expedite the production/distribution of goods and services.**

*This is evident, for example, when students:*

identify the components of a system (input, process, output, monitor, comparison) and draw a labeled model in block diagram form indicating how the system components are linked  
identify and use software programs for specific applications such as word processing, database management, graphics, and telecommunications

demonstrate how a person can use sensory experience to monitor the output of some technological systems (e.g., toaster, traffic control, heating, smoothness of a finish, stereo system, food quality)

demonstrate how subsystems can be used as comparison devices (e.g., thermostat, photocell switch, sonar focusing in cameras)  
explain the relationship of rapidly changing technology to global competition, job creation and obsolescence, and societal impact  
describe an educational program appropriate to the requirements for one job (e.g., technician, engineer, or technology education teacher)  
identify transferable skills that might be necessary for continued employment  
use the computer and a variety of input devices (e.g., handwriting, keyboard, mouse, stylus, scanner, voice) as tools to process information and to assist in making decisions.

### 3. Engineering/Industrial Processes

Students:

- **demonstrate knowledge of planning, product development and utilization, and evaluation that meets the needs of industry.**

*This is evident, for example, when students:*

relate the fundamental principles of flight to aircraft performance  
apply simple engineering-related mathematical concepts and interpret numerical data from computerized automotive engine diagnostic equipment  
demonstrate a basic understanding of troubleshooting and repair of electrical failures in refrigerators and freezers  
plan sequence of part layout based upon blueprint information.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Specialized

## Engineering/Technologies

### 1. Foundation Development

Students:

**develop practical understanding of engineering technology through reading, writing, sample problem solving, and employment experiences.**

*This is evident, for example, when students:*

engage in biomedical laboratory activities, such as use of living material, construction of devices, and use of working models, charts, graphs, technical drawings, sketches and illustrations, mathematical equations, and computer simulations  
find and apply mathematical/scientific formulas necessary to calculate electrical resistance, aerodynamic lift, and torque  
retrieve automotive engine data specifications, using industry computerized data-retrieval systems  
participate in various competitive events at a local, State, or national VICA (Vocational Industrial Clubs of America) conference.

### 2. Technology

Students:

**demonstrate how all types of engineering/technical organizations, equipment (hardware/software), and well-trained human resources assist and expedite the production/distribution of goods and services.**

*This is evident, for example, when students:*

use materials, tools, instruments, equipment, and procedures safely in a laboratory to model technological systems in a range of engineering, technical, and/or trade occupations  
identify resources needed for specific energy conversion processes  
assemble a computer-controlled technological system  
program or input an existing program, and operate a computer-based system to follow a sequence of steps or instructions  
create block diagrams, sketches, and drawings of original technological systems that include the system monitor and control components  
identify and explain the components of various technologies used in the engineering/technical environment (e.g., torque meters, meteorological maps, optical disks, frequency counters).

### 3. Engineering/Industrial Processes

Students:

**demonstrate knowledge of planning, product development and utilization, and evaluation that meets the needs of industry.**

*This is evident, for example, when students:*

apply the decision-making/problem-solving process to develop solutions for a labor relations dispute  
diagnose computer hardware failure, using appropriate software and electronic testing equipment  
read and interpret technical manuals to determine the location of an automotive electrical fault  
lay out a building foundation, using a transit  
install a basic 220-volt line in a newly framed section of a house  
diagnose an automotive engine problem.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

# Standard 3b—Career Majors

Experiential

## Engineering/Technologies

### 1. Foundation Development

**Students:**

**develop practical understanding of engineering technology through reading, writing, sample problem solving, and employment experiences.**

*This is evident, for example, when students:*

converse intelligently and effectively with industry representatives and employers/employees, using technical language associated with the occupational cluster of study  
apply complex computational procedures and concepts used in setting up an assembly line  
explain the causes and physiological effects of working in a fast-paced manufacturing assembly line.

### 2. Technology

**Students:**

**demonstrate how all types of engineering/technical organizations, equipment (hardware/software), and well-trained human resources assist and expedite the production/distribution of goods and services.**

*This is evident, for example, when students:*

demonstrate ability to set up, maintain, and repair various machines, hardware, and devices, using a variety of resources (e.g., manuals, vendor hotlines, electronic equipment) and adhering to all OSHA safety rules and regulations  
demonstrate ability to accomplish high-level engineering/ technical tasks through a variety of experiences (e.g., computer simulations, capstone projects, community-based projects, work-based experiences)  
  
use computers to design simple systems from engineering sketches.

### 3. Engineering/Industrial Processes

**Students:**

**demonstrate knowledge of planning, product development and utilization, and evaluation that meets the needs of industry.**

*This is evident, for example, when students:*

apply complex computational procedures and concepts necessary for managing a construction work site  
construct manufacturing design diagrams, using CADD equipment in an employment setting  
use mathematical concepts to calculate fuel consumption for a planned cross-country flight  
write a report on safety procedures regarding the disposal of hazardous waste found on the work site  
apply work-flow scheduling and standardized performance-measuring systems to specific job categories (e.g., construction)

set up and mill flat surfaces at compound angles with respect to each other.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

STANDARD 3b

# Standard 3b—Career Majors

Core

## Human and Public Services

### 1. Ethical/Legal Responsibilities

**Students:**

**demonstrate professional, ethical, and legal responsibilities toward customers.**

*This is evident, for example, when students:*

define ethics and confidentiality in the classroom, home, community, and workplace  
develop and implement a code of ethics for the classroom and potential work environment  
treat all people equally and respect the diversity and special needs of customers.

### 2. Communication

**Students:**

**demonstrate effective communication skills needed to meet the expectations of human and public services consumers.**

*This is evident, for example, when students:*

demonstrate listening skills  
demonstrate skill in oral and written communication  
use alternative and current communication techniques, such as sign language, pictures, and technology  
demonstrate differences between verbal and nonverbal communication.

### Sanitation

**Students:**

**demonstrate a knowledge of the principles of sanitation used to prevent the transmission of disease-producing microorganisms from one person/object to another.**

*This is evident, for example, when students:*

model behaviors that demonstrate understanding of basic principles of sanitation  
recognize the importance of developing good habits of personal hygiene.

### 4. Human Growth and Development

**Students:**

**understand the process of human growth and development and its influence on client needs.**

*This is evident, for example, when students:*

identify the stages of the life cycle and/or skill-level abilities of customers of human and public services  
identify and develop processes as needed to serve customers based upon their cognitive, social, emotional, and physical development.

### 5. Interpersonal Dynamics

**Students:**

**demonstrate how to interact effectively and sensitively with others.**

*This is evident, for example, when students:*

work cooperatively in a group  
understand the importance of accepting individual differences and special needs.

### Safety

**Students:**

- **provide safe environments for others.**

*This is evident, for example, when students:*

identify safety hazards in the home, workplace, and other environments  
anticipate fire hazards through an awareness of dangerous conditions and take preventive measures.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Core

## 7. Thinking/Problem Solving

**Students:**

**solve problems, set goals, and make decisions in order to provide services to best meet the needs of others.**

*This is evident, for example, when students:*

identify steps in critical thinking and goal-setting processes  
identify steps in problem solving  
demonstrate the application of personal problem-solving skills  
identify and use a variety of methods, tools, and resources to meet the needs of customers.

### **Personal Resource Management**

**Students:**

- **apply personal and resource management skills.**

*This is evident, for example, when students:*

identify multiple demands of family members' roles and suggest strategies to balance work and family roles  
describe qualities critical to workers in human and public services careers  
recognize the importance of personal time management  
describe the need for personal money-management skills  
identify resources available to the individual to facilitate self-employment.

### **Wellness**

**Students:**

- **exhibit and promote a positive image of wellness.**

*This is evident, for example, when students:*

know the food groups as described in the food pyramid and use this information to plan nutritious meals  
practice good personal habits to promote physical, mental, and social health  
describe the physical, mental, and social aspects of health and their interrelationship  
describe techniques for coping with and managing stress in the home, school, work, and community environment  
develop proactive and healthy responses to changes in one's life and an attitude that will foster positive mental growth.

STANDARD 3b

# Standard 3b—Career Majors

Specialized

## Human and Public Services

### 1. Ethical/Legal Responsibilities

**Students:**

**demonstrate professional, ethical, and legal responsibilities toward customers.**

*This is evident, for example, when students:*

describe ethical wrongdoing and breach of confidentiality as related to workplace behavior in the food service industry  
advocate equal treatment of all people and strive to reach all people at their own level regardless of their limitations  
assure confidentiality of data while using current technology in the classroom and/or workplace  
analyze and distinguish between various classifications and designations of offenses under local, county, State, and federal laws (e.g., violations, misdemeanors, felonies)  
participate in a work-based learning program for students inter-ested in the legal profession.

### 2. Communication

**Students:**

**demonstrate effective communication skills needed to meet the expectations of human and public services consumers.**

*This is evident, for example, when students:*

identify the purposes of communication in elder-care services and factors that influence the communication process  
prepare and deliver presentations, using creativity and initiative to seek the most effective resources  
identify the impact of electronic communication on FBI agents  
use interactive electronic communication (Internet/World Wide Web) effectively among coworkers to reschedule a meeting  
participate in the Illustrated Talk STAR event (Students Taking Action for Recognition) at a local, State, or national FHA/HERO leadership conference  
seek the most effective tools to communicate with social services customers so that all might benefit from services  
write technical communications in a clear, concise, and legible manner for use in public and private security occupations.

### 3. Sanitation

**Students:**

**demonstrate a knowledge of the principles of sanitation used to prevent the transmission of disease-producing microorganisms from one person/object to another.**

*This is evident, for example, when students:*

practice sanitation methods needed to prevent the spread of disease in the environment.

### Human Growth and Development

**Students:**

**understand the process of human growth and development and its influence on client needs.**

*This is evident, for example, when students:*

describe stages of the life cycle (prenatal, infancy, childhood, adolescence, adult, middle age, elderly)  
demonstrate basic techniques for appropriate care of a toddler

### 5. Interpersonal Dynamics

**Students:**

**demonstrate how to interact effectively and sensitively with others.**

*This is evident, for example, when students:*

demonstrate effective interpersonal speaking and listening skills  
demonstrate effective interpersonal communication, using a variety of tools  
approach difficulties in personal and/or work-related situations with respect for others' points of view  
examine the Americans with Disabilities Act and discuss implications for private security law enforcement.

### Safety

**Students:**

- **provide safe environments for others.**

*This is evident, for example, when students:*

correct safety hazards in personal and/or work environments  
explain potential workplace safety hazards to others in relation to OSHA guidelines.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

STANDARD 3b

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Specialized

## **7. Thinking/Problem Solving**

**Students:**

**solve problems, set goals, and make decisions in order to provide services to best meet the needs of others.**

*This is evident, for example, when students:*

make informed decisions and set goals as they relate to self, family, and workplace  
determine the effects on the customer and/or environment of personal habits and make appropriate adjustments in habits.

### **Personal Resource Management**

**Students:**

- **apply personal and resource management skills.**

*This is evident, for example, when students:*

demonstrate ways to balance work and family roles (e.g., strategies to reduce work and family conflicts)  
conduct a self-evaluation to identify personal qualities compatible with a career in the appearance-enhancement industry

explain factors that lead to successful money management in the appearance-enhancement industry  
describe how a knowledge of available resources and their use enables an individual to become independent/self-sufficient.

### **Wellness**

**Students:**

- **exhibit and promote a positive image of wellness.**

*This is evident, for example, when students:*

plan diets for human and public service customers that take into account nutritional needs as described in the food pyramid  
adapt menus for special dietary needs and make them acceptable in a variety of cultural situations.

STANDARD 3b

# Standard 3b—Career Majors

Experiential

## Human and Public Services

### 1. Ethical/Legal Responsibilities

**Students:**

**demonstrate professional, ethical, and legal responsibilities toward customers.**

*This is evident, for example, when students:*

exhibit positive behaviors such as reliability, integrity, and responsibility, and abide by agency expectations for personal conduct

provide equitable treatment for all consumers of child care services  
obtain a permit to operate a food concession for a student leadership activity  
use student leadership activities to demonstrate active citizenship and affect public policy.

### 2. Communication

**Students:**

**demonstrate effective communication skills needed to meet the expectations of human and public services consumers.**

*This is evident, for example, when students:*

exhibit an awareness of multicultural needs of customers of elder-care services  
demonstrate creativity and initiative to use alternative resources to communicate effectively with social services customers

know and use the correct terminology and procedures necessary for effective inter- and intra-workplace communication (e.g., internal and external food service customers)  
use current technology to communicate effectively with coworkers, supervisors, and consumers  
use interactive electronic communication to contact a public official regarding a policy issue.  
practice use of standard communication equipment as employed in the law enforcement and security fields (e.g., radio, fax, e-mail).

### 3. Sanitation

**Students:**

**demonstrate a knowledge of the principles of sanitation used to prevent the transmission of disease-producing microorganisms from one person/object to another.**

*This is evident, for example, when students:*

employ sanitation principles as they relate to the food industry  
practice all safety and sanitation procedures required by State board standards for hair cutting.

### Human Growth and Development

**Students:**

**understand the process of human growth and development and its influence on client needs.**

*This is evident, for example, when students:*

develop a plan to open a child care center with special consideration of program goals, child development, sequential learning concepts, and program evaluation  
apply the concept of nurturing to human and public services occupations by volunteering to work in a child care facility  
participate in the Focus on Children (STAR) event at a local, State, or national FHA/HERO leadership conference.

### 5. Interpersonal Dynamics

**Students:**

**demonstrate how to interact effectively and sensitively with others.**

*This is evident, for example, when students:*

observe and discuss interdependent relationships and cooperative behaviors between employer/employee, employee/ employee, and employer/consumer  
demonstrate and provide services to customers, using a variety of approaches that indicate an understanding of human nature  
contribute to a positive environment which enables all groups to be productive and fulfilled  
solve group problems effectively in work-related situations  
participate in the Food Service-STAR event at a local, State, or national FHA/HERO leadership conference  
demonstrate diligence, patience, empathy, and tenacity when serving all private security/law enforcement customers.

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Experiential

### 6. Safety

**Students:**

- **provide safe environments for others.**

*This is evident, for example, when students:*

develop and follow procedures to provide a safe environment in a child care facility  
develop ideas for improving existing evacuation procedures for a local child care facility.

### Thinking/Problem Solving

**Students:**

**solve problems, set goals, and make decisions in order to provide services to best meet the needs of others.**

*This is evident, for example, when students:*

apply critical thinking and goal-setting processes in a variety of human and public services occupational situations  
apply a problem-solving process and take reasoned action to meet consumer and client needs.

### Personal Resource Management

**Students:**

- **apply personal and resource management skills.**

*This is evident, for example, when students:*

employ effective coping strategies for self and others to handle developmental or situational changes  
describe cost-effective strategies in a human and public services career

implement strategies to avoid waste in the appearance-enhancement industry (e.g., duplication of services, damage to equipment)

use effective coping strategies when handling stressful situations.

### 9. Wellness

**Students:**

- **exhibit and promote a positive image of wellness.**

*This is evident, for example, when students:*

apply nutritional concepts to meet the needs of human and public service customers  
demonstrate the ability to access appropriate community resources to help resolve health problems for clients in a human services environment

use personal resources and skills to cope with change and other stresses in the work, school, home, and community environment.

# Standard 3b—Career Majors

Core

## Natural and Agricultural Sciences

### 1. Basic Agriculture Foundation Development

**Students:**

**demonstrate a solid base of knowledge and skills in natural and agricultural sciences.**

*This is evident, for example, when students:*

- explain knowledge and skills necessary for a broad range of careers in natural and agricultural sciences
- explain the meaning of agricultural business, science, and technology terms
- use simple agricultural-related mathematical concepts and interpret data in agricultural-related applications (e.g., profit/loss, inventory, income/expense)
- use simple agricultural-related science concepts and interpret data (e.g., wise use of natural resources, basic plant and animal nutrition, and principles affecting growth and reproduction)
- explain the concept of social, ethical, and legal responsibility, especially as it relates to agriculture and ecology
- provide examples of simple problems that managers/employees need to solve and explain the steps in the problem-solving process.

### 2. Agriculture-Related Technology

**Students:**

**demonstrate the ability to use technology to assist in production and distribution of food goods and services of today's agricultural industries.**

*This is evident, for example, when students:*

- identify the components of technologies used in the agricultural business environment (e.g., mechanical, chemical, biological, informational)
- select appropriate agricultural software for specific applications
- develop the application of specific agricultural technology to a selected agricultural career (e.g., biotechnology).

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

### 3. Information Management and Communication

**Students:**

**prepare, maintain, interpret, and disseminate quantitative and qualitative pieces of information relating to the natural and agricultural sciences.**

*This is evident, for example, when students:*

- describe the communication process
- demonstrate listening skills
- demonstrate skill in oral and written communication (e.g., prepare a speech and enter an FFA local public speaking contest)
- signify differences between verbal and nonverbal communication
- use a computer to compose, input, format, and print simple business letters, memos, reports, and agricultural marketing information
- prepare and deliver a three-minute oral presentation (using natural or computer-generated voice), using at least one visual aid for a specific agricultural purpose (e.g., agricultural-related research report, sales presentation)
- identify positive/negative facial expressions and other body language indicators
- use various communications tools including telephone, fax machine, voice mail, electronic mail, and the Internet.

### Agriculture Business Systems

**Students:**

**demonstrate an understanding of the interrelationship between agricultural businesses and organizations designed to produce products, services, and information.**

*This is evident, for example, when students:*

- identify and describe social, organizational, and technological systems that have resulted from the increased efficiency of the agricultural sector (e.g., agricultural demographics, production, environmental issues)
- identify the major systems that typically are found in the agricultural business sector (e.g., aquatic and animal production, lawn and greens maintenance, crop production, marketing and governmental regulations)
- diagram the major components of a typical agricultural system (e.g., pesticide management, supplemental irrigation, animal and aquatic nutrition, animal and aquatic health)
- understand that the purpose of agricultural business organizations is to satisfy the demands of consumers within the constraints of governmental regulations and moral obligations as well as to operate at a profit
- categorize agricultural businesses as either production, distribution, or service enterprises and identify distinguishing systems characteristics of each
- identify and explain different systems of agricultural business ownership (e.g., proprietorship, partnership, corporation, cooperative, franchise, limited partnership, joint venture).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Core

**5. Resource Management**

**Students:**

- **demonstrate the ability to manage personal time, business, and financial resources.**

*This is evident, for example, when students:*

- identify types of resources available
- identify the need for the basic skills of planning, organizing, and setting goals and priorities in a business
- explain the importance of time management
- identify the uses agricultural businesses make of human, capital, natural, and information resources and explain how these resources interrelate to make the organization's products and/or services more valuable
  
- identify the basic components of budget preparation in an agricultural business and develop an awareness of banking services, the use of credit, and various components of money-management skills.

**6. Interpersonal Dynamics**

**Students:**

- **demonstrate the interpersonal skills and abilities needed to function within a sophisticated and sometimes complicated agricultural environment.**

*This is evident, for example, when students:*

- recognize the essential personal requirements for working in an agricultural business (e.g., appearance, integrity, punctuality, dedication, commitment)
  
- report on the benefits of cultural diversity in the workforce
- interact with other students in a meeting to discuss an agricultural-related topic
- recognize the value of the team approach in solving problems.

**7. Safety**

**Students:**

- **demonstrate awareness of the importance of safety and accident prevention in all agricultural situations.**

*This is evident, for example, when students:*

- recognize that agricultural jobs are among the highest in incidence of accidents
- identify safety hazards present in agricultural situations and describe the safety precautions required to prevent accidents
- identify potential safety hazards
- describe mechanical hazards
- describe chemical hazards
- recognize safety devices (e.g., roll bars on tractors) placed on equipment or located in an area for emergency use.

# Standard 3b—Career Majors

Specialized

## Natural and Agricultural Sciences

### 1. Basic Agriculture Foundation Development

Students:

- **demonstrate a solid base of knowledge and skills in natural and agricultural sciences.**

*This is evident, for example, when students:*

identify and demonstrate a knowledge of animals, plants, tools, and equipment in the student's agricultural program  
use computer software to apply mathematical formulas necessary for normal agricultural business operations (e.g., calculating proportions, discounts, income/expenses, inventory, and net worth)

apply a knowledge of science to understand the principles of keeping plants and animals healthy, growing, and reproducing; applying basic biological principles and techniques to increase production efficiency

explain the need for a balanced ecological environment  
apply the decision-making/problem-solving process to develop solutions for simulated agricultural business problems.

### 2. Agriculture-Related Technology

Students:

**demonstrate the ability to use technology to assist in production and distribution of food goods and services of today's agricultural industries.**

*This is evident, for example, when students:*

demonstrate knowledge of agricultural technologies to monitor the progress of a plant reproduction activity  
use computer software to calculate animal rations  
complete a comprehensive agricultural business research project, using appropriate technologies to collect, assess, analyze, synthesize, and present research findings  
provide rationale for use of technology while considering economic factors in a job or project (e.g., calculation of time required for equipment and software).

### 3. Information Management and Communication

Students:

- **prepare, maintain, interpret, and disseminate quantitative and qualitative pieces of information relating to the natural and agricultural sciences.**

*This is evident, for example, when students:*

conduct research and prepare in writing an extensive agricultural-related report integrating both text and graphics  
develop and produce complex agricultural-related documents (e.g., production and marketing reports, inventory reports, budgets/financial statements, advertising/sales materials), using appropriate manual and electronic tools  
prepare for and participate in a panel discussion on an agricultural issue to be videotaped and critiqued  
use sophisticated communications equipment to send and receive agricultural communications/correspondence regionally, nationally, and internationally (e.g., telephone, fax, electronic mail)

use local and wide-area communications networks to obtain and exchange agricultural information on a regional, national, and international basis (e.g., the Internet)  
prepare an agricultural presentation to a community organization, using multimedia hardware/software to integrate graphics, audio, and video.

### Agriculture Business Systems

Students:

**demonstrate an understanding of the interrelationship between agricultural businesses and organizations designed to produce products, services, and information.**

*This is evident, for example, when students:*

identify and explain how agricultural business systems can be affected by internal and external conditions (e.g., change in resources, supply and demand, risk, government controls, technology, social customs, consumer preferences and weather)  
demonstrate an understanding of the various subsystems within an agricultural enterprise and their interrelationship and interdependence (e.g., finance, procurement, international trade, environmental issues, production operations).

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Specialized

### 5. Resource Management

#### Students:

- **demonstrate the ability to manage personal time, business, and financial resources.**

*This is evident, for example, when students:*

develop a mission statement, a set of goals and objectives, and an operating structure for a simulated or real agricultural business  
conduct a self-evaluation to identify personal compatibility with the agricultural career field selected for study  
describe the steps involved in starting a small business (e.g., lawn care—researching the number of homes in a community, average income level, equipment necessary, feasibility of business success)

research and explore careers, identifying the steps in the job selection process, and refining human relations skills  
identify various sources of income and investments, categorize expenses, use a variety of banking services, and identify the various resources for consumer protection  
work with agencies serving agriculture (e.g., U.S. Department of Agriculture, State Agriculture and Markets, Environmental Conservation)

complete a supervised occupational work experience.

### 6. Interpersonal Dynamics

#### Students:

**demonstrate the interpersonal skills and abilities needed to function within a sophisticated and sometimes complicated agricultural environment.**

*This is evident, for example, when students:*

understand how an agricultural business uses a team approach to solve problems and operate the business  
survey the personnel policies of a local agricultural enterprise to identify employee requirements and personnel standards  
participate in local, State, and national FFA meetings or contests

demonstrate understanding of and sensitivity to working in a multicultural workforce (e.g., customs, beliefs, language, family life of migrant workers).

### 7. Safety

#### Students:

- **demonstrate awareness of the importance of safety and accident prevention in all agricultural situations.**

*This is evident, for example, when students:*

interpret information and correctly apply it for safe agricultural product use

identify potential hazards in personal and work-related environments  
develop safety rules for use in an agricultural class, shop, business, and laboratory  
describe and use the class, shop, and laboratory safety rules and regulations

pass the certification test for pesticide application.

# Standard 3b—Career Majors

Experiential

## Natural and Agricultural Sciences

### 1. Basic Agriculture Foundation Development

Students:

**demonstrate a solid base of knowledge and skills in natural and agricultural sciences.**

*This is evident, for example, when students:*

communicate and work with others in school/laboratory simulations, work-based activities, agricultural experience programs, and FFA activities  
apply computer technology and concepts necessary for managing/working in a typical agricultural enterprise related to the occupational cluster of study (e.g., interpretation of markets and marketing data to make decisions on production in the agricultural industry)

develop policies for internal business use in complying with social, legal, ethical, and privacy requirements (e.g., personnel, safety)

use decision-making/problem-solving skills to assist a local business/organization to develop a plan for protecting an area in a flood plain through conservation  
apply concepts of safety essential to individuals and society when directing the use of hazardous materials (e.g., maintain emergency protection areas, specialized equipment and clothing)  
identify the appropriate education required to enter a variety of careers in agriculture.

### 2. Agriculture-Related Technology

Students:

**demonstrate the ability to use technology to assist in production and distribution of food goods and services of today's agricultural industries.**

*This is evident, for example, when students:*

demonstrate the ability to set up, maintain, and repair various agricultural-related technological devices, using a variety of resources (e.g., manuals, vendor help lines, training courses or computer technology)

apply technological knowledge and skills from the core and specialized levels, using hands-on learning experiences in more than one situation (e.g., work-based experiences in gathering pollen and hand-pollinating plants, calibrating a fertilizer spreader).

### 3. Information Management and Communication

Students:

**prepare, maintain, interpret, and disseminate quantitative and qualitative pieces of information relating to the natural and agricultural sciences.**

*This is evident, for example, when students:*

apply the core- and specialized-level skills of information management and communications knowledge through a variety of experiences, such as school/laboratory simulations, community-based projects, work-based activities, and agricultural experience programs.

#### Agriculture Business Systems

Students:

**demonstrate an understanding of the interrelationship between agricultural businesses and organizations designed to produce products, services, and information.**

*This is evident, for example, when students:*

identify the various organizations with regulatory responsibilities for an agricultural enterprise area in which students have expressed a career interest (e.g., USDA, State Agriculture and Markets, Soil Conservation Services (SCS), ASC, OSHA)

design or modify a system for a particular need within a community business/organization related to a chosen occupational cluster (e.g., establishing hydroponic system for plant production)  
apply core- and specialized-level skills and knowledge of systems in a variety of experiences (e.g., school/laboratory simulations, capstone projects, community-based projects, work-based activities, and agricultural experience programs).

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•). STANDARD 3b Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Experiential

### 5. Resource Management

#### Students:

**demonstrate the ability to manage personal time, business, and financial resources.**

#### *This is evident, for example, when students:*

identify, prioritize, and continually update occupational goals and develop a plan to achieve those goals  
describe cost-effective strategies in developing and maintaining personnel (e.g., providing housing, food, and financial incentives for employees)

develop a job search portfolio which might include a resume, interviewing strategies, employment opportunities, education and training requirements, compensation desired, etc.  
open a checking account and use bank services, develop a financial plan that will help achieve goals, obtain credit and prepare federal and State agricultural income tax returns, and use consumer protection agencies

work with agricultural agencies involving cooperatives and government  
design an employee work schedule to use human resources effectively (e.g., scheduling dates for lawn care applications).

### 6. Interpersonal Dynamics

#### Students:

**demonstrate the interpersonal skills and abilities needed to function within a sophisticated and sometimes complicated agricultural environment.**

#### *This is evident, for example, when students:*

apply core and specialized levels of knowledge and skills through a variety of experiences with others (e.g., school/ laboratory simulations, student leadership organization activities, community-based projects, work-based activities, and agricultural experience programs)

identify and employ coping strategies in handling developmental changes for self and others  
demonstrate the ability to teach/train a coworker in the use of computer software to establish and maintain a harvesting work schedule.

### 7. Safety

#### Students:

**demonstrate awareness of the importance of safety and accident prevention in all agricultural situations.**

#### *This is evident, for example, when students:*

apply the core and specialized levels of knowledge and skills through a variety of experiences (e.g., school/laboratory simulation, student leadership organization activities, community-based projects, work-based activities, and agricultural experience programs)

identify potential hazards to oneself and others in an agricultural-related environment  
demonstrate practices which will prevent accidents  
describe the appropriate State and national laws that pertain to agricultural safety  
develop solutions to correct safety hazards  
are prepared to make timely and accurate decisions in the event of an accident  
establish a safety program for an agricultural enterprise.

# Standard 3b—Career Majors

Career areas—dance, music, theatre, visual arts, and writing—in the creative and performing arts receive some attention in performance indicators, sample tasks, and student work referenced in Learning Standards publications for *The Arts*, *English Language Arts*, and *Health, Physical Education, and Family and Consumer Sciences*.

The key ideas, performance indicators, and sample performance tasks contained in this document serve as the basis for developing a career major program in Arts/Humanities. Additional expectations for sequence options in dance, music, theatre, and visual arts can be found in the *Learning Standards for The Arts*.

## Core Arts/Humanities

### 1. Foundations

#### Students:

**demonstrate a solid base of knowledge/skills in one or more of the disciplines and the related professions of visual art, dance, music, theater, and humanities.**

*This is evident, for example, when students:*

create a series of drawings that demonstrate competency in a wide range of media: acrylics, charcoal, clay, ink, pastel, photography, prints, serigraphy, electronic media, visual communication

design and produce an original garment. The quality of the garment verifies knowledge of construction techniques and fashion design skills

perform a solo in one or more of the following genres: ballet, ethnic dance, folk, jazz or modern

prepare and perform a solo or duet at a New York State School Music Association (NYSSMA) Evaluation Festival at levels III, IV or V

utilize vocabulary related to various types of writing and edit their own writing using proofreading symbols and the basic forms of revision: addition, deletion, substitution, rearrangement

create a costume plot with rough sketches for a small cast play, illuminating the differences in the characters of the play  
compose a melody that reflects the mood of a four-line poem and exhibits knowledge of the basic elements of music, e.g., rhythm and melody

know how to work safely with hazardous materials and equipment.

### 2. Communication

#### Students:

**demonstrate the reading, writing, listening, speaking, graphic and multimedia skills necessary to participate effectively in one or more of the arts/humanities professions.**

*This is evident, for example, when students:*

interview a practitioner about what that artist does, his/her preparation, and the organization of his/her business

employ electronic media to communicate visual ideas and pro-motional campaigns

complete a publication proposal, including a press release, for a dance performance, concert, theatrical production, or art/fashion show

express theories about the nature of dance and the underlying assumptions of why people dance

describe the strengths and weaknesses of their instrumental or voice performances in written form and outline a plan for improvement

write scenes, monologues, and stories to communicate emotions and ideas

observe a performance or exhibition and report on it orally and in writing.

#### Aesthetics

#### Students:

**demonstrate the ability to express informed judgments about the arts/humanities and related professions.**

*This is evident, for example, when students:*

seek reasons to justify their preferences and recognize how rules of logic determine the validity of an argument

encourage thought-provoking, ethical, and challenging exploration of ideas about the arts and humanities

identify the strengths and weaknesses of specific musical works and performances, including their own and others

express theories about the nature of dance and the underlying assumption that people have a need to dance

write or present orally a critique of a well-known work of art, or literary piece, differentiating among the roles of the historian, critic, and aesthetician

compare how ideas are communicated through the use of the elements and principles of art in diverse cultures

compare and contrast news reportage in broadcast and print media

clarify the nature of a live theatrical performance versus television or movies, including acting, directing, and technical elements.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

Core

#### 4. Personal Qualities

**Students:**

**demonstrate the skills necessary to function and interact effectively in a variety of settings within the arts/humanities.**

*This is evident, for example, when students:*

cultivate attributes essential for working in the arts and humanities such as: attention to detail, stamina, and self-discipline

exert a high level of effort and perseverance toward goal attainment

display consistently high standards of attendance, enthusiasm and punctuality

understand how to manage time and materials efficiently

exhibit proper audience behavior at school events and

community performances.

#### **Creative Processes and Practices**

**Students:**

**demonstrate a repertoire of experience when presenting an exhibition, performance, portfolio, or publication.**

*This is evident, for example, when students:*

combine ideas in original ways; connect apparently unrelated ideas

use learning techniques to apply and adapt new knowledge and skills to both familiar and changing situations

discover new or alternate ways to improve results by modifying existing systems/methods

convey a point of view and personal style via an art work

capitalize on mistakes in fashioning a dance or theatrical work

create characters by combining body language, facial expression, and sound

write a poem using a meaningful sequence of visual and/or verbal images.

#### 6. Making Results Public

**Students:**

**create an ongoing portfolio that demonstrates the competencies and creative processes delineated in the preceding key ideas.**

*This is evident, for example, when students:*

document their activities with photographs, sketchbooks, tapes, videos, or written journals

write and disseminate a press release announcing the opening of an original dance, musical performance or art, fashion, design, craft show or publication of a book, magazine or article

collaborate to construct and install an educational display of student art

assemble a collection of concert/recital programs, concert/show reviews, and festival evaluations in which they have participated

produce an intercultural celebration using props, scenery, costumes and music

plan and execute a fashion or runway show for the public

script a school broadcast about arts and humanities happenings

install bulletin-board displays of creative writing and/or other student

creative projects.

STANDARD 3b

# Standard 3b—Career Majors

## Specialized Arts/Humanities

### 1. Foundations

#### Students:

**demonstrate a solid base of knowledge/skills in one or more of the disciplines and the related professions of visual arts, dance, music, theater, and humanities.**

#### *This is evident, for example, when students:*

integrate the knowledge/skills acquired during core level to create examples uniquely applicable to a design specialization: book, electronic media, fashion, film, graphic, interior, and textile

execute descriptive, accurate drawings based on observation of six structures or natural objects, annotating the function(s) of each

apply techniques of perspective and technical drawing to render a survey of furniture styles, past and present

study the decorative arts rooms of a museum or store and duplicate the color and texture of floor, wall, and furniture coverings in watercolor

use an electronic keyboard and computer to compose and print out a sixteen-measure composition

demonstrate understanding of a literary work by creating a book jacket for it

direct a one-act play demonstrating awareness of blocking, pacing, dramatic structure and thematic intent

perform a solo or duet with a professional orchestra or university school of music.

### 2. Communication

#### Students:

**demonstrate the reading, writing, listening, speaking, graphic and multimedia skills necessary to participate effectively in one or more of the arts/humanities professions.**

#### *This is evident, for example, when students:*

diagram similarities and differences between forms and styles of art/dance/literature/music/theater, past, and present

work collaboratively on an arts career exposition or a fashion show with corporate support in order to introduce role models and employment opportunities to students, parents, and teachers

write a reflective essay about an art exhibition/musical composition, or drama from a culture other than their own, i.e., CD, tape, record album, TV, video, movie

participate in a panel discussion on a topic related to the arts

predict trends in global communication, fashion, public housing, or travel in 2020

publish a review of a dance/music/theatrical performance in the school or local newspaper

create a Web page to disseminate a commemorative publication or art exhibition

determine how dress influences verbal and nonverbal communication.

#### Aesthetics

#### Students:

**demonstrate the ability to express informed judgments about the arts/humanities and related professions.**

#### *This is evident, for example, when students:*

place the arts/humanities within a larger social and historical context

link aesthetic form, cultural meanings, social content, and universal values to the academic and vocational components of career preparation

research the roots, analyze, and portray the similarities and differences between forms and styles of the arts—past and present

respond to the work of a living artist/actor/dancer/musician/writer by learning the details of her/his life and imagining how the biographical facts are reflected in the work

identify rubrics with criteria for assessment of individual art works and/or thematically grouped art works in an exhibition

discover folk music melodies embedded in concert music compositions and describe their significance

inventory and evaluate all the art forms incorporated in a theatrical production

explain how drama, theatre or music experiences relate to other artistic and literary happenings.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Specialized

### 4. Personal Qualities

#### Students:

**demonstrate the skills necessary to function and interact effectively in a variety of settings with the arts/humanities.**

*This is evident, for example, when students:*

- serve on a team to publicize school/community issues and events or curate an exhibition
- use cooperative decision-making while creating an original work for two or more dancers
- select an instrumental composition and set performance goals with peers that will guide rehearsals
- collaborate with a team in handling all functions involved in editing a radio, film, or video production, i.e., camera, lights, sound and recording
- take credit for the work they do on their own and give appropriate credit to others
- acknowledge their personal assets and shortcomings in order to develop strategies to convert liabilities into assets.

#### Creative Processes and Practices

#### Students:

**demonstrate a repertoire of experience when presenting an exhibition, performance, portfolio, or publication.**

*This is evident, for example, when students:*

- engage in discussion of their work which utilizes cognitive and social skills and demonstrates mastery of academic and occupational content
- discover how computers manipulate photographic images and the application of this technology to commercial, journalistic, and artistic photography
- apply their study of how people behave, move, think, and are structured to design consumer products e.g., appliances, cars, furniture, toys.
- bring together ideas and concepts as a graphic designer, to market a new product utilizing copy, illustration, and typography
- interpret ideas or concepts to create political, humorous, or narrative cartoons
- design an alternative floor plan/layout for a home furnishing business and explain how the new layout is an improvement over the existing one
- plan the program for a short recital: locate and choose the site; secure musicians; choose the music; publicize and stage the performance.

### 6. Making Results Public

#### Students:

**create an ongoing portfolio that demonstrates the competencies and creative processes delineated in the preceding key ideas.**

*This is evident, for example, when students:*

- document the process leading to a culminating event in electronic, pictorial, or written format
- take part in a major school performance, either behind the scenes as director, costumer, scenery artist, advertising manager, stage manager or on stage as actor, singer, dancer, musician
- curate and install an individual or group show in an art gallery setting
- assemble a permanent display of fabric, wallpaper, carpet, and paint samples, arranging them in attractive combinations of color, pattern, and texture
- produce a documentary video that examines, analyzes, modifies, and evaluates a dance from creation to final performance
- display examples of original writing or art in a library or other public setting
- direct elementary students in a school play
- produce an exhibit showing changes in apparel through the ages resulting from political, religious, economic, and social factors.



# Standard 3b—Career Majors

## Experiential Arts/Humanities

### 1. Foundations

#### Students:

**demonstrate a solid base of knowledge/skills in one or more of the disciplines and the related professions of visual art, dance, music, theater, and humanities.**

#### *This is evident, for example, when students:*

complete a successful residency/internship in a professional dance or theater company, newspaper or magazine office, advertising or media agency, choral or instrumental group, media or design firm

use traditional or nontraditional media to compose/arrange/per-form a multi-movement composition for several instruments

assemble a body of original work that demonstrates competence in the professional practices of a specific career

develop a comprehensive array of samples that demonstrates mastery in transferring designs from print media to interactive multimedia and/or digital video

prepare a textiles sample portfolio to explain fabric printing processes from ancient to modern times, e.g., tie-dye, commercial dye bath

publish a well-researched, organized and formatted report on the local arts in the school newspaper or other publication

utilize auto CAD for desk-top publishing, graphic, interior, textile, or fashion design or pattern-making

write program notes for a concert of folk songs that identify the source and background of each one

protect themselves and others by implementing occupational safety laws and eliminating health hazards.

### 2. Communication

#### Students:

**demonstrate the reading, writing, listening, speaking, graphic and multimedia skills necessary to participate effectively in one or more of the arts/humanities professions.**

#### *This is evident, for example, when students:*

know and use correct grammar and terminology for effective workplace communication when creating, performing, exhibiting, and promoting the arts and humanities

participate in a mock or actual job interview or audition for a career in the arts or humanities

write a resume and a letter of application for a position advertised in a trade or industry related publication, e.g., Women's Wear Daily, The New York Review of Books, or Billboard

plan and carry through an on-site mentorship/internship at a commercial art, publishing, music, or theatrical production company

keep a daily journal of the obstacles, frustrations, and successes encountered while working in a community service organization or after-school program

deliver an oral presentation in defense of a semester or year-long project

write a business proposal to submit to potential theatrical producers

#### **Aesthetics**

#### Students:

**demonstrate the ability to express informed judgments about the arts/humanities and related professions.**

#### *This is evident, for example, when students:*

recognize the stylistic differences in the artifacts, architecture, art, literature, music or theatre of the world's major cultures

establish benchmarks to evaluate their own work and the work of peers

teach a lesson to students in a lower grade level stressing the forces that shape artistic communication

examine the merits of a work of art, music, or writing from a cultural, historical, or psychological perspective

justify a personal preference for the work of an author, artist, or performer

write critical reviews of a variety of theatrical productions, exhibitions, or concerts

understand how architects, actors, broadcasters, craftsmen, designers, dancers, musicians, painters, sculptors, or writers make artistic decisions

compare two exhibitions, performances, publications, or videos using appropriate technical vocabulary.

STANDARD 3b

Key ideas are identified by numbers (1).  
Performance indicators are identified by bullets (•).  
Sample tasks are identified by triangles (▲).

**Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.**

## Experiential

### 4. Personal Qualities

#### Students:

**demonstrate the skills necessary to function and interact effectively in a variety of settings within the arts/humanities.**

*This is evident, for example, when students:*

- work collaboratively in leadership roles and as members of a team
- provide evidence of high personal standards through exhibitions, performances or portfolios that are recognized as excellent by the profession
- display diligence and perseverance in the face of unpleasant tasks
- demonstrate adaptable, cooperative, empathetic, enthusiastic, egalitarian, polite, and responsible behavior in a work group or job setting
- understand the range of possibilities within the career field, determine where their skills and abilities fit within that range, and make plans for further study
- practice creative approaches to conflict resolution
- show behaviors that comply with social, legal, and ethical requirements of the arts, broadcasting, journalism, and publishing
- exemplify positive attitudes toward their work, the workplace, and authority figures.

#### Creative Processes and Practices

#### Students:

**demonstrate a repertoire of experience when presenting an exhibition, performance, portfolio, or publication.**

*This is evident, for example, when students:*

- decide upon direction for a new body of work based on a review and reflection on their portfolio
- create a product that crosses traditional disciplines, integrating knowledge acquired in school, at work, or at home
- clarify ideas by comparing and contrasting, classifying, sequencing, uncovering assumptions, reasoning and drawing conclusions, comprehending part/whole relationships
- create original works that demonstrate that they are adventurous, courageous, curious, imaginative, independent, and inventive
- defend and/or explain their creative process, practice, and product
- generate alternative possibilities and solutions to a real life problem
- utilize their portfolios and journals as a means for perpetual self-assessment and the ultimate attainment of current work-place standards.

### 6. Making Results Public

#### Students:

**create an ongoing portfolio that demonstrates the competencies and creative processes delineated in the preceding key ideas.**

*This is evident, for example, when students:*

- develop a commencement portfolio containing evidence of creative growth and mastery of entry level occupational skills
- produce a professional quality literary/art magazine using a variety of skills: layout, typography, editing, paste-up, proofreading, illustration, photography
- produce a professional quality news magazine broadcast that combines research, sequencing, and interpretive skills
- create and/or produce a professional quality theatrical production using a repertoire of skills: improvisation, scene work, character development, costume, stage and lighting, funding, marketing, promoting
- display original art, craft, design, graphics, manuscripts, poetry or scores in a library or other public setting
- create and produce a professional standard dance performance using a repertoire of skills: choreography, costume, lighting, and stage design, directing, marketing and promotion
- create and produce a professional standard musical event, using a repertoire of skills: performing, funding, marketing, promotion
- create and produce a professional standard art exhibition using a repertoire of skills: mounting, curating, hanging, labeling, lighting, funding, marketing and promotion.



# Samples of Student Work

The samples of student work included in this section are intended to begin the process of articulating the performance standards at each level of achievement. This collection is not yet adequate for that purpose in either numbers or scope of examples. As New York State continues to collect work samples from the schools for inclusion in the document, we expect a much clearer understanding of the performance standards to be evident.

Neither are these samples presented as models of excellence. They vary in degree of achievement. Some are “acceptable”; others “more proficient.” All are meant to provide examples of the kind of work students might produce to demonstrate progress toward the standard.