Scientific and Technical Visualization I

Course Number:
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This state-of-the-art course introduces students to the use of complex graphic tools. Emphasis is placed on the use of these tools to better understand technical, mathematical, and/or scientific concepts. Visualization activities may include graphics of mathematical models, molecular structures, topographical maps, stratospheric and climate models, and statistical analysis. Computer, communication, math and science and technical concepts are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and TSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Scientific and Technical Visualization II

Course Number:
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course provides students with advanced skills in the use of complex visualization tools for the study of technological, mathematical and/or scientific concepts. Students design and develop increasingly complex data and concept driven visualization models. Focusing on scientific and technical concepts, students learn how to communicate and analyze phenomena using statistical, graphic, and conceptual visualization computer applications. Communication, computer, technical, mathematics, and science skills are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, internships, and cooperative education. Hands-on work experiences and TSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Scientific and Technical Visualization I

Structural Systems

Course Number: 8141
Recommended Maximum Enrollment: 21
Recommended Hours of Instruction: 135-180

This course introduces students to architecture and civil, structural and environmental engineering. These concepts are studied through research, design project development, and assessment. Activities are structured to integrate physical and social sciences, mathematics, language and fine arts. Work-based learning strategies appropriate for this course include school-based enterprise, job shadowing, and service-learning projects. This course and TSA technical and leadership activities develop skills essential for students interested in pursuing careers in building trades, city planning, architecture, or civil engineering.

Prerequisite: Fundamentals of Technology

Technology Advanced Studies

Course Number: 8005
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

Students select and pursue a topic of interest using knowledge and skills gained from previous technical and academic courses. Emphasis is placed on having the students select, direct, and evaluate their own study while using complex technological tools. This study allows the integration of science, mathematics, or language arts with the application of technology. This course can be used for Technology Education career studies for students who have completed three technical credits in a career pathway. Work-based learning strategies appropriate for this course include school-based enterprise, job shadowing, service-learning projects, apprenticeship, cooperative education, and internship. This course and TSA technical and leadership activities allows students to pursue in-depth research and experimentation within virtually all fields of study including science technology, engineering and mathematics.

Prerequisite Fundamentals of Technology

Transportation Systems

Course Number: 8126
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces students to land, water, air, and space transportation through experimentation and model making. Emphasis is placed on interdisciplinary research and transportation analysis focused on the performance of transportation systems, and their impacts on mobility and economic growth. Activities are structured to integrate the physical sciences and mathematics. Work-based learning strategies appropriate for this course include school-based enterprise, job shadowing, and service-learning projects. This course and TSA technical and leadership activities develop skills essential for students interested in technical or engineering careers in transportation related fields.

Prerequisite Fundamentals of Technology

For More Information

NC Department of Public Instruction
Instructional Services/ITHS
Technology Education
Career - Technical Education
6360 Mail Service Center
Raleigh, NC 27699-6360

TRADE AND INDUSTRIAL EDUCATION

PROGRAM DESCRIPTION

Trade and Industrial Education is a secondary program to prepare students for careers in six of the eleven North Carolina Career Pathways. While completing course sequences in these pathways, students participate in instructional units that educate them in standardized industry processes related to: concepts, layout, design, materials, production, assembly, quality control, maintenance, troubleshooting, construction, repair and service of industrial, commercial and residential goods and products.

DESIGN

As a component of career-technical education, Trade and Industrial Education provides students the opportunity to advance in a wide range of trade and industrial occupations. They are prepared for initial employment, further education at the community college or university level, and/or business ownership. The major NC career pathways are: commercial and artistic production, construction, engineering, industrial, public service and transport systems technologies. A balanced program of classroom study and practical work experiences produces competent workers who can manage resources, work cooperatively, organize and use information, understand complex systems, and apply appropriate technology. Cooperative education, internship, and apprenticeship experiences are available through the Trade and Industrial Education program.

Opportunities to develop and apply interpersonal leadership, social, civic, and business-related skills are provided through SkillsUSA, the career-technical student organization for Trade and Industrial Education students. As an integral part of the Trade and Industrial Education program, SkillsUSA activities enhance classroom instruction through leadership and teamwork activities. These activities directly relate to the major objectives of Trade and Industrial Education.

MAJOR PROGRAM OUTCOMES

The major outcomes for Trade and Industrial Education are to:

- Develop basic manipulative and technological skills relative to industrial occupations through a combination of laboratory experiences and work-based learning experiences.

- Provide technical information (principles and theory) with emphasis on the application of communications, mathematics, design, economics, science, and computer skills pertinent to employment and success in an industrial occupation.

MAJOR PROGRAM OUTCOMES CONT'D.

- Provide instruction in such areas as human relations, safety and health, positive work habits, and employability skills.
- Develop the skills needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities.

NATIONAL VOLUNTARY SKILL STANDARDS

The United States Departments of Education and Labor have initiated public-private partnerships to develop voluntary skill standards for various industries. Skills and performance levels needed by the American workforce to be competitive have been identified.

The National Voluntary Occupational Skill Standards used as guides in Trade & Industrial Education follow:

Commercial & Artistic Production Technologies

- **Graphic Arts Education Research Foundation (GAERF)** Secondary and post-secondary Printing Graphics programs align their curriculum to PrintED, GAERF's National Certification Skill Standards for the Graphic Communication Industry.

Construction Technologies

- **National Center for Construction Education and Research (NCCER)** With Construction Technologies training programs nationwide, NCCER has created performance-based curricula to unite the construction industry with secondary and post-secondary Construction Technology (carpentry), Masonry, Electrical Trades and Welding programs.
- **National Electrical Contractors Association (NECA)** NECA's Codes and Standards group works to influence the content of regulatory codes, and develops and publishes National Electrical Installation Standards (NEIS), the first quality standards for Electrical Trades.
- **Woodlinks** is the Furniture and Cabinetmaking Industry's skill standards and education organization. Student's participating in Furniture and Cabinetmaking work towards this set of international standards.

Engineering Technologies

- **CompTIA** is the Information Technology organization for vendor-neutral industry skill standards. CompTIA works to provide continuing and emerging technician's credentials for courses in Computer Engineering Technology and Network Engineering Technology.
- **The Electronic Industries Foundation (EIF)** sets skills standards for the electronics industries. These national skill standards are used in Electronics.
- **The Foundation for Industrial Modernization (FIM)** sets skill standards for Computer Aided Design (CAD) users. These national skill standards are used in Drafting I, Drafting II – Architectural,

NATIONAL VOLUNTARY SKILL STANDARDS CONT'D.

Drafting II – Engineering, Drafting III – Architecture and Drafting III – Engineering.

Industrial Technologies

- The **American Welding Society (AWS)** sets skill standards for the welding trades. Their national skill standards are used in Welding Technology.
- The **National Institute for Metalworking Standards (NIMS)** sets skills standards for the machine-tool industry. Their national skill standards are used in Metals Manufacturing.

Public Service Technologies

- **The Board of Cosmetic Arts Examiners** sets both skill standards and work-based learning experience requirements. These standards and requirements effect students in Cosmetology courses.

Transport System Technologies

- **National Automotive and Technicians Education Foundations, Inc. (NATEF)** NATEF sets skills for the automotive and collision repair courses. In North Carolina, Automotive Service Technology I, II, & III and Collision Repair Technology I & II are aligned to these national skill standards.

STUDENT CREDENTIALING AND CERTIFICATION

Nine industries offer national credentialing, certification, documentation and registry services to accredit high school Trade and Industrial Education programs. Each has rigid inspection, testing, and acceptance criteria and maintains a national registry that provides portable Credentials. These agencies are the American Welding Society (AWS), CompTIA, Board of Cosmetic Arts Examiners, Graphic Arts Education Research Foundation, National Automotive Technicians Education Foundation (Automotive Service Excellence, ASE), the National Center for Construction Education and Research (NCCER), the National Institute for Metalworking Skills (NIMS) and Woodlinks.

Students desiring a universally recognized credential for the workplace that is information technology related should enroll in a career major that leads them to credentials such as Internet and Computing Core Certification (IC^3), Microsoft Officer User Specialist (MOUS), A+ Certification, Net+, Certified Novell Administrator (CNA), Microsoft Certified Systems Engineer (MCSE), or Certified Cisco Network Administrator (CCNA). These credentials can be enhanced at postsecondary levels or may be used immediately in the workplace.

North Carolina also requires certain trades, crafts, and technicians to be licensed. Licensure usually requires meeting age, education, experience, and examination criteria. Most Trade and Industrial Education programs provide the skills and knowledge appropriate to acquire licensure.

STUDENT CREDENTIALING AND CERTIFICATION CONT'D.

The North Carolina Department of Labor offers Registered Apprenticeship programs leading to the designation of journeyperson in all trades and crafts offered by Trade and Industrial Education. They also maintain a registry and portable credential.

The following chart illustrates credentialing and certification offerings for the six major Trade and Industrial Education clusters. Other certifications are available.

HIGH SCHOOL PROGRAM	AWS	ASE	CA	CT	GAERF	NATEF	NIMS	NCCER	WL	L	A
COMMERCIAL AND ARTISTIC PRODUCTION TECHNOLOGIES											
Printing Graphics					•						•
CONSTRUCTION TECHNOLOGIES											
Construction Technology								•		•	•
Electrical Trades								•		•	•
Furniture and Cabinetmaking									•		•
Masonry								•			•
ENGINEERING TECHNOLOGIES											
Computer Engineering Technology				•							•
Electronics											•
Network Engineering Technology				•							•
INDUSTRIAL TECHNOLOGIES											
Metals Manufacturing Technology							•				•
Welding	•							•			•
PUBLIC SERVICE TECHNOLOGIES											
Cosmetology			•							•	•
TRANSPORT SYSTEMS TECHNOLOGIES											
Automotive Service Technology		•				•					•
Collision Repair Technology		•				•					•

CERTIFYING AGENCIES

KEY	CERTIFYING AGENCIES
AWS	American Welding Society
ASE	Automotive Service Excellent, National Automotive Technicians Education Foundation
CA	Board of Cosmetic Arts Examiners
CT	CompTIA
GAERF	Graphic Arts Education Research Foundation
NATEF	National Automotive and Technician's Education Foundation
NIMS	National Institute for Metalworking Skills
NCCER	National Center for Construction Education and Research
WL	Woodlinks
L	Licensure, State
A	Apprenticeship, Department of Labor (DOL)

PROGRAM UNIQUENESS

- The scope and sequence of Trade and Industrial Education includes program offerings in 6 career pathways with 17 distinct technologies represented.
- The majority of the apprenticeable occupations listed by the Department of Labor are related to technical skills contained in Trade and Industrial Education courses.

COURSE OFFERINGS*

Trade and Industrial Education course offerings, grades 9-12, are the following:

Academic Levels			
Level 1	**Level 2**	**Level 3**	**Level 4**
Introduction to Trade & Industrial Education			Trade and Industrial Education Advanced Studies
		Trade & Industrial Cooperative Training I	Trade & Industrial Cooperative Training II
	Commercial and Artistic Production Technologies		
	Digital Media I Printings Graphics I	Digital Media II Printing Graphics II	
	Construction Technologies		
	Construction Technology I	Construction Technology II	Construction Technology III
	Electrical Trades I	Electrical Trades II	
	Furniture and Cabinetmaking I	Furniture and Cabinetmaking II	
	Masonry I	Masonry II	Masonry III
	Engineering Technologies		
	Computer Engineering Technology I	Computer Engineering Technology II	
	Drafting I	Drafting II – Architectural	Drafting III – Architectural
		Drafting II – Engineering	Drafting III – Engineering
	Electronics I	Electronics II	
	Networking I	Network Engineering Technology II – Cisco	Network Engineering Technology III – Cisco
		Network Engineering Technology II – Nortel	Network Engineering Technology III – Nortel
		Scientific & Technical Visualization I	Scientific & Technical Visualization II
	Industrial Technologies		
	Metals Manufacturing Technology I	Metals Manufacturing Technology II	
	Welding I	Welding II	
	Public Service Technologies		
	Cosmetology – Introduction	Cosmetology I	Cosmetology II
	Transport Systems Technologies		
	Automotive Service Technology I	Automotive Service Technology II	Automotive Service Technology III
	Collision Repair Technology I	Collision Repair Technology II	

* Work-based learning methods such as internships, cooperative education, and apprenticeships may be a part of any course in grades 9-12.

Trade and Industrial Education Course Descriptions

Automotive Service Technology I

Course Number: 7511
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces basic automotive skills and job opportunities in the auto repair industry. Topics include engine theory, automotive service preventive maintenance, brake repair, electrical systems troubleshooting, safety, test equipment, and measuring. Skills in science, mathematics, thinking, and leadership are reinforced in this course. Work-based learning strategies for this course may include field trips, internships, job shadowing, and cooperative on-the-job training. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Algebra I is a recommended prerequisite.

Prerequisite: None

Automotive Service Technology II

Course Number: 7512
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

Automotive Service Technology programs in North Carolina are National Automotive Technician Education (NATEF) Certified. ASE areas of brakes and electrical/electronics are taught in this course. The level II course helps prepare students for the Automotive Service Excellence (ASE) technician certification. Work-based learning experience strategies appropriate for this course are field trips, job shadowing, internships, cooperative on-the-job training, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Automotive Service Technology I

Automotive Service Technology III

Course Number: 7513
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

Automotive Service Technology III emphasizes advanced brakes and advanced Electrical/Electronics. Students will have accumulated 105 hours of instructional time in brakes and 230 hours of instructional time in electrical/electronics for the program to be NATEF certified. Students may receive community college credit for brakes and electronics. This course further prepares students for ASE certification. Skills in leadership, safety, problem solving, and planning are reinforced in this course. The work-based learning strategies appropriate for this course are cooperative on-the-job training, internships, and apprenticeships. A select number of Schools that are certified in four areas may apply to become an AYES (Automotive Youth Education System) site. These schools must have sufficient dealership support for apprenticeships. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Automotive Service Technology II

Collision Repair Technology I

Course Number:
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course provide a basic introduction to collision repair work and the technical aspects of the collision repair industry. Topics include safety, hand and power tools and equipment, painting and refinishing, welding, cutting and panel repair. Skills in mathematics, science, reading, leadership, business and problem solving are reinforced. The work-based strategies appropriate for this course are job shadowing, internships, cooperative education, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Collision Repair Technology II

Course Number: 7522
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers basic collision repair practices, career information, and employment opportunities. Topics include welding, cutting, proper use of collision repair tools and equipment, and panel repairs using various substances. Skills in mathematics, science, reading, leadership, business and problem solving are reinforced. The work-based strategies appropriate for this course are job shadowing, internships, cooperative education, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Collision Repair Technology I

Computer Engineering Technology I

Course Number: 7991
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

Computer Engineering Technology I (CET I) introduces the essential hardware competencies for an entry-level PC service technician. This course focuses on the CompTIA A+ Core Hardware exam objectives. Students demonstrate basic knowledge of installing, configuring, upgrading, troubleshooting, and repairing microcomputer systems. The work-based strategy appropriate for this course is job shadowing. Hands-on experiences and SkillUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Computer Engineering Technology II

Course Number: 7992
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

Computer Engineering Technology II (CET II) introduces the essential operating systems competencies for an entry-level PC service technician. This course focuses on the CompTIA A+ Operating System Technologies exam objectives. Students demonstrate knowledge of installing, configuring, upgrading, troubleshooting, and repairing operating systems. Work-based strategies appropriate for this course are job shadowing, internship, cooperative education, and apprenticeship. Hands-on experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Computer Engineering Technology I

Construction Technology I

Course Number: 7721
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course provides a basic introduction to construction work and the technical aspects of carpentry. Topics include safety, measurement, and the identification, selection, and use of tools, equipment, lumber, materials, and fasteners. Basic skills, leadership, career development, thinking and reasoning skills, mathematics, and principles of technology are reinforced. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Construction Technology II

Course Number: 7722
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers advanced technical aspects of carpentry with emphasis on development of skills introduced in level I. Topics include plans, framing, footings, foundations, wall sheathing, insulation, vapor barriers, gypsum board, and underlayment. Skills in measurement, leadership, safety, mathematics, and problem solving are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Construction Technology I

Construction Technology III

Course Number: 7723
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers issues related to planning, management, finance, sales, labor, technology, community, health, environment, and safety. Topics include estimating, leveling instruments, forms, special framing, interior and exterior finishing, cabinets, built-ins, and metal studs. Skills in technical subjects, production, leadership, safety, problem solving, reading, and mathematics are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Construction Technology II

Cosmetology - Introduction

Course Number:
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces the basic principles and foundations of the cosmetology profession. Topics include: leadership, infection control, draping and shampooing, thermal styling, wet styling, long hair design, human physiology, facials, and natural nails. Skills in mathematics, science, biology, leadership, and problem solving are reinforced in this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities that enhance classroom instruction and career development.

Prerequisite: None

Cosmetology I

Course Number: 7811
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 600

This course introduces developmental skills, employment opportunities, and career information required for the cosmetology industry. Topics include facials, manicures, hair cutting, chemical relaxing and restructuring, wet hair styling, and hair coloring and lighting. Skills in mathematics, science, biology, leadership, and problem solving are reinforced in this course. The work-based learning strategy appropriate for this course is a school-based enterprise. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Cosmetology II

Course Number: 7812
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 600

This course provides advanced development of process, techniques, and skills introduced in Cosmetology I. Topics include hair coloring techniques, chemical servicing; identification and treatment of disorders of the skin, scalp and hair; manicuring; pedicuring; artificial nails; hair removal; and permanent waving techniques. Students receive 1200/1500 hours of training to prepare them for the Cosmetology Board Exam. Skills in chemistry, mathematics, business, thinking, and communication are reinforced in this course. The work-based learning strategy appropriate for this course is a school-based enterprise. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Cosmetology I

Digital Media I

Course Number:
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course provides a broad-based foundation in the digital media field. An emphasis is placed on the fundamental concepts of audio and video design, various digital media technologies, non-linear editing, product development and design, and career development. Communication, mathematical, and critical thinking skills are strengthened throughout the course. Work-based learning strategies appropriate for this course are field trips and job shadowing. Local projects and SkillsUSA leadership activities, conferences, and competitions provide opportunities for the application of instructional competencies.

Prerequisite: None

Digital Media II

Course Number: 7409
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course provides students with more advanced knowledge in the digital and interactive media industry. Emphasis is placed on advanced audio and video non-linear editing techniques for the media; and commercial and emerging, web-based interactive media. Project planning, design and development prepare students for entry into various IT and communication industries. Work-based strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Digital Media I

Drafting I

Course Number: 7921
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces students to the use of simple and complex graphic tools used to communicate and understand ideas and concepts found in the areas of architecture, manufacturing, engineering, science, and mathematics. Topics include problem-solving strategies, classical representation methods such as sketching, and geometric construction techniques as well as CAD (computer assisted design), orthographic projection, and oblique and isometric drawings. Skills in communication, mathematics, science, leadership, and problem-solving are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Drafting II - Architectural

Course Number: 7962
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course is focused on the principles, concepts, and use of complex graphic tools used in the field of architecture, structural systems, and construction trades. Emphasis is placed on the use of CAD tools in the creation of floor plans, wall sections, and elevation drawings. Mathematics, science, and visual design concepts are reinforced. Work-based learning strategies appropriate for this course are apprenticeship and cooperative education. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Drafting I

Drafting III- Architectural

Course Number: 7963
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course introduces students to advanced architectural design concepts. Emphasis is placed on the use of CAD tools in the design and execution of site and foundation plans as well as topographical information and detail drawings of stairs and wall sections. Teaming and problem-solving skills are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, internship, and cooperative education. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Drafting II - Architectural

Drafting II - Engineering

Course Number: 7972
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course focuses on engineering graphics introducing the student to symbol libraries, industry standards, and sectioning techniques. Topics include coordinate systems, principles of machine processes and gearing, and the construction of 3-D wireframe models using CAD. Mathematics, science, and mechanical engineering concepts involving the working principles and design of cams and gears are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, internships, and cooperative education. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Drafting I

Drafting III - Engineering

Course Number: 7973
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course introduces the student to advanced engineering concepts using CAD tools. Topics studied include descriptive geometry, geometric tolerancing, and advanced engineering design concepts such as surface and solid modeling. Science and mathematic concepts are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, internships, and cooperative education. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is recommended prerequisite.

Prerequisite: Drafting II - Engineering

Electrical Trades I

Course Number: 7741
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces residential wiring, electrical installation, and service. Topics include basic electricity, electrical construction codes and practices, the National Electrical Code, the use of test equipment, and electrical hand and power tools. Skills in safety, mathematics, leadership, and problem solving are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Electrical Trades II

Course Number: 7742
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course provides advanced instruction in residential wiring and introduction to electrical theory including AC and DC circuits. Emphasis is placed on test equipment, electrical color coding, conduit bending and installation, electrical measurements, use of polyphase current, specialty tools, transformers, and generators. Skills in safety, leadership, reading, mathematics, and problem solving are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Electrical Trades I

Electronics I

Course Number: 7631
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course covers electronic practices and fundamentals, roles of electronics in communications and industry, and career development. Topics include safety, tools, direct current, schematics, soldering, measuring electricity, Ohm's/Watt's/Kirchoff's Laws, power, and circuits. Leadership skills, science, thinking skills, and principles of technology are reinforced. Job shadowing and internships are appropriate work-based learning strategies for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Algebra I is a recommended prerequisite.

Prerequisite: None

Electronics II

Course Number: 7632
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers advanced electronic practices and principles, special equipment and materials, and employment opportunities. Topics include safety, alternating current, inductive/capacitive/RCL circuits, semiconductor devices, rectifier/filter circuits, and bipolar transistors. Skills in leadership, safety, mathematics, reading, problem solving, tools, and test equipment are reinforced. Work-based learning strategies appropriate for this course are job shadowing, cooperative education, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Electronics I

Furniture and Cabinetmaking I

Course Number: 7621
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course introduces career information, employment opportunities, and skills required for work in the furniture and cabinetmaking industry. Topics include tools and equipment, theory and practice, types of woods, finishes, styles, bonds and fastners. Skills in mathematics, reading, leadership, safety, and problem solving are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: None

Furniture and Cabinetmaking II

Course Number: 7622
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers development of more advanced knowledge and skills in the furniture and cabinetmaking industry. Emphasis is placed on construction principles as applied to mass production, and the construction and installation of cabinet drawers and doors. Skills in leadership, safety, mathematics, planning, and problem solving are reinforced in this course. Work-based strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Furniture and Cabinetmaking I

Introduction to Trade and Industrial Education (ITIE)

Course Number: 7400
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces students to a possibility of six career majors available in T & I Education. Students may rotate to different laboratories for instruction. Topics include level I objectives from each of the T & I course career majors being introduced. Skills in communication, science, mathematics, and leadership are reinforced in this course. Work-based learning strategies appropriate for this course are field trips and job shadowing. Hands-on work experiences and SkillsUSA leadership activities provide opportunities to enhance classroom instruction and career development.

Prerequisite: None

Masonry I

Course Number: 7711
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces the nature of masonry technology, materials and supplies, and employability skills. Topics include safety, layout, tools, leveling, plumbing, use of straight-edge, and jointing brick and block in wall construction. Reading, mathematics, problem solving, and principles of technology are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Masonry II

Course Number: 7712
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course provides a continuation of masonry skills, estimating, blueprint reading, and building codes. Topics include constructing walls, corners, sills, and similar structures using a variety of bonds and materials. Skills in safety, leadership, reading, mathematics, problem solving, and career development are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Masonry I

Masonry III

Course Number: 7713
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course provides advanced masonry skills, leadership development, and the preparation of technical presentations. Topics include constructing composite walls, steps, arches, lattice walls, sidewalks, brick and concrete pavers, window sills, chimneys, and fireplaces. Skills in safety, mathematics, reading, problem solving, and employability skills are reinforced in this course. Work-based learning strategies appropriate for this course are cooperative education and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Masonry II

Metals Manufacturing Technology I

Course Number: 7641
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces various manufacturing processes and job opportunities in manufacturing with emphasis on machining metals parts. Topics include safety, math, measurement, blueprint reading, layout, bench work, sawing, drilling, turning, and milling. Science, thinking skills, and principles of science are reinforced. Job shadowing and internships are appropriate work-based learning strategies for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Metals Manufacturing Technology II

Course Number: 7642
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course provides advanced instruction in manufacturing and introduces computer assisted drafting/manufacturing and numerical control processes. Topics include safety, environmental protection, quality control, metallurgy, materials, layout, assembly, sawing, turning, milling, grinding, computer numerical control, computer-aided manufacturing, welding, and maintenance. Skills in leadership, safety, mathematics, reading, problem solving, blueprint reading, and precision measuring are reinforced. Work-based learning strategies appropriate for this course are job shadowing, cooperative education, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Metals Manufacturing Technology I

Networking I

Course Number:
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course provides a broad-based foundation in the engineering and administration of computer network systems. Emphasis is on PC/network hardware and operating systems, architecture, protocols, design and security, and career development. Communication, mathematical, and critical thinking skills are strengthened throughout the course. Work-based learning strategies appropriate for this course are field trips and job shadowing. Simulations, projects, teamwork, SkillsUSA leadership activities, meetings, conferences, and competitions provide opportunities for application of instructional competencies.

Prerequisite: None

Network Engineering Technology II

Course Numbers:
Cisco_____
Nortel_____
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This course introduces the fundamental principles of networks and their operation from an industry vendor's perspective. Emphasis is placed on the hands-on skills needed to design, set-up, maintain networks, install cabling, and configure vendor-specific routers and switches. Technical writing and binary math skills also will be emphasized. The expectation of this course sequence is for students to sit for the appropriate industry credentialling exam. Work-based strategies appropriate for this course are job-shadowing, internships, cooperative education, and apprenticeship. Hands-on experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Networking I

Network Engineering Technology III

Course Numbers:
Cisco_____
Nortel_____
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

Through hands-on experiences, this course introduces the concepts of wide area networks, advanced router configurations, switched networks, VLANS, and simple vendor-specific network management protocols. Presentation and communication skills needed by a network engineer also will be emphasized. The expectation of this course sequence is for students to sit for the appropriate industry credentialling exam. Work-based strategies appropriate for this course are internships, cooperative education, and apprenticeship. Hands-on experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Network Engineering Technology II

Printing Graphics I

Course Number: 7911
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course introduces graphic communications and imaging technology with emphasis on printing production, publishing, and packaging industries. Topics include safety, layout, design, electronic imaging, reproduction photography, image assembly, platemaking, duplicator operations, finishing, and binding. Thinking skills, science, leadership, and visual art concepts are reinforced in this course. Job shadowing and internships are appropriate work-based learning strategies for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Printing Graphics II

Course Number: 7912
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course covers the entire printing graphic process, from design stage, to printing, bindery, and distribution stages. Topics include advanced safety, production planning layout, design, electronic imaging, reproduction photography, image assembly, platemaking, duplicator operations, finishing, binding, screen printing, and flexography. Skills in leadership, reading, math, safety, science, and visual art concepts are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, cooperative education, and internship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry and Art I are recommended prerequisites.

Prerequisite: Printing Graphics I

Scientific and Technical Visualization I

Course Number: 7901
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This state-of -the-art course introduces students to the use of complex graphic tools. Emphasis is placed on the use of these tools to better understand technical, mathematical and/or scientific concepts. Emphasis is placed on the use of complex graphic tools to better understand a given mathematics, and/or scientific concept. Visualization activities may include graphics of mathematical models, molecular structures, topographical maps, stratospheric and climate models, and statistical analysis. Computer, communication, math and science concepts are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Scientific and Technical Visualization II

Course Number: 7902
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course provides students with advanced skills in the use of complex visualization tools for the study of math and/or sciences concepts. Students design and develop increasingly complex data and concept driven visualization models. Focusing on scientific and technical concepts, students learn how to communicate and analyze phenomena using statistical graphic and conceptual visualization computer applications. Communication, computer, technical, mathematics, and science skills are reinforced in this course. Work-based learning strategies appropriate for this course are apprenticeship, internships, and cooperative education. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Scientific and Technical Visualization I

Trade and Industrial Advanced Studies

Course Number: 7999
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 135-180

This culminating, career-focused course for seniors in T &1 programs includes a research paper, product, and presentation. Emphasis is on students demonstrating their abilities to use content and apply knowledge to real-world situations. Skills in leadership, writing, speaking, problem solving, mathematics, and science are reinforced in this course. It is important to connect work-based learning such as internship, apprenticeship, and cooperative education to this course. Students work under the guidance of a teacher-facilitator in collaboration with community members, business representatives, and other school-based personnel. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Three technical credits within Trade and Industrial Education.

Trade and Industrial Cooperative Training I

Course Number: 7821
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180
Plus paid work experience

This course combines classroom instruction with skilled on-the-job training in the areas of commercial and artistic production, construction, engineering, industrial, or transport systems technology. In the school-based learning part of the course, emphasis is placed on team development, quality service and products, customer satisfaction, employment acquisition, career analysis, safety standards, and leadership. Skills reinforced in this course are technical mathematics, measuring, reading, writing, and communication skills. Work-based learning strategies appropriate for this course include cooperative education and apprenticeships. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Trade and Industrial Cooperative Training II

Course Number: 7822
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135- 180
Plus paid work experience

This course provides skills necessary to become successful in a trade and industrial occupation. In the school-based learning part of the course, emphasis is placed on total quality teamwork, decision-making, running and controlling projects, communication skills, business ownership, and financial planning. Skills reinforced in this course are technical mathematics, reading, communication, and leadership. Work-based learning strategies appropriate for this course include cooperative education, apprenticeships, and internships. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: Trade and Industrial Cooperative Training I

Welding Technology I

Course Number: 7661
Recommended Maximum Enrollment: 20
Recommended Hours of Instruction: 135-180

This course covers basic industrial and construction welding practices, occupation characteristics, and employment opportunities. Topics include safety, tools, print reading, measurement, thermal cutting processes, basemetal preparation and shielded metal arc welding (SMAW). Science, thinking skills, mathematics, leadership skills, and principles of technology are reinforced in this course. Job shadowing is an appropriate work-based learning strategy for this course. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development.

Prerequisite: None

Welding Technology II

Course Number: 7662
Recommended Maximum Enrollment: 16
Recommended Hours of Instruction: 270-360

This course introduces advanced welding and cutting practices used in industry and construction and emphasizes hands-on experience. Topics include weld fit-up and testing, metal properties, gas metal (GMAW), flux cored (FCAW), and shielded metal (SMAW) arc welding. Skills in leadership, safety, SMAW, mathematics, reading, and problem solving are reinforced in this course. Work-based learning strategies appropriate for this course are job shadowing, cooperative education, and apprenticeship. Hands-on work experiences and SkillsUSA leadership activities provide many opportunities to enhance classroom instruction and career development. Geometry is a recommended prerequisite.

Prerequisite: Welding Technology I

LOCAL COURSE OPTIONS

Schools may offer one or more specialized courses not included in the Standard Course of Study. These courses should meet a local economic need. Options may include:

Aerospace
Air Conditioning/Refrigeration
Commercial Art
Diesel Mechanics
Electro-Mechanical Technology
Law Enforcement
Marine Occupations
Photography
Plumbing
Textiles

Refer to Part I, Local Course Options, and Appendix B for instructions on how to offer these courses.

FOR MORE INFORMATION

NC Department of Public Education
Instructional Services/ITHS
Trade and Industrial Education
Career - Technical Education
6360 Mail Service Center
Raleigh, NC 27699-6360

PART III
Support Services

CAREER DEVELOPMENT COORDINATION

DESCRIPTION

Career Development Coordinators provide a variety of services to Career-Technical Education students in North Carolina public schools. They plan and implement programs in their local schools and school systems. Preparing Career-Technical Education students for careers is a developmental process that includes students, parents, teachers, counselors, and the community. Coordinating this process is the responsibility of the Career Development Coordinator.

MAJOR FUNCTIONS

The major functions of the Career Development Coordinator include:

- Preparatory services
- Case management services
- Transition services
- Business, industry, and education partnership services
- Promotional services

MAJOR PROGRAM OUTCOMES

Major responsibilities of career development coordinators include these core activities:

- Coordinating the career development process.
- Providing leadership for promoting career awareness, exploration and planning.
- Introducing students to and assisting them with a career focus within a career pathway.
- Coordinating the alignment of middle school courses and high school courses of study for Career-Technical Education students.
- Providing educators with access to career development information, occupational information, and labor market information needed to assist students with educational and career plans.
- Involving students in experiences designed to enable them to make a smooth transition from one level of education to another and from school to work or further education and training.
- Promoting the advantages of Career-Technical Education among students, parents, and all segments of the community to facilitate the appropriate placement of Career-Technical Education concentrators.
- Promoting the use of current technology for career research.
- Serving as a liaison with the business, industry, education, and military community.
- Maintaining and publicizing career development resources.
- Assisting students with developing skills needed in the workplace;
- Providing information to students, parents, educators, and community members about career development.

PROGRAM UNIQUENESS

Career Development Coordinators in North Carolina work in a variety of settings, including central offices, middle schools, and high schools. The individual work setting will affect the specific services that are provided.

FOR MORE INFORMATION

NC Department of Public Instruction
Instructional Services/BHC
Career Development
Career - Technical Education
6359 Mail Service Center
Raleigh, NC 27699-6359

SPECIAL POPULATIONS SERVICES

DESCRIPTION

The primary function of special populations coordination is to ensure that members of special populations receive services and job training.

Special services are provided for special populations to ensure equal access to recruitment, enrollment and placement activities. These supplementary services are essential to the successful participation of some disabled and disadvantaged students in Career-Technical Education programs. Students with the greatest needs have top priority for services. Coordination with other service providers reduces the number of direct service contacts and the duplication of efforts. Being non-instructional personnel, Special Populations Coordinators have the major responsibilities for ensuring such coordination.

Coordination services begin with the identification of each member of special populations enrolled in the local education agency's Career-Technical Education program. This approach allows the local education agency to meet the broad assurances of the law.

One such assurance, helping a student to enter a Career-Technical Education program, enhances their chances of selecting an appropriate Career-Technical Education program. Preparatory services are provided in the middle school or prior to a student's enrollment in a Career-Technical Education program at high school. These services include, but are not limited to, outreach to or recruitment of potential Career-Technical Education students, career guidance, vocational assessment, and other appropriate services, programs or activities.

After participation in the outreach and recruitment activities, each student's special needs are identified and coordinated to ensure success in completing their chosen course of study. Following the assessment process and career guidance, appropriate plans are developed.

The quality of a local Career-Technical Education program is dependent upon its ability to meet the statewide core indicators of performance and/or local modifications.

MAJOR FUNCTIONS

The major functions of the position include:

1. Outreach and Recruitment
2. Assessment and Prescription
3. Coordination with Other Service Providers
4. Monitoring Access, Progress, and Success
5. Annual Accountability and Planning

Examples of appropriate activities for each of the major function includes the following:

Outreach and Recruitment

The Outreach and Recruitment function includes enrollment and placement activities, providing information about Career-Technical Education opportunities and the development of a career development plan. In providing outreach and recruitment services, the Special Populations Coordinator should:

- Promote recruitment, enrollment and placement activities for special populations students.
- Provide information about Career-Technical Education opportunities to special populations students and their parents.
- Coordinate/develop a career development plan for identified special populations students enrolled in Career-Technical Education programs.

Assessment and Prescription

The Assessment and Prescription function includes the assessment of special needs of special populations students and the development of the Career Development Plan-Plus. In providing assessment and prescription services, the Special Populations Coordinator should:

- Identify members of special populations enrolled in Career-Technical Education programs.
- Assess the special needs of special populations students enrolled in Career-Technical Education programs.
- Develop and implement the Special Populations Component to the Career Development Plan (Career Development Plan-Plus).
- Participate in the Individualized Education Program Team for the development and implementation of the Career-Technical Education and Transition components of the Individual Education Plan (IEP).
- Coordinate special services for special populations students.
- Maintain a Career-Technical Education Resource Laboratory for members of special populations and Career-Technical Education teachers.
- Assist with transitional services for special populations students.
- Provide guidance and career development activities for special populations students.

Coordination with Other Service Providers

The Coordination with Other Service Providers function includes working with other service providers to assure services to members of special populations. In providing coordination with other service providers services, the Special Populations Coordinator should:

- Collaborate with Career-Technical Education teachers and other relevant service providers in providing services to special populations students.

Coordination with Other Service Providers Cont d.

- Coordinate with the provisions of the Workforce Investment Act (WIA), Special Education, Vocational Rehabilitation, community agencies, businesses/industry and significant others to provide appropriate supplementary services to members of special populations.
- Facilitate in-service training for individuals working with members of special populations to improve their abilities and techniques in meeting the special needs of these students.
- Monitor the Career-Technical Education component of the IEP and Career Development Plan-Plus to ensure that appropriate supplementary services are provided and performance indicators are met.
- Coordinate work experiences and field trips for special populations students.

Monitoring Access, Progress and Success

The Monitoring Access, Progress and Success function includes the maintenance of records documenting access to, progress through and successful completion of Career-Technical Education for members of special populations. In providing monitoring access, progress and success services, the Special Populations Coordinator should:

- Maintain records documenting access to, progress through, and successful completion of Career-Technical Education Programs for special populations students.
- Analyze Vocational Education Information System (VEIS) data to determine maintenance and improvement of access, progress and success of members of special populations in Career-Technical Education Programs.
- Document the attainment of performance indicators for members of special populations.

Annual Accountability and Planning

The Annual Accountability and Planning function includes the maintenance of records documenting program needs and improvement of supplementary services. In providing annual accountability and planning services, the Special Populations Coordinator should:

- Identify programs that need improvement to assist special populations students in meeting the performance indicators.
- Describe strategies to improve supplementary services for members of special populations in meeting the performance indicators.
- Evaluate incentives and adjustments to determine if adequate services are being provided to members of special populations in meeting the performance indicators.
- Maintain relevant record keeping and inventory systems related to job responsibilities.

Annual Accountability and Planning Cont d.	• Coordinate with appropriate administrative personnel and service providers to develop a plan of work based on the evaluation and needs assessment results to ensure that members of special populations are receiving adequate supplementary services and career planning.
MAJOR SERVICE AREA OUTCOMES	As a result of providing special services and activities, members of special populations should improve in the areas of access to, progress through, and success in comprehensive Career-Technical Education. Comprehensive career-technical education is comprised of preparatory programs and services; instructional programs and services; and, transitional services.
Preparatory Programs and Services	Preparatory programs and services are provided in the middle school or prior to a student's enrollment in a Career-Technical Education program at the secondary level. These services include, but are not limited to, outreach and recruitment of potential Career-Technical Education students; career guidance; assessment of special needs; and, other appropriate services, programs or activities. Following the assessment process and guidance, appropriate plans are developed.
Instructional Programs and Services	Instructional programs and services are provided that will ensure that members of special populations have equal access to the full range of Career-Technical Education programs; make progress in basic and vocational skills through the use of supplementary services; and, progress through their educational programs. Supplementary services must be documented on the Individual Education Plan for students enrolled in Special Education or on the Career Development Plan-Plus for special populations students not enrolled in Special Education.
Transition Services	Transition services are provided for students enrolled in Special Education who are sixteen years old or older to assist them in the transition from secondary to postsecondary education or employment. Transition activities should be based upon the individual student's needs, taking into account community experiences, the development of employment and other post-school adult living objectives, and when appropriate, acquisition of daily living skills and functional vocational evaluation.

MEMBERS OF SPECIAL POPULATIONS	(A) Individuals with disabilities; (B) Individuals from economically disadvantaged families, including foster children; (C) Individuals preparing for nontraditional training and employment; (D) Single parents, including single pregnant women;

MEMBERS OF SPECIAL POPULATIONS CONT'D.

(E) Displaced homemakers; and

(F) Individuals with other barriers to educational achievement, including individuals with limited English proficiency.

****

(A) **Individuals with disabilities** – individuals who have been certified under **Individual with Disabilities Education Act Amendments of 1997** as being:
Autistic
Behaviorally-Emotionally Disabled
Deaf-Blind
Hearing Impaired
Mentally Disabled
Multi-handicapped
Orthopedically Impaired
Other Health Impaired
Pregnant Students
Developmentally Delayed
Specific Learning Disabled
Speech-Language Impaired
Traumatic Brain Injury
Visually Impaired

(B) **Individuals from economically disadvantaged families** – individuals who are economically disadvantaged or from an economically disadvantaged family and qualify for any of the following:
Aid to Families with Dependent Children,
Food Stamps,
Free or reduced-price meals; and/or
Determined to be low-income according to the latest available data from the Department of Commerce or the Department of Health and Human Services Poverty Guidelines.

Foster Children – are students served by the North Carolina Department of Social Services. They have lost their families due to problems such as neglect, abuse, desertion, poverty, divorce, physical and emotional illness, and are placed in foster care.

(C) **Individuals preparing for nontraditional training and employment** – individuals who are enrolled in Career-Technical Education program areas which are linked to nontraditional/ underrepresented occupations.

(D) **Single parents, including single pregnant women** – unmarried single individuals with children and those expecting a child.

MEMBERS OF SPECIAL POPULATIONS CONT'D.

(E) **Displaced homemakers** – individual experiencing a change in lifestyle due to unpredictable circumstances.

Definition of "displaced homemaker" removes requirement that individual be an adult.

(F) **Individuals with other barriers to educational achievement, including individuals with limited English proficiency –**

Barriers to educational achievement –

a) Academically Disadvantaged – individuals who score at or below the 25th percentile on a standardized achievement or aptitude test; or, has secondary school grades below 2.0 on a 4.0 (on which the grade "A" equals 4.0 scale); or below 2.5 (on which the grade "A" is weighted); or, fails to attain minimum academic competencies.

b) Potential Dropouts – individuals who may reasonably be expected to leave school for any reason before graduating or completing a program of study and without transferring to another school. Students in this category usually exhibit one or more of the following characteristics:
   - consistent low achievement,
   - high rate of absenteeism,
   - no motivation,
   - constant discipline problems, or,
   - delinquent behavior in school and in the community.

Individuals with limited English proficiency –

- were not born in the United States or whose native language is a language other than English;
- come from environments where a language other than English is dominant;
- are American Indian and Alaska Natives and who come from environments where a language other than English has had a significant impact on their level of English language proficiency; and
- who by reason thereof, have sufficient difficulty speaking, reading, writing, or understanding the English language which denies those individuals the opportunity to learn successfully in classrooms where the language of instruction is English or to participate fully in our society.

MEMBERS OF SPECIAL POPULATIONS CONT'D.

Disabled/Handicapped Students

The terms *"disabled"* and *"handicapped"* are used interchangeably in Career-Technical Education.

"Individuals with disabilities" refers to students served under the **Individuals with Disabilities Education Act Amendments of 1997.**

"Handicapped" refers to individuals served under **Section 504 of the Rehabilitation Act of 1973** and other Civil Rights legislation.

A student served under **IDEA** is also eligible to be served under Section 504 and other legislation for disabled individuals.

Children with Disabilities:

The term "children with disabilities" includes, without limitation, all children who, because of permanent or temporary mental, physical or emotional disabilities, need special education, are unable to have all their educational needs met in a regular class without special education and related services, or are unable to be adequately educated in the public schools. It includes those who are autistic, behaviorally-emotionally disabled, deaf-blind, hearing impaired, mentally disabled, multihandicapped, orthopedically impaired, other health impaired, pregnant, specific learning disabled, speech-language impaired, traumatic brain injured, and visually impaired.

Definitions of Disabling Conditions:

1. **Autistic.** Autism is a developmental disorder, which involves several areas of development: reciprocal social interaction skills, communication skills, and the presence of restricted and/or repetitive behavior, interests and activities. This impairment, sometimes called Autism Spectrum Disorder, may include: Autistic Disorder, Atypical Autism (Pervasive Developmental Disorder – Not otherwise Specified), Asperger's Disorder, Rett's Disorder, Childhood Disintegrative Disorder or all Pervasive Developmental Disorders. These disorders can co-exist with other disorders such as mental retardation, learning disabilities, attention deficit disorder, Down Syndrome, or Tourette's Disorder.

2. **Behaviorally/Emotionally Disabled.** Behaviorally-emotionally disabled students are students who, after receiving specially designed educational support services and intervention strategies in the regular educational setting, still exhibit patterns of situationally inappropriate interpersonal or intrapersonal behavior. The inappropriate behaviors must be long-standing patterns of behavior

MEMBERS OF SPECIAL POPULATIONS CONT'D.

which occur regularly and often enough as to interfere consistently with the student's own learning process. A behavioral-emotional disability is evidenced by one or more of the following characteristics, which cannot be attributed primarily to physical, sensory, or intellectual deficits:

(a) inability to achieve adequate academic progress not due to a learning disability);
(b) inability to maintain satisfactory interpersonal and/or intrapersonal relationships;
(c) inappropriate or immature types of behavior or feelings under normal conditions;
(d) general pervasive mood of unhappiness or depression;
(e) a tendency to develop physical symptoms, pains or fears associated with personal or school problems.

The term does not include socially maladjusted students unless it is determined that he/she is also behaviorally-emotionally disabled.

3. **Deaf-blind.** Deaf-blind students have concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational problems that they cannot be accommodated in special education programs solely for deaf or blind children.

4. **Hearing Impaired.** Hearing impaired children are those with hearing losses which are disabling educationally and developmentally and who, with or without amplification, may require various instructional modifications and related services in order to make full use of their learning opportunities. Hearing impaired is a generic term, which includes deafness and all hearing losses ranging from mild to profound.

5. **Mentally Disabled.** Mentally disabled individuals refer to significantly subaverage general cognitive functioning and a reduced rate of learning. This condition exists concurrently with deficits in adaptive behavior, is manifested during the developmental period, and adversely affects the student's educational performance.

6. **Multi-handicapped.** Multi-handicapped students have a pervasive primary disability that is cognitive and/or behavioral in combination with one or more other disabilities, the combination of which causes such development and educational problems that the children cannot be accommodated in special programs that primarily serve one area of disability.

MEMBERS OF SPECIAL POPULATIONS CONT'D.

7. **Orthopedically Impaired.** An orthopedically impaired child possesses a severe orthopedic impairment, which adversely affects their educational performance. The term includes impairments caused by congenital abnormalities and impairments from other causes. Preschool children who are orthopedically impaired have an orthopedic impairment, which adversely affects physical and motor development and which interferes with the acquisition of skills. The term includes impairments caused by congenital abnormalities and impairments from other causes.

8. **Other Health Impaired.** Other health impaired students have chronic or acute health problems, which causes limited strength, vitality or alertness, including a heightened alertness to environmental stimuli, to such an extent that special educational services are necessary. The health problems may include heart conditions, chronic lung disease, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, diabetes, attention deficit disorder or attention deficit hyperactivity disorder, genetic impairments, or some other illness which may cause a student to have limited strength, vitality or alertness, adversely affecting educational performance of developmental progress.

9. **Pregnant Students.** Pregnant students with special educational needs are those who, because of their pregnancy, require special education and/or related services other than that which can be provided through regular education services.

10. **Developmentally Delayed.** Children identified in this area are those ages three through seven whose development and/or behavior is so significantly delayed or atypical that special education and related services are required.

11. **Specific Learning Disabilities.** Specific learning disabilities is an inclusive term used to denote various processing disorders presumed to be intrinsic to an individual (e.g., acquisition, organization, retrieval, or expression of information). For the purpose of special educational services, students classified as learning disabled are those who, after receiving instructional intervention in the regular education setting, have a substantial discrepancy between ability and achievement. The disability is manifested by substantial difficulties in the acquisition and use of skills in listening comprehension, oral expression, written expression, basic reading, reading comprehension, mathematics calculation, and mathematics reasoning. A learning disability may occur concomitantly with, but is not the primary result of, other disabilities and/or environmental, cultural, and/or economic influences.

MEMBERS OF SPECIAL POPULATIONS CONT'D.

12. **Speech and Language Impaired.** A pupil who has a speech-language impairment has a disorder in articulation, language, voice, and/or fluency. A speech-language impairment may range in severity from mild to severe. It may be developmental or acquired, and pupils may demonstrate one or any combination of the four parameters listed above. A speech-language impairment may result in a primary disability or it may be secondary to other disabilities.
    - *(a) articulation.* An articulation disorder is an abnormal, nondevelopmental production of phonemos (speech sounds). Types of misarticulations include omissions, substitutions, and distortions;
    - *(b) language.* A language disorder is the impairment of comprehension and/or production of an oral communication system. The disorder may involve the form of language (phonologic, morphologic, and syntactic systems), the content of language (semantic systemic), the function of language (pragmatic system), and/or any combination of the above.
        - (i) form of language
          Phonology is the sound system of a language and the linguistic rules that govern it; Morphology is the rule system that governs the structure of words and the elements of meaning used in their construction; Syntax is the linguistic rule governing the order and combination of words to form sentences, and the relationships among the elements within a sentence;
        - (ii) content of language
          Semantics refers to the content or meaning of words and utterances;
        - (iii) function of language
          Pragmatics refers to the social use of language and its appropriateness in a given situation;
    - *(c) voice.* A voice disorder is an abnormal production of pitch (e.g., range inflection, appropriateness), intensity (loudness), resonation (e.g., excessive nasality), and quality (e.g., breathiness, hoarseness, and harshness);
    - *(d) fluency.* A fluency disorder is a disruption in the normal, rhythmic flow of speech that interferes with communication. The disorder may include, but not be limited to, frequency of dysfluencies, duration of dysfluencies, struggle and avoidance characteristics, and types of dysfluencies (repetition – phrases, whole words, syllables, and phonemes; prolongations; and blocks).

MEMBERS OF SPECIAL POPULATIONS CONT'D.

13. **Traumatic Brain Injury.** Traumatic brain injury is an acquired open or closed head injury caused by an external physical force that impairs a student's cognitive, communicative, perceptual, behavioral, social-emotional, and/or physical abilities to the extent that the student requires special education. Congenital, degenerative, or brain injuries induced by birth trauma are not included in this definition.

14. **Visually Impaired.**
    (a) functionally blind children have so little remaining vision that they must use Braille as their reading medium. Preschool children who are functionally blind use predominantly tactile or auditory mediums in order to learn. In children for whom formal vision measures are not appropriate, sufficient documentation for low vision will include diagnosed pathology and functional assessment that describes visual deficits significant enough to interfere with learning;
    (b) partially seeing children have a loss of vision, but are able to use regular or large type as their reading medium. These will generally be children who have a visual acuity between 20/70 and 20/200 in the better eye after correction. Preschool children with low vision have a loss of vision but are able to use the visual medium as their predominant means of learning. These generally will be children who have an actual or estimated visual acuity between 20/70 and 20/200 in the better eye after correction or whose visual impairment impedes the acquisition of developmental milestones;
    (c) children who are legally blind have a visual acuity of 20/200 or less in the better eye after correction or a peripheral field so contracted that the wider diameter subtends an arc no greater than 20 degrees.

Educational Setting

Laws require that disabled students be educated along with nondisabled students to the maximum extent appropriate to the needs of the disabled students. This means that disabled students must be assigned to regular courses or classes if the student's needs can be met there. Decisions on academic placement must be based on an individual student's needs.

Disabled students may be placed in a separate class or facility only if they cannot be educated satisfactorily in the regular educational setting with the use of supplementary aids or services.

MEMBERS OF SPECIAL POPULATIONS CONT'D.

Disabilities Covered under Section 504

Section 504 regulation defines an "individual with handicaps" as any person who:

(i) has a physical or mental impairment, which substantially limits one or more major life activities,
(ii) has a record of such an impairment, or
(iii) is regarded as having such an impairment.

The regulation further defines a physical or mental impairment as:

(A) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive; digestive, genitourinary; hemic and lymphatic; skin; and endocrine; or,
(B) any mental or psychological disorder, such as, mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.

The key factor in determining whether a person is considered an "individual with handicaps" covered by Section 504 is whether the physical or mental impairment results in a substantial limitation of one or more major life activities. Major life activities, as defined in the regulation, include functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning and working.

Hidden Disabilities

Hidden disabilities are physical or mental impairments that are not readily apparent to others. They include such conditions and diseases as specific learning disabilities, diabetes, epilepsy, and allergy. A disability such as a limp, paralysis, total blindness or deafness is usually obvious to others. But hidden disabilities: such as, low vision, poor hearing, heart disease, or chronic illness may not be obvious. A chronic illness involves a recurring and long-term disability such as diabetes, heart disease, kidney and liver disease, high blood pressure, or ulcers.

The services needed to accommodate the student's special needs in the Career-Technical Education classroom must be made by a group of persons who know the student. The services must be documented on the student's accommodation plan and monitored periodically.

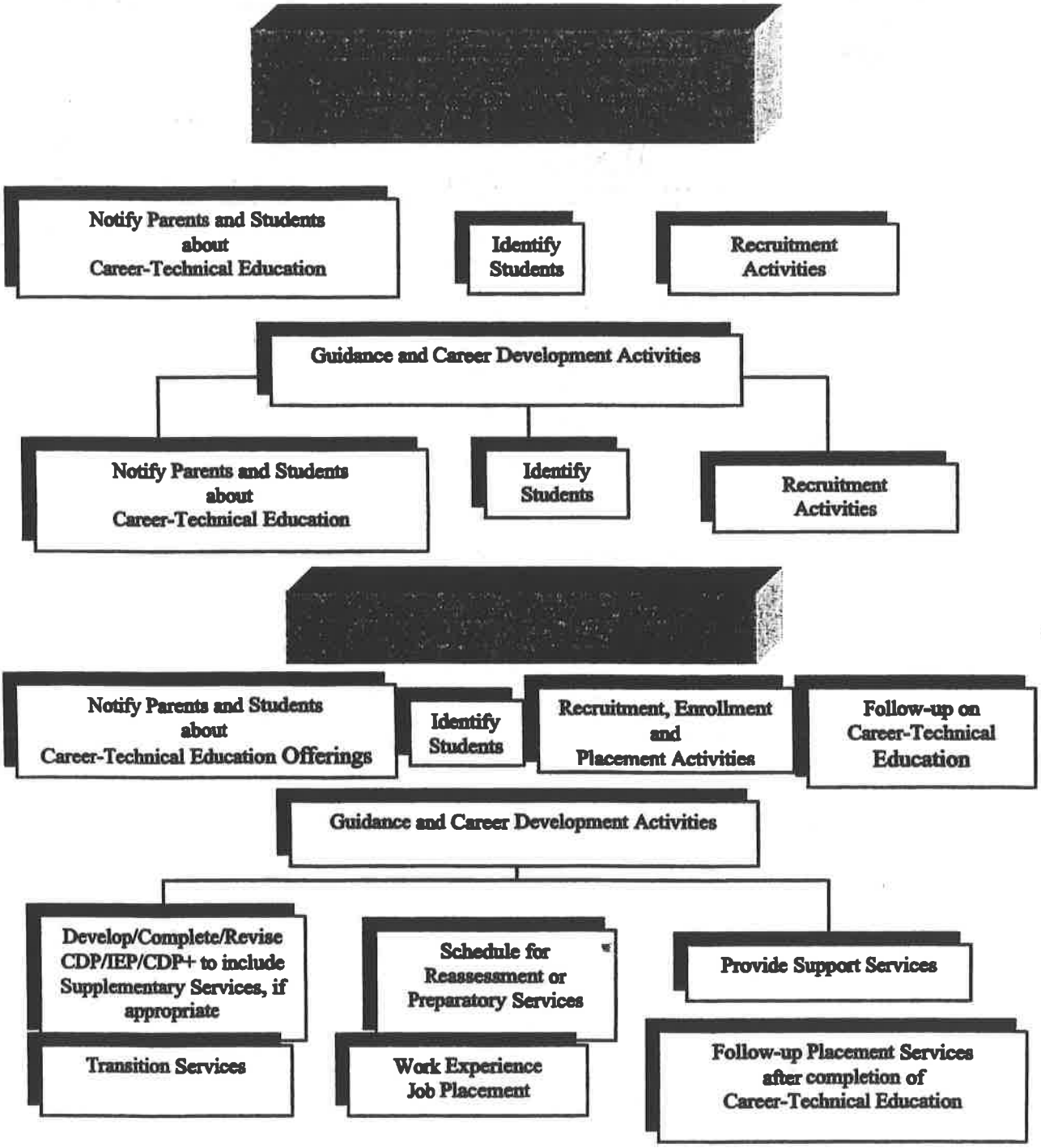
SUGGESTED CAREER-TECHNICAL EDUCATION SERVICE DELIVERY MODEL GRADES 6-12

Local school administrative units shall make provisions to provide a wide range of support services as needed by members of special populations who are enrolled in a Career-Technical Education program. The chart on the following page provides an example of a comprehensive service delivery system. All services and activities must be provided as specified in the following publications:

1. ***Special Populations Challenge Handbook***

2. ***Procedures Governing Programs and Services for Children with Disabilities***

Special Populations Suggested Career-Technical Education Service Delivery Model
Grades 6-12



ENROLLMENT

Enrollment in each Career-Technical Education program should be of a size that would ensure effective instruction as prescribed in the individual course description in the *Standard Course of Study*.

The recommended maximum class size is established to maintain proper instruction management and to assure a safe and healthful teaching and learning environment. The maximum figures for each course of instruction are based on the degree to which student safety is involved in the learning process; the desired number of learning outcomes; the types, quantity and size of instructional equipment, material and supplies; and, the amount of space needed by students and teachers in the instructional process.

To ensure that members of special populations receive adequate services and job training, local education agencies are encouraged to lower the maximum class size. One of the best practices of exemplary programs is to limit the number of disabled students to five per regular Career-Technical Education course.

Special programs for disadvantaged and disabled students should adhere to the following student-teacher ratio:

1. Disadvantaged – up to 16 students per class period.
2. Mentally Disabled – up to 12 students per class period with one assistant.
3. Specific Learning Disabled – up to 10 students per class period no assistant and 16 with one assistant.
4. Orthopedically Impaired – up to 12 students per class period with one assistant.
5. Behaviorally-Emotionally Disabled – up to 8 per class period with one assistant.
6. Multi-Categorical – up to 8 per class period with no assistant and 12 with one assistant (maximum of 4 Behaviorally-Emotionally Disabled in this setting).

FOR MORE INFORMATION

NC Department of Public Instruction
Instructional Services/BHC
Special Populations
Career - Technical Education
6359 Mail Service Center
Raleigh, NC 27699-6359

Career Exploration Clubs of North Carolina (CECNC)

Career Exploration Clubs of North Carolina (CECNC) is a local and state career and technical student organization for middle grades students enrolled in exploratory career and technical education courses. The purposes of CECNC are to encourage, enhance and reinforce instruction, develop competent leadership, create more interest for exploring tentative occupation choices, develop character and citizenship, and to encourage participation in the CTSOs at the high school level.

The program and activities of Career Exploration Clubs of North Carolina are designed to be appropriate for middle grades students enrolled in any exploratory Career and Technical Education course in Grades 6-8. These exploratory courses include:

- Exploring AgriMedicine
- Exploring Business Technologies
- Exploring Career Decisions
- Exploring Life Skills
- Exploring Technology Systems

CECNC activities and events are also appropriate for students enrolled in the following middle grade skill courses:

- Business Computer Technology
- Keyboarding

Local — Dues determined by local chapter
Regional — No dues required
State — No dues required

CECNC members have an opportunity to participate in the following individual, team, and chapter-wide competitive events:

- Career Brochure
- Career Development Plan
- Career Display
- Career Math
- Career Multimedia Presentation
- Career Poster
- Career Research
- Career Skit
- Career Video
- Chapter of Excellence
- Computer Skills
- Creed
- Decision Making
- Excellence in AgriMedicine
- Excellence in Business Technologies
- Excellence in Career Decisions
- Excellence in Life Skills
- Excellence in Technology Systems
- Helping Hands
- Illustrated Presentation
- Officer Elections
- Parliamentary Procedure
- Performing Arts
- Problem Solving/Creative Thinking
- Public Speaking
- Recruitment Brochure
- Report Writing

DECA: An Association of Marketing Students

Introduction

DECA is a state and national organization available to all students who are currently enrolled in Marketing Education courses.

Levels of Organization and Dues

Local – Determined by local chapter
State – Annual dues required
National – Annual dues required

Opportunities for Involvement

Competitive events are available for student participation at the district, state, and national levels.

Competency Based Individual/Team Written Events

- Business and Financial Services Marketing Research
- E-commerce Business Plan
- Entrepreneurship Participating (Independent, Franchising, E-commerce)
- Entrepreneurship Written
- Fashion Merchandising Promotion Plan
- Food Marketing Research
- General Marketing Research
- Hospitality and Recreation Marketing Research
- International Business Plan
- Retail Marketing Research

Chapter Projects

- Civic Consciousness
- Creative Marketing
- Free Enterprise
- Learn and Earn
- Public Relations

Competency-Based Participating Competitive Events

- Apparel & Accessories, Associate Level
- Apparel & Accessories, Management Level
- Business Services Marketing Series (not offered at the state level)
- Employability Skills, Associate Level (not offered at the national level)
- Food Marketing, Associate Level
- Food Marketing, Management Level
- Full Service Restaurant Management
- Marketing Management (not offered at the state level)
- Quick Serve Restaurant Management
- Retail Merchandising, Associate Level
- Retail Merchandising, Management Level
- Vehicles and Petroleum Marketing
- Advertising Campaign
- Technical Sales
- Management Team Decision Making Events (2 member team)
  - E-commerce
  - Financial Services
  - Hospitality Services
  - Sports and Entertainment Marketing
  - Travel and Tourism Marketing

Scholarship Awards Program

- T. Carl Brown Scholarships
- Art Institute of Charlotte
- Kings College
- UNC-G Bryan School of Business
- Johnson & Wales University
- Pitt Community College
- North Carolina Retail Merchants Association
- Greater Greensboro Merchants Association
- Sonya Williams Dismuke Memorial Scholarship

Special Activities

- Quiz Bowl
- Merit Awards

National programs, projects and benefits to members

- Activities to Promote Mathematic Skills
- Activities to Promote Free Enterprise & Economic Awareness
- Activities to Build Self-Esteem
- Chapter Achievement Programs
- Chapter Activities
- Community Projects
- Marketing Education Program Enrichment
- Leadership Conferences: District, State, Regional, and National
- Leadership Positions
- Learn and Earn Activities
- Magazines: State and National Levels
- Merit Awards Activities
- National, Regional, State Business Associations Support
- Officers and Committee Members: Local, District, State, and National
- Professional Conferences: Local, District, State, Regional and National
- Scholarship Programs
- School Improvement Projects
- Business Sponsored Activities

FFA: The Organization for Agricultural Education Students

Introduction

FFA is a national organization that serves students enrolled in agricultural education courses grades 7-12. FFA in North Carolina is administered by the North Carolina FFA Association in cooperation with local chapters.

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education.

Levels of Organization and Dues

Local - Determined by local chapter
Federation - Determined by Federation
Region - Determined by Region
State - Annual dues required
National - Annual dues required

Opportunities for Involvement

An extensive awards/recognition program is provided for individual members, teams and chapters. These include over 40 proficiency awards, the agriscience student program and a five-level degree program for individual members; a chapter-wide award programs recognizing community chapter and member development, and more than 23 career development events. Awards totaling more than $100,000 are awarded each year to individual members and chapters for outstanding achievements in North Carolina. These awards are provided through the North Carolina FFA Association, the National FFA Foundation, and the North Carolina FFA Foundation.

Benefits to Members

FFA members each year receive a membership card, six issues of the *FFA New Horizons* magazine, the opportunity to participate in the FFA camping program at a minimal cost; the opportunity to participate in numerous leadership development activities/conferences, and the opportunity to participate in the state and national conventions. Over $1,000,000 in college scholarships is awarded annually to deserving FFA members. FFA also offers members the opportunity to participate in international travel experiences, mentoring programs and many other personal development and recreational activities at the local level.

Family, Career, and Community Leaders of America (FCCLA)

Introduction

FCCLA is a national organization for middle and high school Family and Consumer Sciences students. It is a co-curricular organization that is a vehicle for mastering Family and Consumer Sciences Education competencies through leadership, citizenship, and skill development activities. Members develop skills for life through character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation.

Membership and Types of Chapters

- Consumer Chapters – Any student who is taking or has taken a course in Family and Consumer Sciences Education is eligible for membership in an affiliated chapter. The emphasis in Consumer chapters is on exploration and examination of Family and Consumer Sciences careers.
- Occupational Chapters – Any student who is taking or has taken a career focused course is eligible for membership in an affiliated chapter. The emphasis in Occupational chapters is on development of technical and employability skills for Family and Consumer Sciences careers.
- Comprehensive Chapters – This is a combination of Consumer and Occupational chapters.

Levels of Organization and Dues

Local – Determined by local chapter
Regional – No Dues
State – Annual dues required
National – Annual dues required

Opportunities for Involvement

FCCLA offers many quality programs and activities that encourage students to set career goals, develop self-confidence, and learn about the problems and opportunities inherent in balancing the family and a career. Through involvement in school and community activities members develop a sense of belonging, build self-esteem, gain recognition, and become more autonomous. Chapter projects focus on a variety of youth concerns, including nutrition and fitness, environment, intergenerational communication, parenting, family relationships, and career development. Examples of competitive events, programs, projects and recognition activities related to the Family and Consumer Sciences Education curriculum with emphasis on specific competencies are listed below.

Benefits to Members

- COMPETITIVE EVENTS
  - Applied Technology
  - Career Investigation
  - Chapter Service Project
  - Chapter Showcase
  - Creative Fashion*
  - Creative Home Interiors*
  - Culinary Arts
  - Early Childhood
  - Entrepreneurship
  - Focus on Children
  - Food Science*
  - Hospitality
  - Illustrated Talk
  - Interpersonal Communications
  - Job Interview
  - National Programs in Action
  - Nutri-Snacks*
  - Parliamentary Procedure
  - PR Poster Power*
- PROGRAMS AND PROJECTS:
  - Career Connections
  - Community Service Award
  - Dynamic Leadership
  - Families Acting for Community Traffic Safety
  - Families First
  - Financial Fitness
  - Japanese Exchange Program
  - Leaders at Work
  - Membership Quest
  - Power of One
  - Star Events
  - Step One
  - Student Body
- RECOGNITION AND SERVICE:
  - Adviser Mentor
  - Honorary Member
  - Master Adviser
  - Skills for Life Member of Year
  - Teacher Scholarship

* State Events Only. All others have national competition.

Future Business Leaders of America (FBLA)

Introduction

FBLA is an organization (with state and national affiliations) for middle and high school students enrolled in business education courses. FBLA's mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs. Co-curricular activities include career exploration, civic service, economic education, and fostering entrepreneurship.

FBLA is dedicated to bridging the gap between school and the workplace. Consequently, every program, service and activity is designed to build character, encourage scholarship, and promote competent, aggressive business leadership. Among other benefits, FBLA members receive two publications - *Tomorrow's Business Leader,* a magazine, and an electronic version of *The NC Business Leader,* a newsletter written for business education students. Additionally, members have the opportunity to attend regional, state, and national conferences which provide leadership development, problem solving and knowledge integration workshops and activities.

Levels of Organization and Dues

Local – Dues determined by chapter
Regional – No dues required
State – Annual dues required
National – Annual dues required

Opportunities for Involvement

Active FBLA members are provided opportunities to participate in competitive events designed to recognize students who excel in applying school-based learnings to simulated work-based activities.

Competitive Events for Middle Grades Students (Grades 6-8)

Business Communications – Middle Grades
Business Computer Technology – Middle Grades
Business Concepts – Middle Grades
Business Math – Middle Grades *
FBLA Creed – Middle Grades *
Impromptu Speaking – Middle Grades
Keyboarding – Middle Grades
Parliamentary Procedure – Middle Grades
Public Speaking – Middle Grades *

Competitive Events for High School Students (Grades 9-12)

Individual

Accounting I*
Accounting II
Banking and Financial Systems
Business Calculations *
Business Communications – HS *
Business Law
Business Math – HS
Business Procedures *
Computer Applications *
Computer Concepts
Economics
FBLA Principles and Procedures
Future Business Leader *
Impromptu Speaking - HS
International Business
Introduction to Business
Introduction to Business Communication
Introduction to Parliamentary Procedure
Job Interview *
Networking Concepts
Programming: C++, Java, Visual Basic
Public Speaking I – HS *
Public Speaking II – HS *
Technology Concepts
Word Processing I *
Word Processing II *

Team

Business Plan Project
Desktop Publishing
Emerging Business Issues
Entrepreneurship
Multimedia Presentation
Network Design
Parliamentary Procedure – HS
Website Development

Chapter

American Enterprise Project
Community Service Project (Roy Allen Award)
Crime Prevention Project
Gold Seal Chapter Award of Merit
Helen Ragan Chapter of the Year
Local Chapter Annual Business Report
Local Recruitment of Chapters
Partnership with Business Project

Scholarships

Alsup Business Scholarship
James L. White Scholarship Award
King's College/Sonja Litton Scholarship
NC ACTE Broyhill Leadership Scholarship
UNC-G Bryan School of Business Scholarship

Recognition

Adviser of the Year
Businessperson of the Year *
Largest Local Chapter Membership
NC FBLA Honorary Life Member
NCBEA Outstanding Student Service Award *
Who's Who in FBLA

*Events marked with an asterisk (*) require competitors to be 1st, 2nd, or 3rd place winners on the regional level. All middle grade competitive events are individual.
Middle grade chapters may participate in all chapter events.

Health Occupations Students of America (HOSA)

Introduction

HOSA is a state and national organization whose mission is to enhance the delivery of compassionate, quality health care by providing opportunities for knowledge, skill and leadership development of all Health Occupations Education students, therefore, helping the students to meet the needs of the health care industry.

Membership

High school males and females in grades 9 through 12 who are, or have been, enrolled in a Health Occupations Education program.

Opportunities for Involvement

Competitive Events

Category I
– Health Occupations Related Events
Dental Spelling
Dental Terminology
Medical Spelling
Medical Terminology
Medical Math
Knowledge Tests

Category II
– Health Occupations Skill Events
Dental Assisting
Administrative Medical Assisting
Medical Assisting - clinical
Nursing Assisting
Dental Laboratory Technology
Sports Medicine
Veterinary Assisting
Medical Lab Assisting
Opticianry
CPR/First Aid
Physical Therapy
Emergency Medical Technician

- Scholarships - $6000 annually
- National Leadership Academy.
- National Recognition Program
- National Service Project
- Barbara James Service Award
- Gold Star Chapter Program

Category III
– Individual Leadership Events
Extemporaneous Speaking
Job Seeking Skills
Prepared Speaking
Extemporaneous Writing
Researched Persuasive Speaking
Extemporaneous Health Poster

Category IV
– Team Leadership Events
Community Awareness Project
HOSA Bowl
Parliamentary Procedure
Outstanding HOSA Chapter
Creative Problem Solving
Biomedical Debate
Outstanding HOSA Member
Medical Reading
Health Education
Career Health Display

Category V
– Recognition Events
Outstanding HOSA Chapter
Outstanding HOSA Member
Kaiser Permanente Healthcare Issues Exam
Chapter Newsletter
HOSA week
National Service Project

SkillsUSA

Introduction

SkillsUSA is a state and national organization that serves trade, industrial, and technical students in secondary and post secondary public schools.

Levels of Organization and Dues

Local - Determined by local chapter
Regional - No annual dues
State - Annual dues required for student and professional members

Opportunities for Involvement

Competitive events are available for student participation at the state level of the organization. Winners advance from local competition to regional, state, and national competition by competing in the following contest categories:

Leadership Development Contests

Chapter Business Procedure (Team Event)
Creed "A"
Creed "B"
Current Events
Domestic Affairs
Debate (Team Event)
Extemporaneous Writing
Extemporaneous Poster
ICT Employee Competency
International Affairs
Job Interview
Opening & Closing Ceremonies (Team Event)
Prepared Speech
Poster Board
Spelling
Technical Math
SkillsUSA Pledge "A"
SkillsUSA Pledge "B"
SkillsUSA Video
Quiz Bowl (Team Event)

Skill Development Contests

3-D Visualization & Animation
Action Skills
Advertising & Design
Architectural Drafting
Automated Manufacturing
Automotive Service Technology
Cabinetmaking
Carpentry
Collision Repair Technology
Computer Maintenance Technology
Cosmetology
Criminal Justice
Diesel Equipment Technology
Electronic Applications
Electronic Technology
Graphic Communications
Heating, Ventilation, Air Conditioning & Refrigeration
Industrial Maintenance
Internetworking
Job Skill Demonstration "A"
Job Skill Demonstration "B"
Major Appliance Technology
Machine Drafting
Marine Mechanics
Masonry
Motorcycle Service Technology
Nail Care
Photography
Power Equipment Technology
Precision Machining Technology
Residential Plumbing
Residential Wiring
Robotics and Automation Technology
Teamworks
Television Production
Technical Drafting
Welding

Occupational Related Contests

Customer Service
First Aid/CPR
Principles of Technology
Related Technical Math
Total Quality Management

Members are part of a national group of skilled youth on the move - working toward future career goals. SkillsUSA members make things happen in their schools, communities and the nation with their leadership and work skills. Members complete at various levels to demonstrate their competencies in skill, leadership, and general contests. Members meet industry, business, and civic leaders and learn to develop leadership and citizenship skills through public speaking events at the community, state, and national levels.

Technology Student Association (TSA)

For More Information

TSA is an organization for middle and high school students enrolled in or who have completed technology education courses. The mission of the Technology Student Association is to prepare its membership for the challenges of a dynamic world by promoting technological literacy, leadership, and problem solving, resulting in personal growth and opportunity. In addition to these goals, NC-TSA's mission statement reads "To empower students to become leaders and citizens of the highest quality by creating and sustaining technology programs of excellence in order to serve our changing communities and nation".

Levels of Organization and Dues

Local -- Dues determined by chapter
State -- Annual dues required
Regional -- None
National -- Annual dues required

Opportunities for Involvement

Competitive events are available for student participation at the regional, state, and national level. Winners may advance from local, to regional, state and national competition by competing in the following contest categories. These events may change from year to year.

MIDDLE SCHOOL

Agriculture and Biotechnology Challenge
Challenging Technology Issues
Chapter Team
Communication Challenge
Computer Application
Construction Challenge
Cyberspace Pursuit
Digital Photography Challenge
Dragster Design Challenge
Electrical Application
Environmental Challenge
Flight Challenge
Leadership Challenge
Graphic Design Challenge
Inventions & Innovations
Manufacturing Challenge
Marine Design Challenge
Mechanical Challenge
Medical Technology Challenge
Prepared Speech
Problem Solving
Structural Challenge
System Control Technology
Technical Design Challenge
Technical Writing Challenge
Technology Bowl Challenge
Technology Career Challenge
Transportation Challenge
TSA Talk/Multimedia
RC Marine Transportation
Video Challenge

HIGH SCHOOL

Agriculture and Biotechnology Design
Architectural Model
Chapter Team
Computer-Aided Drafting and Design
Computer Construction/ Trouble Shooting
Construction Systems
Cyberspace Pursuit
Desktop Publishing
Dragster Design
Electronic Research and Experimentation
Engineering Design
Extemporaneous Presentation
Film Technology
Flight Endurance
Imaging Technology
Manufacturing Prototype
Medical Technology
Membership Recruitment Challenge
NC TSA Talk Multimedia
Prepared Presentation
Promotional Graphic
Radio Controlled Transportation
SciVis (Scientific and Technical Visualization)
Structural Engineering
System Control Technology
Technical Research and Report Writing
Technical Sketching and Application
Technological Systems
Technology Bowl
Technology Challenge
Technology Problem Solving
Transportation Modeling

Awards and Recognition Programs

Achievement Program
TSA Technology Honor Society
TSA Chapter Excellence
Advisor of the Year
TSA Recognition Awards
William P. Elrod Memorial Scholarships
Clark Scholarship

TSA is dedicated to helping students develop broad technological literacy to become responsible, participating, healthy and successful citizens. As part of our state's technology education program, TSA helps students acquire and apply design, problem-solving, teaming and leadership skills. Students also learn to use simple and complex tools found in communication, manufacturing, structural and transportation systems. Students also are given the opportunity to develop authentic skills, which are reflective of today's workplace, and to demonstrate and be recognized for excellence by others. In addition to competitive conferences, students have the opportunity to attend regional and state workshops, that provide leadership, teaming, and problem-solving development.

Request to Offer Modification of Career-Technical Education Courses Not in the Standard Course of Study

(Complete Items A-G, Documentation/Verification Checklist, and Sign)

A. _____ Date form submitted to Regional Coordinator
B. _____ Implementation Date
C. LEA _____
D. Program Area _____
E. Projected Career Pathway(s)_____
F. Course Name_____Level(s)_____
G. School(s) where course(s) will be offered _____

Documentation/Verification Checklist (Completed by CTE Administrator)

On file in LEA:	**CTE Administrator**	**Regional Coordinator**	**Section Chief**
Employment Demand/Trends/Forecasts	_____	_____	
Scope & Sequence/Career Pathway	_____	_____	
Business and Industry Advisory Committee	_____	_____	
Student Interest/Anticipated Enrollment	_____	_____	
Postsecondary Linkages	_____	_____	
Licensed Instructor	_____	_____	
Adequate Facility	_____	_____	
Equipment List	_____	_____	
Supply/Material List	_____	_____	
Budget Plan	_____	_____	
Submitted to State Office:*			
Blueprint	_____	_____	_____
Content Outline	_____	_____	_____
Post-Assessment	_____	_____	_____

Signatures: CTE Administrator _____ Date _____
Regional Coordinator _____ Date _____

*Local CTE Administrators are to submit the Blueprint, Content Outline, and Post-assessment documents to the Regional Coordinator who will submit these items to the Section Chief. Approval will follow the reverse route.

STATE OFFICE APPROVAL

Approval is recommended: Yes ___ No ___ If no, Why?

Course # assignment _____ Completer Course: Yes ___ No ___
Career Pathway(s)_____
Section Chief s Signature_____ Date_____

Note: When the annual application is submitted to Career-Technical Education, an approved signed copy of this form must be attached or mailed.

Approval Process for Offerings of Career-Technical Education Courses Not in the North Carolina Standard Course of Study

Rationale for Approval Process

In order to promote innovation and to ensure the purposes of career-technical education are being supported, the following approval process has been developed. This process should be used when local school systems want to offer a course not included in this document. Planning should take place prior to the year a school system wants to offer the course.

Approval Process

Prior to offering a course not in the North Carolina Standard Course of Study Guide, a local school system must follow these steps and send documentation to the career-technical education regional coordinator. Local school systems are strongly encouraged to consult with program area staff at the blueprint development/content outline stage before consulting the approval process. The regional coordinator will review and verify that the appropriate documentation (Items 1-10 below) exsits in the LEA. The course blueprint, content outline, and post-assessment are to be submitted with the modification form to the regional coordinator no later than 120 days before students are enrolled. These items will be submitted by the regional coordinator to the appropriate section chief who will recommend approval or disapproval. If approved, the annual application will reflect the course offered. The modification form must be attached to the local plan.

Documentation/Verification Checklist (Completed by CTE Administrator)

On file in the LEA and Verified by Regional Coordinator:

Instructions are

1. Justify offering the course either by State Plan employment demand or local survey. The local survey must include the names of companies contacted and their employment projection for workers in that field for the next three years. Information should include employment trends and forecasts.

2. By comparing competencies, determine if a similar course is being offered in another curriculum area or with another course title. Assure that the course relates to the purposes of career-technical education as specified in GS 115-C-15. Determine the appropriate sequence of the course within the total CTE offerings in the LEA. Identify the appropriate career pathway.

3. Obtain advisory committee support for the courses.

4. Verify that there is student interest to support the course. Provide anticipated enrollment.

5. Verify linkages and potential articulation agreements within postsecondary education programs.

6. Verify that there is a licensed instructor.

7. Verify that an adequate facility will be available when the course is to be offered.

8. Develop an equipment list.

9. Develop a supply/material list.

10. Verify that funds will be available to purchase the needed supplies, equipment, and other resources needed to provide the course.

State Office Curriculum Materials (completed by CTE Administrator)

On file in the State Office and Approved by the Section Chief:

Instructions are

1. Develop competency and objective listings in the form of a blueprint.

2. Develop a content outline which provides details of the blueprint.

3. Develop a post-assessment which measures the blueprint.

4. Submit the blueprint, content outline and post-assessment to the Regional Coordinator. The Regional Coordinator submits the material to the Section Chief for approval and filing for audit. A copy of the approved modification form will be returned to the Regional Coordinator who will return it to the CTE Administrator.

Workforce Development Education Standard Course of Study and Support Services Guide - Revised Executive Summary

Overview

During the past 18 months, the Workforce Development Education staff has coordinated the revision of the 1997 *Workforce Development Education Programs of Study* and *Support Services Guide* (subsequently referred to as Career-Technical Education). Over 3,100 teachers, 300 administrators, 25 teacher educators, 300 Career-Technical Education students, and approximately 100 business/industry personnel or parents have given input regarding the content. (See Exhibit A). Three public hearings have been held throughout the state. These hearings were advertised in four newspapers. Major issues and input for revising the curricula are shown in Exhibit A.

The proposed *North Carolina Career-Technical Education Standard Course of Study* and *Support Services Guide* outlines planning, resources, instructional guidelines, and program area offerings for local education agencies to plan effective and comprehensive Career-Technical Education programs.

Guiding Principles For Development

The staff used the following guiding principles in coordinating the development of the guide:

- The courses must reflect current and future labor market needs.
- Business people must have the opportunity to guide the development of course content.
- Through public hearings and other means, parents must have the opportunity to give input about the curriculum.
- Career-Technical Education teachers and administrators must be given extensive opportunities for input and review.
- Reading, writing, and mathematics skills must be reinforced in appropriate courses.
- New and emerging industries must be identified and addressed when possible.

Components

The guide consists of three major sections:

- Part I - program description and subparts about planning, resources, and guidelines for organizing and managing instruction
- Part II - program area descriptions and course descriptions
- Part III - support services

Uses

The Standard Course of Study is to be used to plan Career-Technical Education programs beginning with the 2004-2005 school year.

Issues

During input sessions, administrators, teachers, students, parents, teacher educators and business people identified these major issues in revising the Career-Technical Education curricula:

- Updating the Career-Technical Education curricula to reflect changing the future labor market demand and societal needs.
- Implementing a name change to Career-Technical Education.
- Reinforcing reading, writing, science, and mathematics in Career-Technical Education courses.
- Accommodating career pathways in program areas.

Suggestions/ Input

The Career-Technical Education staff received major suggestions or input from administrators, teacher educators, teachers, students, parents and business people which included the following. Incorporation of those suggestions is denoted by a checkmark under the acceptance column.

Acceptance	Suggestions
√	Place greater emphasis on reinforcing core academic skills and the use of technology in Career-Technical Education courses.
√	Keep the same scope and sequence in Health Occupations Education.
√	Update Agriculture Education, Technology Education and Health Occupations Education to include the emerging biotechnology industry.
√	Infuse more extensively in curriculum content the development of universal work skills including leadership, ethical practices, critical thinking, safety practices, problem solving, teamwork, and resources management.
√	Place a greater focus upon the development of personal finance skills.
√	Align automotive programs with Automotive Service Excellence (ASE) certification to clearly articulate with postsecondary education.
√	Incorporate construction core instruction on safety into level one rather than as a stand-alone course.
√	Develop additional completer courses in Family and Consumer Sciences Education to provide opportunities for students to complete pathways.
√	Keep the same scope and sequence in Technology Education.

- √ Address the expanding sports and entertainment industry in the Marketing Education curriculum.
- √ Align curriculum to National Curriculum and Industry Standards.
- √ Provide opportunities for students to obtain National Industry certifications.
- √ Provide opportunities for multiple forms of work-based learning.
- √ Change the name of Workforce Development Education to Career-Technical Education to align with national legislation and programs.
- √ Expand the focus of Business Education to include a greater focus upon the information technology industry.
- √ Reposition the high school keyboarding curriculum to focus more on formatting, language conventions, and multiple input devices and processes.

Input

Opportunities for input, relative to the revision of the *North Carolina Career-Technical Education Standard Course of Study Guide*, were provided to various publics and stakeholders. A partial list of the opportunities and identified attendance at each setting include

Activity/Group	Attendance
High School and Middle School Principals	110
High School Counselors	128
Six input sessions for Career-Technical Educators (CTE)	682
Business and Industry Representatives, (See Attachment A)	100
Two regional workshops for Career-Technical Administrators	162
Two statewide summer workshops for CTE personnel and Business representatives	3,100 (approximately)
Six regional sessions for CTE students	323
Two statewide input sessions for CTE personnel	210
Two input sessions for CTE Teacher Education	24
Three Public Hearings	(in process)
Electronic input opportunity	60

Major Curriculum Differences

Major curriculum differences between the 1997 *Workforce Development Programs of Study Guide* and the proposed 2003 *North Carolina Career-Technical Education Standard Course of Study Guide* are

Agricultural Education	Deleted: • **Agricultural Work Development I , II**	Based on low student demand.
	Added: • **Agriculture Mechanics II-Small Engines** • **Animal Science II-Small Animals** • **Biotechnology and Agriscience Research I, II** • **Equine Science I, II** • **Horticulture II-Landscape Construction** • **Horticulture II-Turf Grass**	To reflect future job market demand and client input.
	Revised: • **Animal Science**	Revised substantively
	Changed title: • **Agricultural Engineering I, II** to • **Agricultural Mechanics I, II**	To more clearly represent the content of the course.
Business and Information Technology Education	Changed: • **Business Financial Management I, II, Principles of Business** to • **Principles of Business and Personal Finance**	To reflect substantive changes in curriculum standards as well as to reflect the standards of financial literacy.
	Changed: • **Keyboarding HS** to • **Digital Communications Systems**	To reflect content changes that accommodate multiple input technology.
	Added: • **Foundations of Information Technology** • **Computer Programming I, II** • **e-Commerce I, II,**	To accommodate the expanding job market demands in information technology.
	Added: • **Network Administration Microsoft, Novell, and Linux**	To accommodate the multiple platforms used in the business environment.

Major Curriculum Differences, *continued*

Career Management	Changed title: • **Workplace Readiness** to • **Career Management**	To reflect terminology of national legislation and industry standards.
Family and Consumer Sciences Education	Deleted: • **Community and Family Services I, II** • **Human Services Work Development I and II** • **Interior Design Services I** Added: • **Apparel Development II** • **Foods II-Advanced** Revised: • **Early Childhood I and II** • **Culinary Arts and Hospitality I, II** • **Life Management** Changed title: • **Interior Design and Housing** to • **Housing and Interior Design** • **Foods and Nutrition** to • **Foods I-Fundamentals** • **Clothing and Textiles** to • **Apparel Development I**	Based on low student demand. To reflect future job market demand and student need for completer courses. Revised substantively To reflect the focus of the course and the terminology of the National Standards for Family and Consumer Sciences Education. To reflect sequence of courses to address need for completer sequence.
Health Occupations	Revised: • **Biomedical Technology**	To reflect current medical, ethical, and legal issues relating to the health care industry.
Marketing Education	Added: • **Sports and Entertainment Marketing I, II** Changed: • **Business Financial Management I, II, Principles of Business** to • **Principles of Business and Personal Finance**	To reflect ongoing labor market demands. To reflect the substantive changes in curriculum standards as well as to reflect the standards of financial literacy.
Technology Education	Added: • **Scientific and Technical Visualization I, II** Revised: • **Exploring Technology Systems** • **Fundamentals of Technology**	To allow qualified teacher to teach the course sequence. Revised substantively

Major Curriculum Differences, *continued*

Trade and Industrial Education	Deleted: • Electro-Mechanical Technology I, II, III • Electrical Trades III • Metals Manufacturing III • Printing Graphics III • Textile Technology I, II, III • Welding Technology III	Based on low student demand.
	Added: • Collision Repair Technology I • Computer Engineering Technology I, II • Cosmetology, Introduction • Digital Media I, II • Networking • Network Engineering Technology II, III	To reflect future job market demand and client input.
	Revised: • Automotive Service Technology I, II, III • Construction Technology I, II, III • Furniture and Cabinetmaking I, II	Revised substantively
	Changed titles: • Cabinetmaking II & III to • Furniture and Cabinetmaking I & II • Trade and Industrial Work Development I and II to • Trade and Industrial Co-operative Training I and II	To clearly identify the content of courses for students and school administrators.

Partial Listing of Business/Industry Reviewers

Name	Company	Location
Donna Smith	US Navy	Charlotte NC
Eleanor Herndon	NC REAL Enterprises	Caswell Beach NC
Ann Newlicht	Counselor	Raleigh NC
Beth Lucas	NC Dept of Commerce	Raleigh NC
Judy Young	Consultant	Raleigh NC
Diane Hoff-Weekley	Goodwill Industries	Charlotte NC
Peggy Winslow	High Point Sewing & Vacuum Ctr	High Point NC
Beth Collins	Wake Co Human Servs Dept	Raleigh NC
Rosemary Hargrove	Cotton Boll	Chapel Hill NC
Laurence Willard	Southern Foods	Greensboro NC
Jennifer Sibbett	Smart Start	Fayetteville NC
T. Jerry Williams	NC Restaurant Assoc	Raleigh NC
Blanche Chisum	Bernina, USA	Wilmington NC
Carrington Wright	Culp Design Center	Burlington NC
Ashley Balman	Quail Hollow Country Club	Charlotte NC
Linda Vandevender	Trinity Child Care & Preschool	Fayetteville NC
Randy Collier	Pitt County Hospital	Greenville NC
Nettie Evans	Pitt County Hospital	Greenville NC
Hazel Slocumb	NC DHS	Raleigh NC
Danny Cress	Duke Health Comm Care	Durham NC
Karen S Smith	Wake Forest Univ. School of Med.	Wake Forest NC
Joseph Glezen	SE Regional Medical Center	Lumberton NC
Dr. John Harris	NC Middle Sch Assoc	Pinehurst NC
Dr. Ann Waring	Millbrook Psychological Assoc	Raleigh NC
Jones Loflin	H.O.P.E.	Monroe NC
Catherine Lough	Wachovia Bank	Winston-Salem NC
Katheleen Kennedy	NC Biotechnology Center	RTP NC
Donald McCoy	IBM	RTP NC
Kathy Hawkins	Bell South	Raleigh NC
Steve Walsh	BOP Inc	Chapel Hill NC
Mark Woodward	AT&T	Raleigh NC
Ken Wexel	Hired Guns	Raleigh NC
Randy Stokes	Greenville Utilities Commission	Greenville NC
Barry Belton	I. T. Skills	Charlotte, NC
Steve Meredith	Certiport	Wake Forest, NC
Tom Davis	Southern Education	Raleigh, NC
Macon A. Clark	Mark A. Clark Attorney At Law	Lenoir, NC
Robin Fred	ExplorNet	Raleigh, NC
Sonia Beach	BB&T	Wilson, NC
Jack Jones	Wal-Mart Stores	Rocky Mount, NC
Allen Mooring	Hardee's	Rocky Mount, NC
David Rowland	Chik-Fil-A	Monroe, NC
Millard Sloan	Winn-Dixie	Charlotte, NC
Rich Schwarzen	Food Lion Stores	Salisbury, NC
Brodie, Calvin	Brodie Contractors, Inc.	Raleigh NC
Gabbard, Nick	Brick Assoc of the Carolinas	Charlotte NC
Lavene,,Paul	Carlolina's Concrete Masonry As.	Greensboro NC
McGee, Sam	McGee Brothers	Monroe NC
Nash, Lynn	NC Masonry Contractors As.	Hickory NC
Gates, Bob	Gates Construction Company	Mooresville NC
Mitchell, Dink	Gates Construction Company	Mooresville NC
Caldwell, Tommy	AGC	Charlotte NC
Elliot, Johanthan	Home Builders Association	Fayetteville NC
Croom, Don	Home Builders Association	Greensboro NC
Paylor, Kip	Home Builders Association	Raleigh NC
Stoudt, Jeff	Printing Industries of Carolinas, Inc	Charlotte NC
Morgan, Tom	The Hickory Printing Group, Inc.	High Point NC
Gordon, James	Winston Printing Company	Winston-Salem NC
Read, Mory	Commercial Printing Company	Raleigh NC

Name	Company	Location
Berman, David	Soliloquy Loudspeaker Co.	Raleigh NC
Trayler, Dan	Convacent Corporation	Charlotte NC
Epperson, James	Professional Data Systems	Mt. Airy NC
Cook, Steve	Advanced Electronics Services	Dobson NC
Derby, Jeff	IBM Corporation	RTP NC
Munn, Elizabeth	Bolton Corp.	Raleigh NC
Taylor, Reginald	Mayville Metal Products	
Tolbert, Mike	Freightliner Corporation	Cleveland NC
Correll, Bob	Freightliner Corporation	Cleveland NC
Hardin, Phil	Max Daetwyler Corporation	Huntersville NC
Friguglietti, John	Max Daetwyler Corporation	Huntersville NC
Dolinar, Gernoth	Julius Blum, Inc.	Lowesville NC
Oneyear, Steve	PTCAM	Greensboro NC
Willis, Terry	Max Daetwyler Corporation	Huntersville NC
Hughes, Ken	K&S Tool and Manufacturing	Jamestown NC
Landry, Joe	Machine Specialties, Inc	Greensboro NC
York, Frank	Newman Machine Co	Greensboro NC
Johnson, Jeff	Machine & Welding Supply Co	Dunn NC
Schaefer, David	The Lincoln Electric Company	Apex NC
Dougherty, Ed	Miller Electric Mfg. Co.	Clayton NC
Wahrman, Russell	Titan Atlantic Group	Henderson NC
Bill, Carty	Elgin/Athey	Siler City NC
Simpson, Marty	Parkway Ford, INC	Winston-Salem NC
Shaw, John	NC Industries for Tech Educ.	Knightdale NC
Dameron, Chris	Automotive Service Assoc Bd of Dir	Raleigh NC
Turner, Diane	NC Automotive Dealers Assoc	Raleigh NC
Dunn, Bobby	Triange Car Care, Inc Pres IGO	Raleigh NC
Porter, Steve	AAA Carolinas	Charlotte NC
Richardson, Tom	National Manager-East AYES	Celebration Fla
Fran Preston	NC Retail Merchants Assoc	Raleigh NC
Gloria Feimster	American Express	Greensboro NC
Bennie Bradley	Staples, Inc.	High Point NC
LaRhonda Clark	Extended Stay America	Fayetteville NC
Dwayne Mcintyre	KFC Luihn Food Systems	Greensboro NC
Lori Antoniak	Metrolina Entrepreneurial Council	Charlotte NC
Rebecca Todd	Golden Corral Training Center	Raleigh NC
Robert (Chip) W. Leavitt, Jr.	Brunswick Electric Membership Corporation	Shallotte NC
Dr. Jonathon L. Benson	Medical Optical Imaging	Charlotte NC
Linda P. Turner	Credit Counselors	Raleigh NC
Bill Watson	NCACPA	Raleigh NC
Jim Ahler	NCACPA	Raleigh NC
Andrew Lipson	American Express	Raleigh NC
Frances Opfer	BB&T	Raleigh NC
SueAnne Schoonderwoerd	UBS Paine Webber	Raleigh NC
Bill Sewell	Smith Barney	Raleigh NC
Bobby Hall	SECU	Raleigh NC

Senate Bill 1275

Section 2. (c)

(5) The development of up-to-date standards for vocational/technical teachers.

Agriculture Education

Business, Marketing and Information Technology Education

Family and Consumer Sciences Education

Health Occupation Education

Technology Education

Trade and Industrial Education

TABLE OF CONTENTS

INTRODUCTION

Using Title II Teacher Quality Grant funds, panels of teachers, teacher educators, and arts and science faculty were convened throughout the last two years revise the standards for teacher preparation programs. In articulating program standards, the panels considered the North Carolina Standard Course of Study, standards and guidelines of appropriate professional organizations (e.g., NCATE, National Science Teachers Association, National Council of Teachers of Mathematics, National Association for the Education of Young Children, etc.), national standards (INTASC, NBPTS), and the Core Standards for Teachers developed by the NC Professional Teaching Standards Commission. As drafts were developed, they were circulated for comment. The final drafts were distributed to colleges and universities with approved teacher education programs for input.

Sincere appreciation is expressed to panel members who gave graciously of their time and expertise, and to those who provided input. Panel Members are identified on the following pages.

Panel Members

Name (* panel co-chair)	Panel	Affiliation
Glenn Barefoot	T&I	SDPI
Gerald Barlowe	Agriculture	Union, Clinton
Barry Croom	Agriculture	NC State University, Raleigh
Janet Johnson	Family & Con Sciences	Harnett Central High School, Lillington
Scott Kennedy	Technology Education	Daniels Middle School, Raleigh
Thelma King	Business	NC A&T State University, Greensboro
Susan Lee	Marketing	SDPI
Wayne Lee	T&I	SDPI
Steve Miller	T&I	SDPI
Rebecca Payne	Co-Chair	SDPI
Rosa Purcell	Family & Con Sciences	SDPI
Deborah Seehorn	Business	SDPI
Judy Simon	Family & Con Sciences	SDPI
James Smith	Business	SDPI
John Swope	Co-Chair	East Carolina University, Greenville
Karen Tyler	FCCLA	Sampson Middle School, Clinton
Debbie Wagner	Health Occupations	Fuquay High School, Fuquay
Ivan Wallace	Marketing	East Carolina University, Greenville
Robert Wenig	Technology Education	NC State University, Raleigh
Kristina Yarborough	Family & Con Sciences	SDPI
Barbara Wiggins	Family & Con Sciences	Wakefield High School, Raleigh
Connie Wood	Family & Con Sciences	Dillard Middle School, Raleigh

CORE STANDARDS FOR ALL TEACHERS

Introduction

Articulated by the North Carolina Professional Teaching Standards Commission, and adopted by the State Board of Education in November 1999, the Core Standards reflect what teachers in North Carolina should know and be able to do. They reflect the following beliefs.

Teachers serve as role models of educated citizens. To teachers, the world is a fascinating place. They pass on to their students a high level of interest in and curiosity about all aspects of knowledge. Teachers are dedicated to learning and knowing in the same way an athlete is dedicated to physical fitness or an orchestra conductor is dedicated to music. All teachers have a background in basic subject areas: the arts, humanities, mathematics, and sciences. They have broad understanding of the major cultures, religions, geography, political systems, philosophies and economic systems by which people organize their lives. Teachers know and appreciate the great creative works of world cultures.

Some teachers, often teachers of young children, are generalists. Because they teach everything, generalists have a broad knowledge of every discipline. They are prepared to direct a child's natural curiosity into an interest in learning about science, mathematics, the arts, and social sciences.

Some teachers are specialists in a specific subject. Specialists know their subjects considerably beyond the content they are expected to teach. This allows them to bring richness and depth of understanding to their classrooms, and to work well with students who wish to go beyond the curriculum. They understand how technological advances affect their discipline. Specialists also have a strong background in the subjects related to their specialty area algebra teachers know calculus and geometry, physical science teachers know biology and chemistry. In addition to knowledge of content, specialist teachers know how professionals in their field think and analyze the world.

Teachers know how their teaching specialty connects to the general curriculum. In order to deepen understanding and make learning more interesting for students, teachers help students understand how different subjects are related to each other. Teachers know the links between the grade or subject they teach and what comes before and after their course or grade.

Students often ask their teachers, □What difference does this make?" □Why does this matter?" Teachers have the answers to these questions. They understand ways in which the subjects they teach have an impact on the world in which we live.

Teachers in elementary schools know how young children think, and teachers in secondary schools understand adolescents. Even within age and grade levels, however, there is a wide scope of expected skills and behaviors. Teachers design their instruction for the range of students that they teach. Teachers recognize when students think and act outside of the expected range and when to refer such students to specialists for evaluation.

There is no single way to teach all of the students all of the time. Teachers choose the methods and techniques that are successful in helping a specific class or a specific student learn on a specific day. This may be direct, teacher-centered instruction, it may be small group projects, or

it may be student-directed discovery. What is appropriate for one class may not work for another. To teach all students successfully, teachers must have command of a wide range of techniques.

Teachers express their thoughts and ideas in ways that are clearly understood by their students. Teachers also understand that communication is a two-way process. They are expert listeners and interpreters of what students mean. Teachers are skilled at distinguishing the difference between a student's expression of deep anger or mild annoyance, between expressions of true fear or of brief anxiety, and between a student who is momentarily frustrated and one who is seriously discouraged.

Teachers are skilled at using technology to teach. They know when and how to use current educational technology, and they understand the most appropriate type and level of technology to use to maximize student learning.

Teachers develop short and long-range plans for their instruction. These plans reflect understanding of how students learn, and allow for students who learn at a faster or slower pace than others to be successful and engaged in learning. Teachers understand that plans are general guidelines and must be constantly monitored and modified to enhance the learning that is occurring in the classroom.

Teachers make teaching decisions based on what individual and groups of students know and understand. Gathering and interpreting data about what students know and are able to do is the basis for making good teaching decisions. Teachers use formal tests, responses to quizzes, evaluation of class assignments, student performances and projects, and standardized achievement tests to understand what students know. Teachers also evaluate informal measures of student understanding, such as the questions asked in class and the level of student enthusiasm.

Students need to know how to use their knowledge. Teachers help students evaluate information, consider alternatives, and make wise choices. For example, teachers encourage students to synthesize knowledge, draw conclusions, and ask questions. Teachers encourage their students to think creatively and critically.

Surveys of employers identify teamwork and the ability to work with others as highly important workplace skills. Our neighborhoods and communities also require these skills for a high quality of life. There is no better place to teach teamwork and cooperation than in schools, where children from diverse backgrounds gather daily. Teachers take advantage of this opportunity to teach students how to live and work together productively and in a positive manner.

Successful adults in the 21st century will have both the skills and the desire to continue learning and growing long after they leave formal education. They will hold high personal standards for achievement, appreciate and enjoy learning, and have confidence in their abilities. Skilled teachers lay the groundwork for these skills and attitudes during the years students are in school. They observe and nurture hidden talents and skills, and encourage young people to make decisions and follow a path that will use these talents. Teachers know and teach the importance of cooperation and working together in order for students to be successful both in school and in their adult lives.

Teachers know the North Carolina Standard Course of Study and local curriculum framework. They are familiar with the content standards developed by professional organizations in their specialty areas. Teachers develop and apply strategies to make this curriculum significant to the students they teach. Teachers are skilled at meeting the requirements of the entire curriculum, while recognizing and focusing on those concepts in the curriculum which are fundamental to

student understanding. Among the basic components of the curriculum are reading, communicating orally, and using mathematics. Teachers know how to develop literacy, communication, and mathematical skills appropriate to their specialty areas. They know how to assess a student's level of competence in these fundamentals, to recognize problems and to help the student find assistance and resources when necessary.

Teachers show their commitment to this belief by their daily conduct. They do not allow subtle or overt intolerance or bigotry in their classrooms or schools, and they actively select materials and develop lessons that counteract stereotypes.

Teachers maintain high expectations for children of all backgrounds. Teachers avoid stereotypes or jumping to conclusions about individual children based on race and ethnicity, gender, language, family economic level, or any of the other ways in which our society defines groups.

Teachers have and actively seek knowledge of others through reading, personal interaction, and direct experience. They strive to understand how an individual child's culture and background influence his or her school performance. In schools and communities where population diversity is limited, teachers find ways to acquaint children with the wide variety of people who make up our society and world.

Teachers make inclusion of special needs students in the regular classroom a positive experience for each student in the class. Teachers collaborate with the range of support specialists to help them meet the needs of all students.

Teachers recognize that educating children is a shared responsibility involving the school, parents, and the larger community. Teachers reach out beyond the school to promote trust and understanding, and build partnerships with all segments of the school community. Teachers overcome obstacles that stand in the way of effective family and community involvement in the education of their children.

Teachers exercise leadership by taking personal responsibility for the progress of all students. They organize and motivate their students to act in ways that meet the needs of both the individual student and the class as a whole. In their classrooms, teachers maximize efficiency, maintain discipline and morale, promote teamwork, plan, communicate, focus on results, evaluate progress, and make constant adjustments.

Teachers assume additional responsibility in the schools. They help develop school goals and strategies, mentor new teachers, improve the effectiveness of their departments or grade levels, and work with their school improvement committees to improve student achievement. Teachers frequently lead extra-curricular activities, such as coaching, sponsoring student clubs, editing the yearbook, directing the school musical, or organizing field trips.

Teachers are informed about policy issues, and they initiate or assist in implementing initiatives to improve the education of children. They contribute to discussions of education and social policy affecting children. Teachers are respected members of the community who play key roles in helping improve communication and collaboration between the members of the community and educators in the school and the school system.

Teachers understand that many factors beyond their control affect the classroom and school environment, and they find ways for students to learn despite everything that happens. They realize that everything that happens in the community, between individual students, with families, or with colleagues has an impact in the classroom. Teachers work to minimize disruptions in student learning and take advantage of unexpected events to teach students. They are

resourceful and flexible in meeting the demands of their profession and are skilled at facilitating consensus and mediating conflict. Teachers are enthusiastic about teaching even when faced with obstacles and frustrations.

Teachers keep the needs of students at the center of their professional thoughts and actions. They live up to universal ethical principles of honesty, truthfulness, integrity, fair treatment, and respect for others. Teachers meet ethical standards for competent practice, for example, by only accepting a teaching assignment for which they are qualified and adhering to the confidentiality procedures for student testing. Teachers maintain a clear distinction between personal values and professional ethics. Teachers have opinions and beliefs, but they do not impose their personal religious, political, or social values on students. Teachers recognize that families are the primary shapers of children's values, and they treat any conflict between school and family values with great caution and care.

Teachers believe in the teaching profession. They advocate for teacher professionalism, for school conditions that encourage teaching and learning, and for decision-making structures that take advantage

of the expertise of teachers. Teachers promote professional growth and assist their colleagues in improving their teaching skills. They support and assist new teachers, either formally as mentors or informally as colleagues. They strive to create learning communities in their schools and participate in their professional organizations. Teachers encourage talented students to consider becoming teachers, and they work with teacher cadet and internship programs.

Teachers think systematically about what happens in their classrooms and schools, why it happens, and what can be done to improve student achievement. They search in their own practice for reasons why a student has difficulty with comprehending a reading passage, or why one class has great success in learning a math concept. Teachers collect and use data on student performance to analyze and improve school and classroom effectiveness.

Teachers value and learn from the expertise of other educators. They offer and accept support, encouragement, and advice. Teachers assume responsibility for the effectiveness of their colleagues and of the entire school. Teachers observe and learn from professionals in other schools and communities. They collect the best ideas and practices to use in their own schools.

Teachers study educational literature and can interpret research and apply it in their classrooms and schools. They discuss research-based books and articles, either in study groups or more informally. Teachers conduct action research in their classrooms and schools to determine the most effective teaching strategies.

Teachers recognize that life-long learning is an integral part of their profession. They know they can always be more effective. Teachers are constantly looking for new and better ways to teach.

Teachers find young people interesting and enjoy interacting with them. Teachers understand that young people make mistakes and act in ways that are difficult to understand, but that such behavior is part of growing up. Teachers find pleasure and satisfaction in helping children develop into responsible adults.

Teachers know about each child's interests, hobbies, and activities. Teachers find out what is special about each student and use this knowledge to help students grow and develop self-confidence and a sense of self-worth.

Teachers teach students to respect themselves, other students, and adults in the school. They establish a respectful, caring classroom atmosphere where every student feels worthy and valued. Even when it is necessary to correct student behavior, it is done in ways that maintain the dignity of the student.

Teachers encourage students to set and achieve high standards for themselves by praising their accomplishments and celebrating their successes.

Standards and Indicators

Core Standard 1: Teachers know the content they teach.

Indicator 1: Teachers have a broad knowledge of content.

Indicator 2: Teachers know the content appropriate to their teaching specialty.

Indicator 3: Teachers understand the ways in which their teaching area connects to the broad curriculum.

Indicator 4: Teachers know relevant applications of the content they teach.

Core Standard 2: Teachers know how to teach students.

Indicator 1: Teachers know the ways in which learning takes place, and they know the appropriate levels of intellectual, physical, social, and emotional development of the students they teach.

Indicator 2: Teachers use a variety of methods to teach students.

Indicator 3: Teachers are expert communicators.

Indicator 4: Teachers are able to use communication skills to circumvent or manage conflict as it arises in the classroom.

Indicator 5: Teachers have strong and current technology skills.

Indicator 6: Teachers plan instruction that is appropriate for the students they teach.

Indicator 7: Teachers use a variety of methods to assess what students have learned.

Indicator 8: Teachers teach communication, thinking, and problem solving skills.

Indicator 9: Teachers help students develop skills of teamwork, leadership, and cooperation in their classrooms and schools. They understand the importance of building a positive classroom climate through emphasizing constructive communication.

Indicator 10: Teachers instill a love of learning and self-confidence based on achievement.

Indicator 11: Teachers align their instruction with the required curriculum.

Core Standard 3: Teachers are successful in teaching a diverse population of students.

Indicator 1: Teachers demonstrate their belief that diversity in the classroom, in the school, and in the society is a strength.

Indicator 2: Teachers treat students as individuals.

Indicator 3: Teachers know and respect the influence of race, ethnicity, gender, religion and other aspects of culture on a child's development and personality. They understand how an individual's belief system affects behavior.

Indicator 4: Teachers adapt their teaching for the benefit of students with special needs.

Indicator 5: Teachers work collaboratively with the families and significant adults in the lives of their students.

Core Standard 4: Teachers are leaders.

Indicator 1: Teachers lead in their classrooms.

Indicator 2: Teachers lead in the school.

Indicator 3: Teachers lead in advocating for schools and children.

Indicator 4: Teachers function effectively in a complex, dynamic environment.

Indicator 5: Teachers meet high ethical standards of practice.

Indicator 6: Teachers support the teaching profession.

Core Standard 5: Teachers are reflective about their practice.

Indicator 1: Teachers analyze the results of teaching.

Indicator 2: Teachers collaborate with their colleagues.

Indicator 3: Teachers use research in their classrooms.

Indicator 4: Teachers continue to grow professionally.

Core Standard 6: Teachers respect and care about students.

Indicator 1: Teachers enjoy spending time in the company of children and young adults.

Indicator 2: Teachers learn all they can about each of their students.

Indicator 3: Teachers maintain the dignity of each student.

Indicator 4: Teachers express pride in their students' accomplishments.

DIVERSITY STANDARDS

Introduction

Effective beginning teachers are successful in teaching a diverse population of students. They affirm that diversity truly exists and believe that education is fundamentally a cultural process that ultimately contributes to the academic success or failure of students. Diversity includes exceptionalities, race, ethnicity, religious backgrounds, gender, language (linguistic differences) socio-economic levels, and any of the other ways in which our society defines human differences (age, geography, sexual orientation, and national origins).

Beginning teachers of diverse students have a keen sense of equity, a strong commitment to their profession, knowledge of their students' cultures and needs, and the ability to translate cultural knowledge into pedagogical strategies. These are the teachers who hold high expectations for all students and legitimize their students' backgrounds as part of the school's curriculum.

The ultimate goal of these diversity standards is to develop in every child's teacher the knowledge, skills, and dispositions to ensure success for all students. Embracing and implementing these standards will have profound implications on the education of all our children.

Given the increased diversity of students, the standards in this document are intended to both stand alone and be infused across content areas in grades P-12. Concepts of accessibility, integration, cultural relevance and mutual respect are central to all avenues of learning. To implement these concepts, effective beginning teachers use multiple and unbiased teaching strategies, instructional materials and assessment procedures. In addition, teachers foster an inclusive and safe environment (cognitively, socially, emotionally and physically) in which all students grow as individuals and as a community of learners.

In order for children to be successful learners, effective beginning teachers must welcome and accept all students in their classrooms. These teachers must have knowledge of the diverse backgrounds, cultures and learning styles of their students. In doing so, they are able to apply sound pedagogical practices that will enhance their selection of goals, methods, and materials for diverse learners.

One method by which effective beginning teachers develop and refine their practice is through a culturally responsive professional development program, which invites the entire school community to meet the needs of individual learners. Since teaching is learning, beginning teachers engage in ongoing self-reflection of instructional and social practice. Their analyses result in adapted plans to enhance the learning experiences of P-12 students. With such reflections effective beginning teachers evolve as leaders in the advancement of academic excellence and educational equity. Teachers as leaders sustain and maintain the value of a community of diverse leaders.

Standards and Indicators

Standard 1: Teachers understand the central concepts, tools of inquiry, and structures of the discipline(s) they teach and can create classroom environments and learning experiences that make these aspects of subject matter accessible, meaningful and culturally relevant for diverse learners.

Indicator 1: Teachers select, evaluate and incorporate unbiased instructional materials

Indicator 2: Teachers use multiple strategies to address the needs of individual learners.

Indicator 3: Teachers create a safe, inclusive and caring environment in which all students can learn.

Indicator 4: Teachers use a variety of assessment procedures/instruments.

Standard 2: Teachers understand how students' cognitive, physical, socio-cultural, linguistic, emotional, and moral development influences learning and address these factors when making instructional decisions.

Indicator 1: Teachers seek and apply good matches among instructional goals, methods, and materials, and students' skills and abilities

Indicator 2: Teachers assist students in developing multiple learning strategies to address discipline specific content, communication, critical thinking, and problem solving skills

Indicator 3: Teachers modify instruction and assessment to meet the needs of individual student.

Standard 3: Teachers work collaboratively to develop linkages with parents/caretakers, school colleagues, community members and agencies that enhance the educational experiences and well being of diverse learners.

Indicator 1: Teachers develop strategies to communicate with the families of their students, help them understand and value the educational process and encourage their participation in a variety of school activities.

Indicator 2: Teachers recognize and value the family's role in education and offer them suggestions on how to help their children complete school-related tasks.

Indicator 3: Teachers make links with the learners' other environments on behalf of students, by working with in-school personnel, and community professionals and agencies.

Indicator 4: Teachers talk with and listen to the student, are sensitive and responsive to clues of distress or conflict, investigate situations, and seek outside help as needed and appropriate to remedy problems.

Standard 4: Teachers acknowledge and understand that diversity exists in society and utilize this diversity to strengthen the classroom environment to meet the needs of individual learners.

Indicator 1: Teachers become knowledgeable of diverse cultures and encourage families to share the richness of their backgrounds.

Indicator 2: Teachers provide opportunities for students and their families to share their diversities.

Indicator 3: Teachers promote appreciation and respect for diversity by rejecting the use of stereotypes.

Indicator 4: Teachers provide P-12 students with the skills necessary for evaluating their beliefs, attitudes, and behaviors to enable them to understand how their attitudes affect their behaviors.

Standard 5: Teachers of diverse students demonstrate leadership by contributing to the growth and development of their colleagues, their school and the advancement of educational equity.

Indicator 1: Teachers become strong advocates for educational equity.

Indicator 2: Teachers continually refine practices that address the individual needs of diverse learners.

Indicator 3: Teachers are proactive and deliberate in promoting and fostering respect among students.

Standard 6: Teachers of diverse students are reflective practitioners who are committed to educational equity.

Indicator 1: Teachers identify own biases and reflect on them in terms of practice.

Indicator 2: Teachers provide equity and access to learning in classroom.

Technology Standards

Introduction

The panel that reviewed the technology standards concluded that the International Society for Technology in Education (ISTE) standards for beginning teachers, without modification, represented the knowledge, skills, and dispositions that we should expect beginning teachers to possess and recommended that they be adopted for use in North Carolina. The wording of the standards has not been changed. We have, however, modified the formatting to match that used in the other standards.

Standards and Indicators

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Standard 1: Teachers demonstrate a sound understanding of technology operations and concepts.

Indicator 1: Teachers demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students).

Indicator 2: Teachers demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

Standard 2: Teachers plan and design effective learning environments and experiences supported by technology.

Indicator 1: Teachers design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.

Indicator 2: Teachers apply current research on teaching and learning with technology when planning learning environments and experiences.

Indicator 3: Teachers identify and locate technology resources and evaluate them for accuracy and suitability.

Indicator 4: Teachers plan for the management of technology resources within the context of learning activities.

Indicator 5: Teachers plan strategies to manage student learning in a technology-enhanced environment.

Standard 3: Teachers implement curriculum plans, that include methods and strategies for applying technology to maximize student learning.

Indicator 1: Teachers facilitate technology-enhanced experiences that address content standards and student technology standards.

Indicator 2: Teachers use technology to support learner-centered strategies that address the diverse needs of students.

Indicator 3: Teachers apply technology to develop students' higher order skills and creativity.

Indicator 4: Teachers manage student learning activities in a technology-enhanced environment.

Standard 4: Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

Indicator 1: Teachers apply technology in assessing student learning of subject matter using a variety of assessment techniques.

Indicator 2: Teachers use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

Indicator 3: Teachers apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

Standard 5: Teachers use technology to enhance their productivity and professional practice.

Indicator 1: Teachers use technology resources to engage in ongoing professional development and lifelong learning.

Indicator 2: Teachers continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

Indicator 3: Teachers apply technology to increase productivity.

Indicator 4: Teachers use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

Standard 6: Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.

Indicator 1: Teachers model and teach legal and ethical practice related to technology use.

Indicator 2: Teachers apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

Indicator 3: Teachers identify and use technology resources that affirm diversity.

Indicator 4: Teachers promote safe and healthy use of technology resources.

Indicator 5: Teachers facilitate equitable access to technology resources for all students.

STANDARDS FOR AGRICULTURAL EDUCATION TEACHERS

Introduction

Agricultural Education standards are correlated with the Core Standards for teachers in North Carolina and reflect those practices and knowledge that are unique to Agricultural Education teachers. These standards are aligned with the North Carolina Standard Course of Study, the standards developed by the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Education Technology Standards (NETS). The standards describe what beginning *Agricultural Education* teachers in North Carolina should know and be able to do. The standards are organized to reflect the Core Standards developed by the NC Professional Teaching Standards Commission.

Standards and Indicators
Agricultural Education

Standard 1: Teachers plan and conducts a program of knowledge and skill to prepare students for entry into global agricultural occupations.

Agricultural Education Teachers:

Indicator 1: Analyze the changing role of agriculture in the state, nation and world.

Indicator 2: Describe different urban and rural agricultural operations.

Indicator 3: Understand environmental concerns affecting agriculture.

Indicator 4: Identify and describe tools and equipment used in agriculture.

Indicator 5: Demonstrate proficiency in operating and maintaining tools and equipment used in agriculture.

Indicator 6: Analyze the role of genetics in plant and animal species.

Indicator 7: Describe the role of biotechnology in agriculture.

Indicator 8: Demonstrate methods of pest management.

Indicator 9: Apply new and emerging technology in agriculture.

Indicator 10: Describe the unique processing, marketing, and distribution characteristics of agricultural products.

Indicator 11: Develop evaluation systems for students with supervised agricultural experience programs.

Indicator 12: Use FFA management systems to organize and maintain student records with respect to supervised agricultural experiences.

Standard 2: Teachers plan and conduct a program of knowledge and skill to manage the agricultural laboratory.

Agricultural Education Teachers:

Indicator 1: Demonstrate knowledge of the operation and maintenance of equipment specific to agricultural occupations.

Indicator 2: Identify and describe the materials used in agricultural construction.

Indicator 3: Develop a plan for construction that includes a working drawing, bill of materials and steps of construction.

Indicator 4: Identify, describe, and demonstrate the safe use of welding equipment.

Indicator 5: Explain commonly accepted industry standards for agricultural occupations.

Standard 3: Teachers plan and conduct a program of knowledge and skill to prepare students for entry into plant science occupations.

Agricultural Education Teachers:

Indicator 1: Identify common commercially produced plants.

Indicator 2: Plan and manage a plant science laboratory.

Indicator 3: Demonstrate methods of plant propagation.

Indicator 4: Identify and safely use agricultural chemicals.

Indicator 5: Demonstrate knowledge of landscape planning, establishment and management.

Indicator 6: Analyze the factors that affect plant growth.

Indicator 7: Explain the commonly approved business practices associated with turf and landscape management, greenhouse production, and nursery operations.

Standard 4: Teachers plan and conduct a program of knowledge and sill to prepare students for entry into environmental science occupations.

Agricultural Education Teachers:

Indicator 1: Evaluate and classify soils for agricultural and industrial use.

Indicator 2: Demonstrate proficiency in taking soil samples and the interpretation of the results.

Indicator 3: Identify best management practices used to conserve soil and water resources.

Indicator 4: Describe the history and development of the forestry industry.

Indicator 5: Identify the components of an ecosystem.

Indicator 6: Describe the principles of forest and natural resources management.

Indicator 7: Identify factors that affect water and air quality.

Standard 5: Teachers plans and conduct a program of knowledge and skill to prepare students for entry into animal science occupations.

Agricultural Education Teachers:

Indicator 1: Identify and describe the distinguishing breeds of livestock.

Indicator 2: Define the role of nutrients in the animal diet.

Indicator 3: Identify the types of digestive systems of livestock.

Indicator 4: Identify and describe grades and markets for livestock products.

Indicator 5: Describe animal nutrition, genetics, reproduction, and overall management of livestock operations.

Indicator 6: Describe techniques used in the management of animal waste.

Indicator 7: Identify and describe animal diseases and their prevention.

Indicator 8: Define the basic principles of animal evaluation.

Indicator 9: Explain commonly approved business practices related to livestock production.

Standard 6: Teachers demonstrate instructional and assessment methods that are appropriate for Agricultural Education programs.

Agricultural Education Teachers:

Indicator 1: Demonstrate effective methods of instruction in the content area.

Indicator 2: Demonstrate the Career-Technical Education Instructional Management System, which is called VoCATS to:
a. Develop and administer objective and performance-based assessments for pre-, interim, and post-instructional use.
b. Evaluate and monitor student progress.
c. Analyze and use data to determine instructional plans.
d. Develop curriculum and instructional materials.
e. Use instructional technology to enhance learning.

Indicator 3: Formulate self-reflection practices to assess progress.

Indicator 4: Integrate academic core content with workplace-based learning situations.

Indicator 5: Apply methodologies that are appropriate for the grade level (middle school and/or high school).

Indicator 6: Employ strategies that meet the needs of diverse learner populations.

Standard 7: Teachers coordinate FFA, the career-technical student organization according to State and National Guidelines.

Agricultural Education Teachers:

Indicator 1: Link leadership activities, award programs, and competitive events to the curriculum.

Indicator 2: Encourage and support student involvement in FFA.
a. Recruit and retain members from diverse populations.
b. Inform students about the leadership, career, and personal development opportunities in FFA.
c. Ensure that members share responsibilities and participate in all aspects of the FFA and competitive events.

Indicator 3: Manage an effective FFA.
a. Identify the history and mission of the FFA.
b. Formulate a chapter leadership plan that includes a constitution and bylaws.
c. Develop a challenging program of work and conduct well-planned, regularly scheduled meetings.

d. Establish and manage a budget and secure financing to support chapter activities.
e. Develop and maintain school and community support.
f. Maintain equipment and records.
g. Ensure that members have access to leadership and other opportunities, including training and guidance

Indicator 4: Identify and describe the process for establishing a chapter of FFA as an integral part of the agricultural education program.

Indicator 5: Apply principles, concepts, and activities needed for effectively managing and evaluating FFA chapters.

Indicator 6: Integrate FFA competitive events into curriculum planning and instruction as a tool for reinforcing learning.

Indicator 7: Demonstrate knowledge of the concepts of parliamentary procedure and public speaking.

Standard 8: Teachers use strategies that facilitate student development of workplace knowledge and skills.

Agricultural Education Teachers:

Indicator 1: Implement and manage work-based learning experiences including apprenticeships, cooperative education, internships, school-based enterprises, job shadowing, community and service learning, field trips, and business ownership.

Indicator 2: Develop collaborative working relationships with business and industry.

Indicator 3: Identify legal, ethical, and safety issues in the workplace.

Indicator 4: Develop employability skills appropriate to Career-Technical Education, including teamwork, information technology skills, problem solving, decision-making, goal setting, and self-management.

Standard 9: Teachers integrate career development into the program, including career planning and readiness.

Agricultural Education Teachers:

Indicator 1: Develop student career decision-making.

Indicator 2: Identify demands and responsibilities that are part of balancing work, family and life goals.

Indicator 3: Describe career pathways and use them to develop career plans reflecting graduation requirements.

Indicator 4: Identify continuing changes in gender roles and non-traditional career opportunities.

Indicator 5: Facilitate student development of self-awareness, including:
a. Understanding relationships between personal qualities, education and training, and employment.
b. Developing confidence, character, leadership abilities, and teamwork skills.

Indicator 6: Motivate students through real world connections.

Indicator 7 Research career opportunities, employment trends, and industry standards to assist students in making career decisions.

Indicator 8 Demonstrate the relationship between academic core content and experiences at work, home, and in the community.

Standard 10: Teachers are committed to professional development.

Agricultural Education Teachers:

Indicator 1: Participate in professional organizations for Career-Technical education.

Indicator 2: Create a program that reflects a changing workplace.

Indicator 3: Engage in continual learning through formal and informal channels.

Indicator 4: Integrate information technologies to enhance instruction.

Indicator 5: Describe the historical significance of career-technical education.

Indicator 6: Interpret laws, regulations, and procedures that impact career-technical education.

Standard 11: Teachers conduct successful Agricultural Education Programs.

Agricultural Education Teachers:

Indicator 1: Maintain positive public relations within the community.

Indicator 2: Establish, manage, and maintain an active advisory committee including community leaders.

Indicator 3: Establish and manage appropriate budgets and secure financing from local, state and federal resources for classroom supplies, student organizations, and program equipment.

Indicator 4: Develop a marketing/promotion program that will recruit and maintain enrollment.

Indicator 5: Develop a program that promotes safety as identified by OSHA guidelines.

Indicator 6: Design, manage and maintain instructional laboratories.

Indicator 7: Use appropriate data from employment follow-up, community trends, and assessments to update program.

Indicator 8: Work collaboratively with other teachers in the school for relevant integration.

STANDARDS FOR BUSINESS, MARKETING, AND INFORMATION TECHNOLOGY EDUCATION TEACHERS

Introduction

Business, Marketing, and Information Technology Education standards are correlated with the Core Standards for teachers in North Carolina and reflect those practices and knowledge that are unique to Business, Marketing, and Information Technology Education teachers. These standards are aligned with the North Carolina Standard Course of Study, the National Standards for Business Education, the National Marketing Education Standards, the standards developed by the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Education Technology Standards (NETS). The standards describe what beginning *Business, Marketing, and Information Technology Education* teachers in North Carolina should know and be able to do. The standards are organized to reflect the Core Standards developed by the NC Professional Teaching Standards Commission.

Standards and Indicators
Business, Marketing, and Information Technology Education

Standard 1: Teachers demonstrate broad general knowledge in a broad range of business principles and applications essential to effective performance in business, marketing, and information technology careers.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Demonstrate knowledge of the major concepts in the following:
a. Economics.
b. Emerging Technologies.
c. Business Ethics and Interpersonal Skills.
d. International/Multinational Business.
e. Statistical Computations.

Indicator 2: Demonstrate specific knowledge of the following:
a. Accounting
b. Business Communication
c. Business Law.
d. Entrepreneurship.
e. Finance.
f. Information Technology Systems.
g. Management.
h. Marketing.

Standard 2: Teachers have appropriate occupational experience (internship or documented) to enable them to demonstrate competence in business, marketing, and information technology occupations.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Document evidence of one year's comprehensive work experience relevant to business, marketing and information technology completed within four years preceding work experience approval. Work experience is to total 2000 hours acquired in full or part-time work,

OR

Document a supervised work experience/internship of a minimum of 400 hours within Business, Marketing and Informational Technology.

Standard 3: Teachers demonstrate technical competence in specific business, marketing, and information technology principles and applications.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Demonstrate technical competency in business management and entrepreneurship.
- a. Identify ways that technology impacts business.
- b. Explain the nature of marketing strategies.
- c. Demonstrate leadership characteristics.
- d. Monitor variables associated with business risks.
- e. Demonstrate procedures for controlling a business' fiscal activities.
- f. Identify potential business ventures based on community, market, and opportunity analysis.
- g. Understand fundamental business, management, and entrepreneurial concepts that affect business decision making.

Indicator 2: Demonstrate technical competency in communication and interpersonal skills.
- a. Communicate clearly and concisely in writing.
- b. Use appropriate technology to facilitate business and marketing communications.
- c. Make decisions.
- d. Work collegially and collaboratively with others.
- e. Demonstrate interpersonal skills in team working relationships.
- f. Apply interpersonal skills to develop good customer/employee relations.
- g. Understand concepts, strategies, and systems needed to interact effectively with others.

Indicator 3: Demonstrate technical competency in economics.
- a. Explain the concept of economic resources.
- b. Interpret the impact of supply and demand on price.
- c. Identify factors affecting business profits.
- d. Determine factors affecting business risk.
- e. Explain the concept of productivity.
- f. Evaluate the influences on a nation's ability to trade.
- g. Understand the economic principles and concepts fundamental to marketing.

Indicator 4: Demonstrate technical competency in finance.
- a. Prepare, analyze, and interpret budgets.
- b. Identify and describe financial sources.
- c. Analyze and evaluate the role of credit.
- d. Analyze the influences saving and investing have on economic growth.
- e. Understand concepts and processes needed to move, store, locate, and/or transfer ownership of goods and services.

Standard 4: Teachers demonstrate technical competence in specific business and information technology applications.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Demonstrate technical competency in accounting.
- a. Demonstrate the structure and sequence of the accounting cycle.
- b. Prepare, analyze, and interpret financial statements.
- c. Maintain basic accounting records electronically.

Indicator 2: Demonstrate technical competency in business law.
- a. Explain and interpret the basics of business law.
- b. Describe the impact of law on society.

Indicator 3: Demonstrate technical competency in information systems and emerging technologies.
- a. Demonstrate proficiency in keying and formatting business documents.
- b. Demonstrate knowledge and appropriate use of computer applications software.
- c. Demonstrate knowledge of computer systems analysis and design.
- d. Demonstrate the use of communication systems and networking.
- e. Demonstrate knowledge and proficiency in the management of information and office support systems.
- f. Design, develop, test, and implement computer programs using a relevant contemporary programming language.

Indicator 4: Demonstrate technical competency in marketing.
- a. Explain the unique elements of the marketing mix: product, price promotion, and place.
- b. Demonstrate an understanding of the role of marketing research.
- c. Evaluate consumer behavior for marketing implications.

Indicator 5: Demonstrate technical competency in international business.
- a. Explain the role of international business.
- b. Analyze how international business impacts business at all levels.

Indicator 6: Demonstrate technical competency in business statistical computations.
- a. Use common international standards of measurement when solving problems.
- b. Use mathematical procedures to analyze and solve business problems.
- c. Analyze and interpret data using common statistical procedures.

Standard 5: Teachers demonstrate technical competence in specific marketing principles and applications.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Demonstrate technical competency in distribution utilizing concepts and processes needed to move, store, locate, and/or transfer ownership of goods and services.
a. Explain the relationship between customer service and distribution.
b. Select distribution channels and channel members.

Indicator 2: Demonstrate technical competency in marketing-Information management accessing, gathering, synthesizing, evaluating, and disseminating information for use in making business decisions.
a. Determine the need for marketing information.
b. Analyze the environments in which businesses operate.
c. Demonstrate procedures for gathering marketing information using technology.

Indicator 3: Demonstrate technical competency in pricing utilizing appropriate concepts and strategies in determining and adjusting prices to maximize return and meet customers' perceptions of value.
a. Determine pricing objectives, policies, and strategies.
b. Use technology to assist in setting prices.

Indicator 4: Demonstrate technical competency in product/service management utilizing appropriate concepts and processes to obtain, develop, maintain, and improve a product or service mix in response to market opportunities.
a. Plan a product/service mix.
b. Analyze product-liability risk.
c. Select materials/products/services to purchase.
d. Describe factors used by marketers to position products/businesses.

Indicator 5: Demonstrate technical competency in promotion communicating information about products, services, images, and/or ideas to achieve a desired outcome.
a. Explain the communication process used in promotion.
b. Write promotional messages that appeal to targeted markets.
c. Utilize publicity.
d. Develop a promotional plan.

Indicator 6: Demonstrate technical competency in selling by determining client needs and wants and responding through planned, personalized communication that influences purchasing decisions and enhances future business opportunities.
a. Develop an understanding of customers/clients.
b. Utilize selling techniques to aid customers/clients in making buying decisions.
c. Determine/minimize risks in selling to a customer.
d. Utilize strategies to build and maintain a clientele.

Standard 6: Teachers demonstrate instructional and assessment methods that are appropriate for Business, Marketing and Information Technology Education programs.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Demonstrate effective methods of instruction in the content area.

Indicator 2: Demonstrate the Career-Technical Education Instructional Management System, which is called VoCATS to:
a. Develop and administer objective-and performance-based assessments for pre-, interim-, and post-instructional use.
b. Evaluate and monitor student progress.
c. Analyze and use data to determine instructional plans.
d. Develop curriculum and instructional materials.
e. Use instructional technology to enhance learning.

Indicator 3: Formulate self-reflection practices to assess progress.

Indicator 4: Integrate academic core content with workplace-based learning situations.

Indicator 5: Apply methodologies that are appropriate for the grade level (middle school and/or high school).

Indicator 6: Employ strategies that meet the needs of diverse learner populations.

Standard 7: Teachers coordinate the DECA--An Association of Marketing Students, or Future Business Leaders of America (FBLA), the career-technical student organizations, according to State and National Guidelines.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Link leadership activities, award programs, and competitive events to the curriculum.

Indicator 2: Encourage and support student involvement in DECA or FBLA.
a. Recruit and retain members from diverse populations.
b. Inform students about the leadership, career, and personal development opportunities in DECA or FBLA.
c. Ensure that members share responsibilities and participate in all aspects of the DECA or FBLA chapter and competitive events.

Indicator 3: Manage an effective DECA or FBLA chapter.

a. Identify the history and mission of DECA or FBLA.
b. Formulate a chapter leadership plan that includes a constitution and bylaws.
c. Develop a challenging program of work and conduct well-planned, regularly scheduled meetings.
d. Establish and manage a budget and secure financing to support chapter activities.
e. Develop and maintain school and community support.
f. Maintain equipment and records.
g. Ensure that members have access to leadership and other opportunities, including training and guidance.

Indicator 4: Identify and describe the process for establishing a chapter of DECA or FBLA as an integral part of the business, marketing and information technology education program.

Indicator 5: Apply principles, concepts, and activities needed for effectively managing and evaluating DECA or FBLA chapters.

Indicator 6: Integrate DECA or FBLA competitive events into curriculum planning and instruction as a tool for reinforcing learning.

Standard 8: Teachers use strategies that facilitate student development of workplace knowledge and skills.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Implement and manage work-based learning experiences including apprenticeships, cooperative education, internships, school-based enterprises, job shadowing, community and service learning, field trips, and business ownership.

Indicator 2: Develop collaborative working relationships with business and industry.

Indicator 3: Identify legal, ethical, and safety issues in the workplace.

Indicator 4: Develop employability skills appropriate to Career-Technical Education, including teamwork, information technology skills, problem solving, decision-making, goal setting, and self-management.

Standard 9: Teachers integrate career development into the program, including career planning and readiness.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Develop student career decision-making.

Indicator 2: Identify demands and responsibilities that are part of balancing work, family and life goals.

Indicator 3: Describe career pathways and use them to develop career plans reflecting graduation requirements.

Indicator 4: Identify continuing changes in gender roles and non-traditional career opportunities.

Indicator 5: Facilitate student development of self-awareness, including:
a. Understanding relationships between personal qualities, education and training, and employment.
b. Developing confidence, character, leadership abilities, and teamwork skills.

Indicator 6: Motivate students through real world connections.

Indicator 7 Research career opportunities, employment trends, and industry standards to assist students in making career decisions.

Indicator 8 Demonstrate the relationship between academic core content and experiences at work, home, and in the community.

Standard 10: Teachers are committed to professional development.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Participate in professional organizations for career-technical education.

Indicator 2: Create a program that reflects a changing workplace.

Indicator 3: Engage in continual learning through formal and informal channels.

Indicator 4: Integrate information technologies to enhance instruction.

Indicator 5: Describe the historical significance of career-technical education.

Indicator 6: Interpret laws, regulations, and procedures that impact career-technical education.

Standard 11: Teachers conduct successful Business, Marketing and Information Technology Education Programs.

Business, Marketing, and Information Technology Education Teachers:

Indicator 1: Maintain positive public relations within the community.

Indicator 2: Establish, manage, and maintain an active advisory committee including community leaders.

Indicator 3: Establish and manage appropriate budgets and secure financing from local, state and federal resources for classroom supplies, student organizations, and program equipment.

Indicator 4: Develop a marketing/promotion program that will recruit and maintain enrollment.

Indicator 5: Develop a program that promotes safety as identified by OSHA guidelines.

Indicator 6: Design, manage and maintain instructional laboratories.

Indicator 7: Use appropriate data from employment follow-up, community trends, and assessments to update the program.

Indicator 8: Work collaboratively with other teachers in the school for relevant integration.

STANDARDS FOR FAMILY AND CONSUMER SCIENCES EDUCATION TEACHERS

Introduction

Family and Consumer Sciences Education standards are correlated with the Core Standards for teachers in North Carolina and reflect those practices and knowledge that are unique to Family and Consumer Science Education teachers. These standards are aligned with the North Carolina Standard Course of Study, the Family and Consumer Sciences National Standards, the standards developed by the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Educational Technology Standards (NETS). The standards describe what beginning *Family and Consumer Sciences Education* teachers in North Carolina should know and be able to do. The standards are organized to reflect the Core Standards developed by the NC Professional Teaching Standards Commission.

Standards and Indicators
Family and Consumer Sciences Education

Standard 1: Teachers understand and apply the dynamics of family systems and human development across the life span.

Family and Consumer Sciences Education Teachers:

Indicator 1: Examine developmental stages including physical, social, intellectual psychological and emotional characteristics of human development and their interrelationships to meet the needs of individuals through the life span.

Indicator 2: Analyze impact of relationships on the development and nurturance of individuals to promote emotional stability.

Indicator 3: Demonstrate positive communication skills needed by individuals and families to function productively in society.

Indicator 4: Describe diversity among individuals and families to promote understanding of individual perspectives.

Indicator 5: Analyze factors that influence that quality of care across the life span to meet individual needs.

Indicator 6: Assess influence of technology on human development to meet individual needs.

Indicator 7: Assess public policies that impact individuals, families, and communities to promote awareness of personal rights.

Indicator 8: Interpret effects of societal issues on individuals and families.

Indicator 9: Identify industry standards related to early childhood education, elder care and related areas.

Standard 2: Teachers know how to implement resource management.

Family and Consumer Sciences Education Teachers:

Indicator 1: Manage individual, family, work environment, and societal obligation resources from the perspective of the consumer.

Indicator 2: Apply stress management and coping skills in resolving conflict situations.

Indicator 3: Demonstrate critical thinking and creative problem-solving skills to address issues in family, community, and work environments.

Indicator 4: Assess impact of current and emerging technologies on the management of individual, family, work and resources.

Indicator 5: Describe influences of the world market and its impact on consumers.

Indicator 6: Apply sound financial planning in managing individual and family resources.

Standard 3: Teachers apply the principles of design, selection, and care of clothing and textile products.

Family and Consumer Sciences Education Teachers:

Indicator 1: Develop an appreciation for the cultural and aesthetic aspects of textiles, clothing and fashion to promote use in the home and industry.

Indicator 2: Assess clothing decisions in terms of value, function and appearance.

Indicator 3: Apply elements and principles of design in the selection of apparel and textile products.

Indicator 4: Select, maintain and redesign clothing and textile products to meet individual and family needs.

Indicator 5: Perform basic construction skills necessary to use and alter patterns, fit garments, and make repairs and alterations.

Indicator 6: Evaluate fibers, fabrics, design concepts and construction techniques in textile products to determine appropriate use.

Indicator 7: Assess and apply appropriate technology related to the clothing and textile industry to enhance employability skills.

Indicator 8: Identify industry standards for clothing, textile and related areas to explore career opportunities.

Standard 4: Teachers apply housing and interior design concepts.

Family and Consumer Sciences Education Teachers:

Indicator 1: Demonstrate knowledge related to decisions involving space allocations, space planning and technological influences on housing and the environment.

Indicator 2: Apply design elements and principles to create safe, secure and aesthetic environments for various stages of the life cycle.

Indicator 3: Compare architectural styles, furniture designs and floor plans to promote customer and industry satisfaction.

Indicator 4: Examine impact of living environments on families to establish family harmony.

Indicator 5: Assess and apply technology related to housing and interior design.

Indicator 6: Identify the influences of local, state and federal housing policy issues on the financial and legal aspects of the industry.

Standard 5: Teachers apply concepts related to foods, nutrition and wellness.

Family and Consumer Sciences Education Teachers:

Indicator 1: Apply knowledge of food nutrients to promote healthy food selection and meal planning.

Indicator 2: Analyze global, cultural and economic influences on food supply nutrition and wellness.

Indicator 3: Plan, prepare and serve nutritious foods to maintain individual, family and community health.

Indicator 4: Demonstrate safe and sanitary procedures in producing, processing, handling and storing of food.

Indicator 5: Integrate mathematical and scientific concepts into the study of foods in order to enhance employability skills.

Indicator 6: Identify the chemical composition and physical properties of foods to determine dietary functions.

Indicator 7: Identify industry standards related to food production, nutrition and wellness.

Standard 6: Teachers have the appropriate occupational experience (internship or documented) to enable them to demonstrate competence in family and consumer sciences occupations.

Family and Consumer Sciences Education Teachers:

Indicator 1: Document evidence of one year's comprehensive work experience relevant to Family and Consumer Sciences completed within four years preceding work experience approval. Work experience is to total 2000 hours acquired in full or part-time work,

OR

Document a supervised work experience/internship of a minimum of 400 hours within Family and Consumer Sciences.

Standard 7: Teachers demonstrate instructional and assessment methods that are appropriate for Family and Consumer Sciences Education programs.

Family and Consumer Sciences Education Teachers:

Indicator 1: Demonstrate effective methods of instruction in the content area.

Indicator 2: Demonstrate the Career-Technical Education Instructional Management System, called VoCATS to:

a. Develop and administer objective-and performance-based assessments for pre-, interim-, and post-instructional use.
b. Evaluate and monitor student progress.
c. Analyze and use data to determine instructional plans.
d. Develop curriculum and instructional materials.
e. Use instructional technology to enhance learning.

Indicator 3: Formulate self-reflection practices to assess progress.

Indicator 4: Integrate academic core content with workplace-based learning situations.

Indicator 5: Apply methodologies that are appropriate for the grade level (middle school and/or high school).

Indicator 6: Employ strategies that meet the needs of diverse learner populations.

Standard 8: Teachers coordinate Family, Career and Community Leaders of America (FCCLA), the career-technical student organization according to State and National Guidelines.

Family and Consumer Sciences Education Teachers:

Indicator 1: Link leadership activities, award programs, and competitive events to the curriculum.

Indicator 2: Encourage and support student involvement in FCCLA.

a. Recruit and retain members from diverse populations.
b. Inform students about the leadership, career, and personal development opportunities in FCCLA.
c. Ensure that members share responsibilities and participate in all aspects of the FCCLA and competitive events.

Indicator 3: Manage an effective FCCLA.

a. Identify the history and mission of the FCCLA.
b. Formulate a chapter leadership plan that includes a constitution and bylaws.

c. Develop a challenging program of work and conduct well-planned, regularly scheduled meetings.
d. Establish and manage a budget and secure financing to support chapter activities.
e. Develop and maintain school and community support.
f. Maintain equipment and records.
g. Ensure that members have access to leadership and other opportunities, including training and guidance

Indicator 4: Identify and describe the process for establishing a chapter of FCCLA as an integral part of the family and consumer sciences education program.

Indicator 5: Apply teacher/student roles in principles, concepts, and activities needed for effectively managing and evaluating FCCLA chapters.

Indicator 6: Integrate FCCLA competitive events into curriculum planning and instruction as a tool for reinforcing learning.

Standard 9: Teachers use strategies that facilitate student development of workplace knowledge and skills.

Family and Consumer Sciences Education Teachers:

Indicator 1: Implement and manage work-based learning experiences including apprenticeships, cooperative education, internships, school-based enterprises, job shadowing, community and service learning, field trips, and business ownership.

Indicator 2: Develop collaborative working relationships with business and industry.

Indicator 3: Identify legal, ethical, and safety issues in the workplace.

Indicator 4: Develop employability skills appropriate to Career-Technical Education, including teamwork, information technology skills, problem solving, decision-making, goal setting, and self-management.

Standard 10: Teachers integrate career development into the program, including career planning and readiness.

Family and Consumer Sciences Education Teachers:

Indicator 1: Develop student career decision-making.

Indicator 2: Identify demands and responsibilities that are part of balancing work, family and life goals.

Indicator 3: Describe career pathways and use them to develop career plans reflecting graduation requirements.

Indicator 4: Identify continuing changes in gender roles and non-traditional career opportunities.

Indicator 5: Facilitate student development of self-awareness, including:
a. Understanding relationships between personal qualities, education and training,
and employment.
b. Developing confidence, character, leadership abilities, and teamwork skills.

Indicator 6 Motivate students through real world connections.

Indicator 7 Research career opportunities, employment trends, and industry standards to assist students in making career decisions.

Indicator 8 Demonstrate the relationship between academic core content and experiences at work, home, and in the community.

Standard 11:Teachers are committed to professional development.

Family and Consumer Sciences Education Teachers:

Indicator 1: Participate in professional organizations for career-technical education.

Indicator 2: Create a program that reflects a changing workplace.

Indicator 3: Engage in continual learning through formal and informal channels.

Indicator 4: Integrate information technologies to enhance instruction.

Indicator 5: Describe the historical significance of career-technical education.

Indicator 6: Interpret laws, regulations, and procedures that impact career-technical education.

Standard 12:Teachers conduct successful Family and Consumer Sciences Education Programs.

Family and Consumer Sciences Education Teachers:

Indicator 1: Maintain positive public relations within the community.

Indicator 2: Establish, manage, and maintain an active advisory committee including community leaders.

Indicator 3: Establish and manage appropriate budgets and secure financing from local, state and federal resources for classroom supplies, student organizations, and program equipment.

Indicator 4: Develop a marketing/promotion program that will recruit and maintain enrollment.

Indicator 5: Develop a program that promotes safety as identified by OSHA guidelines.

Indicator 6: Design, manage and maintain instructional laboratories.

Indicator 7: Use appropriate data from employment follow-up, community trends, and assessments to update program.

Indicator 8: Work collaboratively with other teachers in the school for relevant integration.

Standards and Indicators for Restricted License Areas Only
Family and Consumer Sciences Education

Standard 13: Child Care Teachers understand and apply concepts related to the child care services industry.

Family and Consumer Sciences Education Teachers:

Indicator 1: Describe and analyze characteristics and personal qualities required for successful employment in the child care services industry.

Indicator 2: Demonstrate, use, and maintain safety and wellness standards related to the child care services industry.

Indicator 3: Demonstrate knowledge of developmental stages including physical, social, intellectual, psychological, and emotional characteristics of human development.

Indicator 4: Demonstrate developmentally appropriate practices and skills for working with children.

Indicator 5: Demonstrate awareness of public policies affecting child care services.

Indicator 6: Illustrate skill in working with diverse populations including handicaps, cultural uniqueness, learning styles, etc.

Indicator 7: Demonstrate and use skills for management and entrepreneurship in the child care services industry.

Indicator 8: Develop and implement a FCCLA program that includes work-based learning.

Standard 14: Clothing/Interior Design Teachers understand and apply concepts related to the clothing/interior technology industry. Indicators are:

Family and Consumer Sciences Education Teachers:

Indicator 1: Describe and analyze characteristics and personal qualities required for successful employment in the clothing/interior technology industry.

Indicator 2: Demonstrate, use, and maintain safety standards related to the clothing/interior technology industry.

Indicator 3: Demonstrate general procedures for business profitability and career success, including customer service, entrepreneurship, management, and merchandising skills.

Indicator 4: Demonstrate design ideas through visual presentation.

Indicator 5: Determine the effects that principles and elements of design have on aesthetics and function.

Indicator 6: Use current technology to produce computer-aided design.

Indicator 7: Evaluate fibers, textiles, and products in meeting specific design ideas.

Indicator 8: Interpret factors impacting consumer decisions regarding choices in clothing, housing, furnishings, and materials.

Indicator 9: Demonstrate construction skills needed to produce, alter, or repair textile products and clothing.

Indicator 10: Demonstrate the use, maintenance, and safety standards of the sewing machine, Serger, embroidery machine, and small equipment.

Indicator 11: Demonstrate blueprint reading and space planning required for housing, interiors, and furnishings industry.

Indicator 12: Produce residential and non-residential architectural drawings.

Indicator 13: Analyze influences on architectural and furniture design and development.

Indicator 14: Develop and implement a FCCLA program that includes work-based learning.

Standard 15. Food /Culinary Teachers understand and apply concepts related to the food industry. Indicators are:

Family and Consumer Sciences Education Teachers:

Indicator 1: Describe and analyze characteristics and personal qualities required for successful employment in the food industry.

Indicator 2: Demonstrate, use, and maintain safety and sanitation standards related to the food industry.

Indicator 3: Apply the knowledge of food nutrients to menu planning and food preparation for general and special diets.

Indicator 4: Demonstrate, safely use, and maintain food preparation and service tools, utensils, and equipment related tot he food industry.

Indicator 5: Demonstrate knowledge and use of food service terminology, and food preparation skills and techniques.

Indicator 6: Apply knowledge of hospitality service skills.

Indicator 7: Demonstrate and use skills for management and entrepreneurship in the food industry.

Indicator 8: Develop and implement a FCCLA program that includes work-based learning.

Standard 16: Human Development Teachers understand and apply concepts related to human development, interactions, and care for various life stages and conditions.

Family and Consumer Sciences Education Teachers:

Indicator 1: Describe and analyze characteristics and personal qualities required for successful employment in the human services industry.

Indicator 2: Demonstrate use, and maintain safety standards related to the human services industry.

Indicator 3: Demonstrate knowledge of human development as it relates to life stages and interpersonal interaction.

Indicator 4: Analyze cultural diversity and its impact on interpersonal relationships.

Indicator 5: Demonstrate communication techniques on managing conflict, stress, and business relationships.

Indicator 6: Develop techniques for examining crisis situations and devising resolution options.

Indicator 7: Evaluate the role of community service and networking in human services.

Indicator 8: Analyze the needs for the care of people at different stages of development.

Indicator 9: Develop an awareness of needs for individuals with specific handicaps and illnesses.

Indicator 10: Develop and implement a FCCLA program that includes work-based learning.

STANDARDS FOR HEALTH OCCUPATIONS EDUCATION TEACHERS

Introduction

Standards for Health Occupations Education are acquired by applicants who have a current license, certification, or registration by a national and/or state recognized program-accrediting agency as a health professions practitioner. The preparation program for license, certification, or recognition must require at least two years of formal education and the person must have completed two years of related work experience. The person may then begin the Standards for *Health Occupations Education.*

Health Occupations Education standards are correlated with the Core Standards for teachers in North Carolina and reflect those practices and knowledge that are unique to Health Occupations Education teachers. These standards are aligned with the North Carolina Standard Course of Study, The National Health Care Standards, and the standards developed by the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Educational Technology Standards (NETS). The standards describe what beginning *Health Occupations Education* teachers in North Carolina should know and be able to do. The standards are organized to reflect the Core Standards developed by the NC Professional Teaching Standards Commission.

Standards and Indicators
Health Occupations Education

Standard 1:	Teachers demonstrate knowledge of wellness and fundamentals of disease prevention to promote healthy behaviors.

Health Occupations Education Teachers:

Indicator 1: Demonstrate knowledge in wellness and the prevention of disease.
- a. Preventive health behaviors.
- b. Wellness strategies.
- c. Warning signs and the importance of early detection.
- d. Concepts of health and wellness related to each phase of the life span.

Indicator 2: Identify human needs according to Maslow's Hierarchy of Human Needs.

Indicator 3: Explain the relationship between nutrition, disease, and quality of life.

Indicator 4: Evaluate health-related social issues, such as access to health care and organ donation.

Indicator 5: Analyze risk factors and consequences of unhealthy behavior.

Indicator 6: Promote healthy behaviors and wellness strategies, products, information, and services.

Indicator 7: Evaluate information and products as related to traditional alternative health care.

Standard 2:	Teachers understand the role of health care workers and the function of diagnostic, therapeutic, informational, and environmental systems of health care.

Health Occupations Education Teachers:

Indicator 1: Demonstrate knowledge of the health care delivery system and their integration including diagnostic, therapeutic, informational, and environmental systems.

Indicator 2: Demonstrate the skills necessary for a multi-competent health care worker and those necessary to monitor status during diagnostic and therapeutic procedures.
- a. Describe technology and equipment used in the delivery of health care.
- b. Select and use appropriate equipment on the delivery of health care.
- c. Recognize malfunctions of health care equipment.
- d. Assess and monitor client status and accurately measure, record, and interpret vital signs.
- e. Assess client nutrition and hygiene.

Indicator 3: Effectively communicate health care procedures, therapies, and information with clients.

a. Demonstrate skills associated with activities of daily living and rehabilitative care.
b. Determine use of appropriate protocols for the collection and dissemination of client health care data.
c. Explain use of technology for the collection and dissemination of client health care.

Standard 3: Teachers use his or her professional work experience in the health care delivery system to help prepare students for successful careers in the health care system.

Health Occupations Education Teachers:

Indicator 1: Demonstrate knowledge of the characteristics of health care professionals as health care industry.

a. Demonstrate technical skills and preparation necessary to gain employment in the health care industry.
b. Discuss career options available and the post-secondary education required.
c. Relate the demands and responsibility of health care professionals.
d. Discuss the role of multiple health care environments and their integrated relationships.
e. Describe the importance of interpersonal and social skills in the workplace.
f. Explain the benefits of work-based learning opportunities in health care.

Indicator 2: Prepare students for entry-level employment and/or certification in appropriate health care areas.

a. Identify professional characteristics of health care providers.
b. Demonstrate the procedures necessary to seek, secure, and maintain employment including productive work habits (punctuality, attendance, and time management).
c. Predict the impact of career choices on personal lifestyle.
d. Guide students to set realistic career and educational goals based on personal interest and aptitudes.
e. Develop strategies to anticipate and adapt to changing employment conditions.
f. Identify new and emerging careers in health care.
g. Demonstrate adherence to child labor laws.

Standard 4: Teachers understand the ethical and legal responsibilities of health care workers.

Health Occupations Education Teachers:

Indicator 1: Demonstrate knowledge of ethical behavior standards and legal responsibilities of health care professionals.

a. Relate malpractice, negligence, and liability issues to health care.
b. Discuss the importance of leadership and civic responsibilities.
c. Discuss the impact that age, culture, and religion may have on the clients' view of health care.
d. Communicate the importance and necessity of confidentiality as it relates to health care.
e. Discuss the legal requirements and scope of practice of health care workers.
f. Model ethical behavior.

Indicator 2: Identify clients' rights and health care options.

a. Comply with and enforce the protocol and legal requirements of the health care industry within a designated scope of practice.
b. Identify and discuss issues related to professional liability.
c. Describe the effects of unethical practices on consumers.
d. Analyze issues related to malpractice, negligence, and liability.
e. Identify circumstances that affect clients' rights.
f. Analyze issues related to death and dying.

Standard 5: Teachers understand the importance of developing partnerships with parents/guardians, industry, educational institutions, and the community to enhance student learning and to strengthen the Health Occupations Education program.

Health Occupations Education Teachers:

Indicator 1: Establish partnerships with parents/guardians, industry, education, and the community to enhance teaching and learning.

Indicator 2: Develop and maintain partnerships to provide quality work-based learning opportunities and to prepare students for the transition from secondary to post-secondary education.

Indicator 3: Develop use of community resources for student benefit.

Indicator 4: Develop and implement processes to involve parents/guardians in student learning and career development.

Indicator 5: Involve community health care professionals in the formal instruction of students.

Standard 6: Teacher is proficient in the academic subjects needed to teach the Standard Course of Study.

Health Occupations Education Teachers:

Indicator 1: Integrate mathematics, science, English language arts, and social studies with Health Occupations.
a. Relate major trends in the history of health care and its impact on society.
b. Discuss contributions and impact of technological advances on health care.

Indicator 2 Demonstrate safe and responsible practices in laboratory investigations and fieldwork.
a. Interpret and analyze scientific and technical data related to health care.
b. Plan and implement appropriate investigative procedures, including asking questions, formulating testable hypothesis, and selecting equipment and technology.
c. Collect data by measurement and observation.
d. Organize, analyze, evaluate, makes inference, and predict trends from data.
e. Communicate valid conclusions.
f. Analyze, review, and critique hypothesis and theories using scientific evidence and information.
g. Make responsible choices in selecting health care and personal use products and services using scientific information.

Standard 7: Teachers demonstrate instructional and assessment methods that are appropriate for Health Occupations Education programs.

Health Occupations Education Teachers:

Indicator 1: Demonstrate effective methods of instruction in the content area.

Indicator 2: Demonstrate the Career-Technical Education Instructional Management System, called VoCATS to:
a. Develop and administer objective and performance-based assessments for pre-, interim-, and post-instructional use.
b. Evaluate and monitor student progress.
c. Analyze and use data to determine instructional plans.
d. Develop curriculum and instructional materials.
e. Use instructional technology to enhance learning.

Indicator 3: Formulate self-reflection practices to assess progress.

Indicator 4: Integrate academic core content with workplace-based learning situations.

Indicator 5: Apply methodologies that are appropriate for the grade level (middle school and/or high school).

Indicator 6: Employ strategies that meet the needs of diverse learner populations.

Standard 8: Teachers coordinate the Health Occupation Students of America (HOSA), the career-technical student organization according to State and National Guidelines.

Health Occupations Education Teachers:

Indicator 1: Link leadership activities, award programs, and competitive events to the curriculum.

Indicator 2: Encourage and support student involvement in HOSA.
- a. Recruit and retain members from diverse populations.
- b. Inform students about the leadership, career, and personal development opportunities in HOSA.
- c. Ensure that members share responsibilities and participate in all aspects of the HOSA and competitive events.

Indicator 3: Manage an effective HOSA.
- a. Identify the history and mission of the HOSA.
- b. Formulate a chapter leadership plan that includes a constitution and bylaws.
- c. Develop a challenging program of work and conduct well-planned, regularly scheduled meetings.
- d. Establish and manage a budget and secure financing to support chapter activities.
- e. Develop and maintain school and community support.
- f. Maintain equipment and records.
- g. Ensure that members have access to leadership and other opportunities, including training and guidance.

Indicator 4: Identify and describe the process for establishing a chapter of HOSA as an integral part of the Health Occupations Education program.

Indicator 5: Apply principles, concepts, and activities needed for effectively managing and evaluating HOSA chapters.

Indicator 6: Integrate HOSA competitive events into curriculum planning and instruction as a tool for reinforcing learning.

Standard 9: Teachers use strategies that facilitate student development of workplace knowledge and skills.

Health Occupations Education Teachers:

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