AKS

ACADEMIC KNOWLEDGE AND SKILLS
GWINNETT COUNTY PUBLIC SCHOOLS

2012–13 COMPLETE AKS

Grayson High School Technical Education Program

and

Maxwell High School of Technology

explore • create • discover

Gwinnett's curriculum for grades K–12 is called the Academic Knowledge and Skills (AKS) and is aligned to the state-adopted Common Core Georgia Performance Standards (CCGPS) in Language Arts, Mathematics, and literacy skills in Science, Social Studies, and Technical Education for middle school students. Gwinnett's AKS is a rigorous curriculum that prepares students for college and 21st century careers in a globally competitive future. The AKS for each grade level spell out the essential things students are expected to know and be able to do in that grade or subject. The AKS offer a solid base on which teachers build rich learning experiences. Teachers use curriculum guides, textbooks, technology, and other materials to teach the AKS and to make sure every student is learning to his or her potential.

The Academic Knowledge and Skills (AKS) were developed by our teachers, with input from our parents and community, in response to Gwinnett County Public Schools' mission statement:

The mission of Gwinnett County Public Schools is to pursue excellence in academic knowledge, skills, and behavior for each student resulting in measured improvement against local, national, and world-class standards.

In this booklet, you will find a complete list of the AKS, by subject and course, for Grayson High School Technical Education Program and Maxwell High School of Technology. We encourage you to talk to your student about what he or she is learning.

WELCOME TO THE 2012–13 SCHOOL YEAR!

GWINNETT COUNTY PUBLIC SCHOOLS

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About the Academic Knowledge and Skills (AKS) Curriculum

The AKS are the standards for academic excellence for all students in Gwinnett County Public Schools (GCPS). In every GCPS classroom, instruction and assessment are tailored so that all students learn the AKS. The alignment of AKS with standardized assessments— such as the SAT and ACT college-admissions tests— ensures that GCPS students are well-prepared for these national measurements of achievement. GCPS' rigorous AKS curriculum also aligns with the state curriculum— the Common Core Georgia Performance Standards (CCGPS) in Language Arts, Mathematics, and literacy standards in Science, Social Studies, and Technical Education; and the Georgia Performance Standards (GPS) and the Quality Core Curriculum (QCC) in other content areas. This alignment assures that students are prepared for state tests, including the Georgia High School Graduation Tests, the Georgia High School Writing Test, and state-required End of Course Test for designated high school courses.

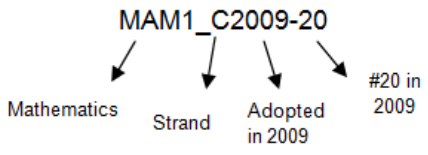
Since its inception in 1996, GCPS' AKS curriculum has reflected the collective wisdom of thousands of educators and community members who worked together to determine what students need to know and be able to do in order to be successful at the next grade level and in the future. This investment by GCPS' stakeholders has ensured that the AKS curriculum remains a rigorous and relevant blueprint for student learning in Gwinnett. As part of that ongoing effort, the GEMS Oversight Committee— made up of community and GCPS staff members— meets annually to review proposed additions, deletions, and changes to the AKS that come out of school and community surveys. Following validation by the GEMS committee, recommendations are submitted to the superintendent for approval by the School Board, with implementation the following school year.

High School Graduation Requirements and Required Testing

Graduation requirements and required testing vary, depending on the year a student entered 9th grade, See graduation flyers specific to an entering freshman class on the GCPS website or contact the local school to learn more.

Notes about this Book

- Correlations to the following state-required curriculum standards/objectives and high school assessments are indicated for the respective Academic Knowledge and Skills: *Common Core Georgia Performance Standards (CCGPS), Georgia Performance Standards (GPS), Quality Core Curriculum (QCC), SAT (SAT) and ACT (ACT) college-admissions tests, Georgia High School Graduation Test (HSGT), and Character Education (CE).*
- In mathematics course names, CC refers to a course reflecting the Common Core.
- Academic Knowledge and Skills beginning with "explore" will not be assessed for mastery at that grade level, but are prerequisite for mastery at a higher grade level.
- Comprehensive AKS booklets like this one are available by grade level (K–8 and combined grades for high school) and by core academic subject (Language Arts, Mathematics, Science, and Social Studies) on the district website at *www.gwinnett.k12.ga.us*. These booklets are posted in PDF form.
- Parents also can find an online PDF of The Choice Book, which provides an overview of the high school experience, high school and postsecondary planning tools, and a "course catalog." Rising 9th graders receive a printed copy of The Choice Book. The Choice Book is specific to each entering freshman class. Families may access the appropriate copy of The Choice Book for their student's class on the school system website. (Click on the "Publications for Students" link on the Parents or Students tabs.)
- The AKS numbering system was developed to allow for additions and deletions of AKS without changing the number reference of other AKS. The reference code includes the subject and/or grade level, a letter representing the topic strand, and the year implemented. *(See the example to the right.)*



Character Education

The school system supports a mandate from the Georgia General Assembly requiring all schools to teach character education. Society and culture are tied together through common threads that guide the way we live, work, and learn. These common beliefs are taught at home and reinforced by the community, schools, religious institutions, and youth service groups. These basic tenets guide the way Gwinnett County teachers teach and the way the school system conducts the business of teaching and learning. Character education is thoroughly embedded in the AKS curriculum. Traits emphasized in the curriculum include the following:

courage	respect for others	self-control	generosity	respect for environment	creativity
patriotism	cooperation	courtesy	punctuality	respect for creator	sportsmanship
citizenship	kindness	compassion	cleanliness	patience	loyalty
honesty	self-respect	tolerance	cheerfulness		perseverance
fairness		diligence	school pride		virtue

Parent Involvement

Research shows that when parents are involved in their children's education at home, their children do better in school. When parents are involved at school, their children's achievement excels and the schools they attend become even stronger.

Be There is a national movement that inspires parents to become more involved in their child's education and their public schools. Teachable moments are everywhere. You can be your child's favorite teacher by connecting in meaningful ways as you go through the ordinary routines of the day… driving in the car, preparing a meal, shopping, or doing chores. Below, you will find tips for helping your child have a successful high school experience. Look for more helpful tipsheets and other resources on the school system website and your local school website.

Suggestions for Helping Your Student Achieve Academically

The school system encourages parents to be an active part of their student's education. Following are a few ways you can be involved:

- Review the AKS for your student's classes each year. You also can access the AKS on the system's website (***www.gwinnett.k12.ga.us***).
- Be familiar with important information about required assessments and graduation requirements. You can find this information in your student's copy of The Choice Book or on the school system website. (The Choice Book is specific to each entering freshman class.)
- Ask to see your student's work and talk about what he or she is learning in school.
- Encourage your student to take the most challenging classes in which he or she can be successful. Students who challenge themselves in high school are better prepared for college classes and other postsecondary studies.
- Support your student and communicate that his or her academic success is important to you.
- Remind your student to edit work when writing and to pay careful attention to appropriate grammar and spelling.
- Communicate with your student's teachers.
- Attend curriculum nights, PTA meetings, and other school meetings.
- Share these Keys to School Success with your student:
  - **Be prepared** each day. Have the needed materials and assignments for each class.
  - **Stay organized.** Keep your desk, notebooks, book bag, and home study area neatly arranged.
  - **Use an agenda book or calendar** to keep track of assignments and due dates. Check it every day.
  - **Give your best effort** to both homework and in-class assignments. Complete assignments and turn them in on time.
  - **Review your work** from each class every evening, even if you don't have a homework assignment due the next day.
  - **Study** for every test and quiz.
  - **Ask your teacher questions** if you do not understand a lesson or an assignment.
  - **Get involved** in at least one extracurricular activity.

AgriScience & Technology

Note: This course provides foundational knowledge for the courses in the areas of Biotechnology, Environmental Horticulture, Environmental Science, and Veterinary Technology.

A - Core Skills

- locate, understand, and interpret written information in a variety of formats, including such documents as manuals, graphs, reports, and schedules (QCC) (GTBF_A2004-1)
- communicate thoughts, ideas, information, and messages in writing and technologically create documents such as letters, directions, manuals, reports, graphs and flowcharts (QCC) (GTBF_A2004-2)
- perform and apply numerical concepts and calculations, and solve problems by choosing appropriately from a variety of mathematical techniques using mental, manual, and technological methods (QCC) (GTBF_A2004-3)
- receive, interpret, and respond to verbal and nonverbal messages in a manner appropriate to a given situation (QCC) (GTBF_A2004-4)
- organize ideas and communicate orally in a clear, concise, and courteous manner (QCC) (GTBF_A2004-5)
- specify goals, objectives, constraints, and supporting factors (QCC) (GTBF_A2004-6)
- identify problems, alternative solutions, and consequences of alternative solutions, and use appropriate techniques to resolve given problems (QCC) (GTBF_A2004-7)
- implement a plan of action making modifications as needed to achieve stated objectives (QCC) (GTBF_A2004-8)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTBF_A2004-9)
- assess self accurately, set personal goals, monitor progress, and exhibit self-control (QCC) (GTBF_A2004-10)
- choose ethical courses of action (QCC) (GTBF_A2004-11)
- take initiative to accomplish tasks in a timely manner (QCC) (GTBF_A2004-12)
- exert a high level of effort and persevere towards goal attainment (QCC) (GTBF_A2004-13)
- demonstrate adaptability, dependability, and responsibility and such social behaviors as tolerance, honesty, empathy, and courtesy (QCC) (GTBF_A2004-14)
- participate and interact as a team member and leader (QCC) (GTBF_A2004-15)
- share knowledge and skills with others (QCC) (GTBF_A2004-16)
- perform effectively in various environments with people of different ages, genders, cultures, socioeconomic backgrounds, attitudes, and abilities (QCC) (GTBF_A2004-17)
- work to satisfy customer/client expectations (QCC) (GTBF_A2004-18)
- use strategies appropriate to a given situation to prevent and resolve conflicts (QCC) (GTBF_A2004-19)
- select goal-relevant activities, prioritize them, manage time, and prepare and follow schedules (QCC) (GTBF_A2004-20)
- develop and apply record-keeping skills (QCC) (GTBF_A2004-21)
- acquire, store, allocate, and use materials and space efficiently (QCC) (GTBF_A2004-22)
- prevent, identify, or solve problems with technical or electronic equipment (QCC) (GTBF_A2004-23)
- operate and maintain technical equipment and the work environment safely following applicable industry regulations and guidelines (QCC) (GTBF_A2004-24)
- utilize a variety of technologies to demonstrate biotechnology application (QCC) (GTBF_A2004-25)
- demonstrate understanding of basic economic concepts and how they are applied in business functions and activities (QCC) (GTBF_A2004-26)
- identify forms of business ownership (QCC) (GTBF_A2004-27)
- demonstrate understanding of the scope of a business, its place within an industry, and interrelationship of its parts (QCC) (GTBF_A2004-28)
- demonstrate understanding of the individual's role, responsibilities, and relationships in the organizational structure of a business (QCC) (GTBF_A2004-29)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTBF_A2004-30)

A – Core Skills *(continued)*

- make potential career decisions based upon interests, abilities, and values and formulate appropriate plans to reach career goals (QCC) (GTBF_A2004-31)
- demonstrate understanding of the relationship between educational achievement and career planning and how career choices impact family patterns and lifestyle (QCC) (GTBF_A2004-32)
- demonstrate effective skills for seeking and securing employment (QCC) (GTBF_A2004-33)
- demonstrate understanding of education and career development as a lifelong learning process that requires preparation for change (QCC) (GTBF_A2004-34)

B - Knowledge and Skills

- develop skills in selected practices that relate to the environmental horticulture industry (QCC) (GTBF_B2004-35)
- develop math, reading and writing skills as they relate to the agribusiness industry (QCC) (GTBF_B2004-36)
- develop computer skills in agribusiness (QCC) (GTBF_B2004-37)
- develop skills needed for employment in the agribusiness industry (QCC) (GTBF_B2004-38)
- conduct and interpret a feasibility study for starting an agribusiness in a selected area of Agriculture (QCC) (GTBF_B2004-39)
- manage and protect financial resources (QCC) (GTBF_B2004-40)
- develop math, reading and writing skills as they relate to animal and plant science and biotechnology (QCC) (GTBF_B2004-41)
- develop leadership, communication, citizenship and competitive skills through co-curricular student organization activities (QCC) (GTBF_B2004-42)
- demonstrate safety practices related to animal science and biotechnology (QCC) (GTBF_B2004-43)
- describe the scientific foundations of animal Agriculture and biotechnology (QCC) (GTBF_B2004-44)
- explain the scientific foundations of large animal production and management (QCC) (GTBF_B2004-45)
- explain the scientific foundations of poultry science (QCC) (GTBF_B2004-46)
- explain the scientific foundations of dairy production processing and management (QCC) (GTBF_B2004-47)
- explain the scientific foundations of aquaculture production and management (QCC) (GTBF_B2004-48)
- explain the scientific foundations of alternative Agriculture animal production and management (QCC) (GTBF_B2004-49)
- classify agricultural animals (QCC) (GTBF_B2004-50)
- identify consumer and environmental concerns in animal production and management (QCC) (GTBF_B2004-51)
- identify and explain the issues of animal welfare (QCC) (GTBF_B2004-52)
- use animal behavior to facilitate the safe, efficient and humane management and movement of animals (QCC) (GTBF_B2004-53)
- explain and apply the principles of animal genetics and bioengineering (QCC) (GTBF_B2004-54)
- select agricultural animals on the basis of scientific and research data (QCC) (GTBF_B2004-55)
- describe and apply the underlying principles of animal reproduction to the management and reproduction of agricultural animals (QCC) (GTBF_B2004-56)
- describe the underlying scientific principles of animal growth and development (QCC) (GTBF_B2004-57)
- apply the principles of animal nutrition to the production and management of animals (QCC) (GTBF_B2004-58)
- explain the application of the principles of meat science to the safe, efficient and economical delivery of meat products to the consumer (QCC) (GTBF_B2004-59)
- identify and describe parasites that attack agricultural animals (QCC) (GTBF_B2004-60)
- identify and characterize diseases that attack agricultural animals (QCC) (GTBF_B2004-61)
- explore the scope of the careers in the plant science and biotechnology industry (QCC) (GTBF_B2004-62)
- develop computer skills relevant to plant science and biotechnology (QCC) (GTBF_B2004-63)
- define plant science and biotechnology skills needed in the industry (QCC) (GTBF_B2004-64)
- classify plants according to the scientific classification system (QCC) (GTBF_B2004-65)
- describe the form and function of plant vegetative structures (QCC) (GTBF_B2004-66)

B – Knowledge and Skills *(continued)*

- identify and describe the processes of plant cells (QCC) (GTBF_B2004-67)
- explain how plants use nutrients (QCC) (GTBF_B2004-68)
- characterize the components of soils and how they relate to plant health and artificial growing media (QCC) (GTBF_B2004-69)
- identify the processes of plant reproduction (QCC) (GTBF_B2004-70)
- identify plant genetic structures and their functions (QCC) (GTBF_B2004-71)
- describe environmental factors that affect plant growth and their manipulation in the production of plants (QCC) (GTBF_B2004-72)
- explain the importance of plants to life, the economy and the environment (QCC) (GTBF_B2004-73)
- describe the economic and environmental impact of weeds (QCC) (GTBF_B2004-74)
- describe the economic impact of insects on the plant industry (QCC) (GTBF_B2004-75)
- identify and characterize the pathological disorders of plants (QCC) (GTBF_B2004-76)
- diagram and explain the use and functions of water in plants (QCC) (GTBF_B2004-77)
- identify and describe components of commercial plant growth systems used in the plant industry (QCC) (GTBF_B2004-78)
- explain how plants affect the environment (QCC) (GTBF_B2004-79)
- develop math, reading and writing skills as they relate to food, environmental science and safety (QCC) (GTBF_B2004-80)
- explore the scope of and career opportunities in the food science and safety industry (QCC) (GTBF_B2004-81)
- illustrate how the food industry utilizes biotechnology in the safe, efficient and economical production of food products (QCC) (GTBF_B2004-82)
- describe the relationships among humans, Agriculture and the environment (QCC) (GTBF_B2004-83)
- explain how Agriculture affects ecosystems (QCC) (GTBF_B2004-84)
- identify the types and proper management of agricultural waste products (QCC) (GTBF_B2004-85)
- describe the use of agricultural chemicals and their effects on the environment (QCC) (GTBF_B2004-86)
- list and describe management practices used in Agriculture to protect air quality (QCC) (GTBF_B2004-87)
- develop math, reading and writing skills as they relate to forestry and natural resources (QCC) (GTBF_B2004-88)
- identify and list use and characteristics of natural resources (QCC) (GTBF_B2004-89)
- describe the origin and composition of soils (QCC) (GTBF_B2004-90)
- prescribe measures that will reduce the chance of soil depletion and foster soil stewardship (QCC) (GTBF_B2004-91)
- develop math, reading and writing skills as they relate to physical science applications in the agricultural mechanization industry (QCC) (GTBF_B2004-92)
- illustrate the use, measurement and control of power systems in Agriculture (QCC) (GTBF_B2004-93)
- compare and contrast alternative energy sources for agricultural purposes (QCC) (GTBF_B2004-94)
- define electrical power and describe its use in Agriculture (QCC) (GTBF_B2004-95)
- illustrate the use of agricultural power and machinery control to manipulate the environment for plant and animal production (QCC) (GTBF_B2004-96)
- describe the principles and practices of internal combustion engines in Agriculture (QCC) (GTBF_B2004-97)
- develop math, reading and writing skills as they relate to the agricultural products and processing industry (QCC) (GTBF_B2004-98)
- demonstrate safety practices related to agricultural products processing (QCC) (GTBF_B2004-99)
- determine the impact of government rules and regulations on food products and processing enterprises (QCC) (GTBF_B2004-100)
- develop skills in agricultural processing and storage techniques (QCC) (GTBF_B2004-101)
- identify equipment used in agricultural processing and storage (QCC) (GTBF_B2004-102)
- develop skills in fiber processing (QCC) (GTBF_B2004-103)
- identify and select horticultural supplies (QCC) (GTBF_B2004-104)
- control pests of floriculture crops (QCC) (GTBF_B2004-105)

Animal Science and Biotechnology

A - Core Skills

- locate, understand, and interpret written information in a variety of formats, including such documents as manuals, graphs, reports, and schedules (QCC) (GTBA_A2004-1)
- communicate thoughts, ideas, information, and messages in writing and technologically create documents such as letters, directions, manuals, reports, graphs and flowcharts (QCC) (GTBA_A2004-2)
- perform and apply numerical concepts and calculations, and solve problems by choosing appropriately from a variety of mathematical techniques using mental, manual, and technological methods (QCC) (GTBA_A2004-3)
- receive, interpret, and respond to verbal and nonverbal messages in a manner appropriate to a given situation (QCC) (GTBA_A2004-4)
- organize ideas and communicate orally in a clear, concise, and courteous manner (QCC) (GTBA_A2004-5)
- specify goals, objectives, constraints, and supporting factors (QCC) (GTBA_A2004-6)
- identify problems, alternative solutions, and consequences of alternative solutions, and use appropriate techniques to resolve given problems (QCC) (GTBA_A2004-7)
- implement a plan of action making modifications as needed to achieve stated objectives (QCC) (GTBA_A2004-8)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTBA_A2004-9)
- assess self accurately, set personal goals, monitor progress, and exhibit self-control (QCC) (GTBA_A2004-10)
- choose ethical courses of action (QCC) (GTBA_A2004-11)
- take initiative to accomplish tasks in a timely manner (QCC) (GTBA_A2004-12)
- exert a high level of effort and persevere towards goal attainment (QCC) (GTBA_A2004-13)
- demonstrate adaptability, dependability, and responsibility and such social behaviors as tolerance, honesty, empathy, and courtesy (QCC) (GTBA_A2004-14)
- participate and interact as a team member and leader (QCC) (GTBA_A2004-15)
- share knowledge and skills with others (QCC) (GTBA_A2004-16)
- perform effectively in various environments with people of different ages, genders, cultures, socioeconomic backgrounds, attitudes, and abilities (QCC) (GTBA_A2004-17)
- work to satisfy customer/client expectations (QCC) (GTBA_A2004-18)
- use strategies appropriate to a given situation to prevent and resolve conflicts (QCC) (GTBA_A2004-19)
- select goal-relevant activities, prioritize them, manage time, and prepare and follow schedules (QCC) (GTBA_A2004-20)
- develop and apply record-keeping skills (QCC) (GTBA_A2004-21)
- acquire, store, allocate, and use materials and space efficiently (QCC) (GTBA_A2004-22)
- prevent, identify, or solve problems with technical or electronic equipment (QCC) (GTBA_A2004-23)
- operate and maintain technical equipment and the work environment safely following applicable industry regulations and guidelines (QCC) (GTBA_A2004-24)
- utilize a variety of technologies to demonstrate biotechnology application (QCC) (GTBA_A2004-25)
- demonstrate understanding of basic economic concepts and how they are applied in business functions and activities (QCC) (GTBA_A2004-26)
- identify forms of business ownership (QCC) (GTBA_A2004-27)
- demonstrate understanding of the scope of a business, its place within an industry, and interrelationship of its parts (QCC) (GTBA_A2004-28)
- demonstrate understanding of the individual's role, responsibilities, and relationships in the organizational structure of a business (QCC) (GTBA_A2004-29)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTBA_A2004-30)
- make potential career decisions based upon interests, abilities, and values and formulate appropriate plans to reach career goals (QCC) (GTBA_A2004-31)
- demonstrate understanding of the relationship between educational achievement and career planning and how career choices impact family patterns and lifestyle (QCC) (GTBA_A2004-32)

A – Core Skills *(continued)*

- demonstrate effective skills for seeking and securing employment (QCC) (GTBA_A2004-33)
- demonstrate understanding of education and career development as a lifelong learning process that requires preparation for change (QCC) (GTBA_A2004-34)

B - Knowledge and Skills

- develop math, reading and writing skills as they relate to animal science (QCC) (GTBA_B2004-35)
- explore the scope of careers in the animal science and biotechnology industry (QCC) (GTBA_B2004-36)
- develop computer skills relevant to Agriculture and biotechnology (QCC) (GTBA_B2004-37)
- describe the scientific foundations of animal Agriculture and biotechnology (QCC) (GTBA_B2004-38)
- explain the scientific foundations of large animal production and management (QCC) (GTBA_B2004-39)
- explain the scientific foundations of poultry science (QCC) (GTBA_B2004-40)
- explain the scientific foundations of dairy production processing and management (QCC) (GTBA_B2004-41)
- explain the scientific foundations of alternative Agriculture animal production and management (QCC) (GTBA_B2004-42)
- classify agricultural animals (QCC) (GTBA_B2004-43)
- identify consumer and environmental concerns in animal production and management (QCC) (GTBA_B2004-44)
- identify and explain the issues of animal welfare (QCC) (GTBA_B2004-45)
- use animal behavior to facilitate the safe, efficient and humane management and movement of animals (QCC) (GTBA_B2004-46)
- explain and apply the principles of animal genetics and bioengineering (QCC) (GTBA_B2004-47)
- select agricultural animals on the basis of scientific and research data (QCC) (GTBA_B2004-48)
- describe and apply the underlying principles of animal reproduction to the management and production of agricultural animals (QCC) (GTBA_B2004-49)
- describe the underlying scientific principles of animal growth and development (QCC) (GTBA_B2004-50)
- apply the principles of animal nutrition to the production and management of animals (QCC) (GTBA_B2004-51)
- explain the application of the principles of meat science to the safe, efficient and economical delivery of meat products to the consumer (QCC) (GTBA_B2004-52)
- identify and describe parasites that attack agricultural animals (QCC) (GTBA_B2004-53)
- identify and characterize diseases that attack agricultural animals (QCC) (GTBA_B2004-54)

Plant Science and Biotechnology

A - Core Skills

- locate, understand, and interpret written information in a variety of formats, including such documents as manuals, graphs, reports, and schedules (QCC) (GTBP_A2004-1)
- communicate thoughts, ideas, information, and messages in writing and technologically create documents such as letters, directions, manuals, reports, graphs and flowcharts (QCC) (GTBP_A2004-2)
- perform and apply numerical concepts and calculations, and solve problems by choosing appropriately from a variety of mathematical techniques using mental, manual, and technological methods (QCC) (GTBP_A2004-3)
- receive, interpret, and respond to verbal and nonverbal messages in a manner appropriate to a given situation (QCC) (GTBP_A2004-4)
- organize ideas and communicate orally in a clear, concise, and courteous manner (QCC) (GTBP_A2004-5)
- specify goals, objectives, constraints, and supporting factors (QCC) (GTBP_A2004-6)
- identify problems, alternative solutions, and consequences of alternative solutions, and use appropriate techniques to resolve given problems (QCC) (GTBP_A2004-7)
- implement a plan of action making modifications as needed to achieve stated objectives (QCC) (GTBP_A2004-8)

A – Core Skills *(continued)*

- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTBP_A2004-9)
- assess self accurately, set personal goals, monitor progress, and exhibit self-control (QCC) (GTBP_A2004-10)
- choose ethical courses of action (QCC) (GTBP_A2004-11)
- take initiative to accomplish tasks in a timely manner (QCC) (GTBP_A2004-12)
- exert a high level of effort and persevere towards goal attainment (QCC) (GTBP_A2004-13)
- demonstrate adaptability, dependability, and responsibility and such social behaviors as tolerance, honesty, empathy, and courtesy (QCC) (GTBP_A2004-14)
- participate and interact as a team member and leader (QCC) (GTBP_A2004-15)
- share knowledge and skills with others (QCC) (GTBP_A2004-16)
- perform effectively in various environments with people of different ages, genders, cultures, socioeconomic backgrounds, attitudes, and abilities (QCC) (GTBP_A2004-17)
- work to satisfy customer/client expectations (QCC) (GTBP_A2004-18)
- use strategies appropriate to a given situation to prevent and resolve conflicts (QCC) (GTBP_A2004-19)
- select goal-relevant activities, prioritize them, manage time, and prepare and follow schedules (QCC) (GTBP_A2004-20)
- develop and apply record-keeping skills (QCC) (GTBP_A2004-21)
- acquire, store, allocate, and use materials and space efficiently (QCC) (GTBP_A2004-22)
- prevent, identify, or solve problems with technical or electronic equipment (QCC) (GTBP_A2004-23)
- operate and maintain technical equipment and the work environment safely following applicable industry regulations and guidelines (QCC) (GTBP_A2004-24)
- utilize a variety of technologies to demonstrate biotechnology application (QCC) (GTBP_A2004-25)
- demonstrate understanding of basic economic concepts and how they are applied in business functions and activities (QCC) (GTBP_A2004-26)
- identify forms of business ownership (QCC) (GTBP_A2004-27)
- demonstrate understanding of the scope of a business, its place within an industry, and interrelationship of its parts (QCC) (GTBP_A2004-28)
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- demonstrate understanding of education and career development as a lifelong learning process that requires preparation for change (QCC) (GTBP_A2004-34)

B - Knowledge and Skills

- develop math, reading and writing skills as they relate to plant science and biotechnology (QCC) (GTBP_B2004-35)
- explore the scope of and careers in the plant science and biotechnology industry (QCC) (GTBP_B2004-36)
- develop computer skills relevant to plant science and biotechnology (QCC) (GTBP_B2004-37)
- define plant science and biotechnology skills needed in the industry (QCC) (GTBP_B2004-38)
- classify plants according to the scientific classification system (QCC) (GTBP_B2004-39)
- describe the form and function of plant vegetative structures (QCC) (GTBP_B2004-40)
- identify and describe the processes of plant cells (QCC) (GTBP_B2004-41)
- describe how industry manipulates science and technology to produce superior ornamental and food plants (QCC) (GTBP_B2004-42)
- explain how plants use nutrients (QCC) (GTBP_B2004-43)

B – Knowledge and Skills *(continued)*

- characterize the components of soils and how they relate to plant health and artificial growing media (QCC) (GTBP_B2004-44)
- identify the processes of plant reproduction (QCC) (GTBP_B2004-45)
- identify plant genetic structures and their functions (QCC) (GTBP_B2004-46)
- describe environmental factors that affect plant growth and their manipulation in the production of plants (QCC) (GTBP_B2004-47)
- explain the importance of plants to life, the economy and the environment (QCC) (GTBP_B2004-48)
- describe the economic and environmental impact of weeds (QCC) (GTBP_B2004-49)
- describe the economic impact of insects on the plant industry (QCC) (GTBP_B2004-50)
- identify and characterize pathological disorders of plants (QCC) (GTBP_B2004-51)
- diagram and explain the use and functions of water in plants (QCC) (GTBP_B2004-52)
- identify and describe components of commercial plant growth systems used in the plant industry (QCC) (GTBP_B2004-53)
- explain how plants affect the environment (QCC) (GTBP_B2004-54)
- demonstrate safety practices related to floriculture (QCC) (GTBP_B2004-55)

Biotechnology in Agriculture

A - Core Skills

- locate, understand, and interpret written information in a variety of formats, including such documents as manuals, graphs, reports, and schedules (QCC) (GTBB_A2004-1)
- communicate thoughts, ideas, information, and messages in writing and technologically create documents such as letters, directions, manuals, reports, graphs and flowcharts (QCC) (GTBB_A2004-2)
- perform and apply numerical concepts and calculations, and solve problems by choosing appropriately from a variety of mathematical techniques using mental, manual, and technological methods (QCC) (GTBB_A2004-3)
- receive, interpret, and respond to verbal and nonverbal messages in a manner appropriate to a given situation (QCC) (GTBB_A2004-4)
- organize ideas and communicate orally in a clear, concise, and courteous manner (QCC) (GTBB_A2004-5)
- specify goals, objectives, constraints, and supporting factors (QCC) (GTBB_A2004-6)
- identify problems, alternative solutions, and consequences of alternative solutions, and use appropriate techniques to resolve given problems (QCC) (GTBB_A2004-7)
- implement a plan of action making modifications as needed to achieve stated objectives (QCC) (GTBB_A2004-8)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTBB_A2004-9)
- assess self accurately, set personal goals, monitor progress, and exhibit self-control (QCC) (GTBB_A2004-10)
- choose ethical courses of action (QCC) (GTBB_A2004-11)
- take initiative to accomplish tasks in a timely manner (QCC) (GTBB_A2004-12)
- exert a high level of effort and persevere towards goal attainment (QCC) (GTBB_A2004-13)
- demonstrate adaptability, dependability, and responsibility and such social behaviors as tolerance, honesty, empathy, and courtesy (QCC) (GTBB_A2004-14)
- participate and interact as a team member and leader (QCC) (GTBB_A2004-15)
- share knowledge and skills with others (QCC) (GTBB_A2004-16)
- perform effectively in various environments with people of different ages, genders, cultures, socioeconomic backgrounds, attitudes, and abilities (QCC) (GTBB_A2004-17)
- work to satisfy customer/client expectations (QCC) (GTBB_A2004-18)
- use strategies appropriate to a given situation to prevent and resolve conflicts (QCC) (GTBB_A2004-19)
- select goal-relevant activities, prioritize them, manage time, and prepare and follow schedules (QCC) (GTBB_A2004-20)

A – Core Skills *(continued)*

- develop and apply record-keeping skills (QCC) (GTBB_A2004-21)
- acquire, store, allocate, and use materials and space efficiently (QCC) (GTBB_A2004-22)
- prevent, identify, or solve problems with technical or electronic equipment (QCC) (GTBB_A2004-23)
- operate and maintain technical equipment and the work environment safely following applicable industry regulations and guidelines (QCC) (GTBB_A2004-24)
- utilize a variety of technologies to demonstrate biotechnology application (QCC) (GTBB_A2004-25)
- demonstrate understanding of basic economic concepts and how they are applied in business functions and activities (QCC) (GTBB_A2004-26)
- identify forms of business ownership (QCC) (GTBB_A2004-27)
- demonstrate understanding of the scope of a business, its place within an industry, and interrelationship of its parts (QCC) (GTBB_A2004-28)
- demonstrate understanding of the individual's role, responsibilities, and relationships in the organizational structure of a business (QCC) (GTBB_A2004-29)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTBB_A2004-30)
- make potential career decisions based upon interests, abilities, and values and formulate appropriate plans to reach career goals (QCC) (GTBB_A2004-31)
- demonstrate understanding of the relationship between educational achievement and career planning and how career choices impact family patterns and lifestyle (QCC) (GTBB_A2004-32)
- demonstrate effective skills for seeking and securing employment (QCC) (GTBB_A2004-33)
- demonstrate understanding of education and career development as a lifelong learning process that requires preparation for change (QCC) (GTBB_A2004-34)

B - Knowledge and Skills

- develop skills needed for employment in the agribusiness industry (QCC) (GTBB_B2004-35)
- develop management skills in agribusiness (QCC) (GTBB_B2004-36)
- develop math, reading and writing skills as they relate to animal and plant science and biotechnology (QCC) (GTBB_B2004-37)
- explore the scope of and careers in the animal science and biotechnology industry (QCC) (GTBB_B2004-38)
- develop leadership, communication, citizenship and competitive skills through co-curricular student organization activities (QCC) (GTBB_B2004-39)
- demonstrate safety practices related to animal science and biotechnology (QCC) (GTBB_B2004-40)
- develop computer skills relevant to agriscience, biotechnology and plant science (QCC) (GTBB_B2004-41)
- describe the scientific foundations of animal agriculture and biotechnology (QCC) (GTBB_B2004-42)
- explain the scientific foundations of large animal production and management (QCC) (GTBB_B2004-43)
- explain the scientific foundations of poultry science (QCC) (GTBB_B2004-44)
- explain the scientific foundations of dairy production procession and management (QCC) (GTBB_B2004-45)
- explain the scientific foundations of aquaculture production and management (QCC) (GTBB_B2004-46)
- explain the scientific foundations of alternative agriculture animal production and management (QCC) (GTBB_B2004-47)
- classify agricultural animals (QCC) (GTBB_B2004-48)
- identify consumer and environmental concerns in animal production and management (QCC) (GTBB_B2004-49)
- identify and explain the issues of animal welfare (QCC) (GTBB_B2004-50)
- use animal behavior to facilitate the safe, efficient and humane management and movement of animals (QCC) (GTBB_B2004-51)
- explain and apply the principles of animal genetics and bioengineering (QCC) (GTBB_B2004-52)
- select agricultural animals on the basis of scientific and research data (QCC) (GTBB_B2004-53)
- describe and apply the underlying principles of animal reproduction to the management and production of agricultural animals (QCC) (GTBB_B2004-54)

B – Knowledge and Skills *(continued)*

- describe the underlying scientific principles of animal growth and development (QCC) (GTBB_B2004-55)
- apply the principles of animal nutrition to the production and management of animals (QCC) (GTBB_B2004-56)
- explain the application of the principles of meat science to the safe, efficient and economical delivery of meat products to the consumer (QCC) (GTBB_B2004-57)
- identify and describe parasites and diseases that attack agricultural animals (QCC) (GTBB_B2004-58)
- develop math, reading and writing skills as they relate to plant science and biotechnology (QCC) (GTBB_B2004-59)
- explore the scope of and careers in the plant science and biotechnology industry (QCC) (GTBB_B2004-60)
- define plant science and biotechnology skills needed in the industry (QCC) (GTBB_B2004-61)
- classify plants according to the scientific classification system (QCC) (GTBB_B2004-62)
- describe the form and function of plant vegetative structures (QCC) (GTBB_B2004-63)
- identify and describe the processes of plant cells (QCC) (GTBB_B2004-64)
- describe how industry manipulates science and technology to produce superior ornamental and food plants (QCC) (GTBB_B2004-65)
- explain how plants use nutrients (QCC) (GTBB_B2004-66)
- characterize the components of soils and how they relate to plant health and artificial growing media (QCC) (GTBB_B2004-67)
- identify the processes of plant reproduction (QCC) (GTBB_B2004-68)
- identify plant genetic structures and their functions (QCC) (GTBB_B2004-69)
- describe environmental factors that affect plant growth and their manipulation in the production of plants (QCC) (GTBB_B2004-70)
- explain the importance of plants to life, the economy and the environment (QCC) (GTBB_B2004-71)
- describe the economic and environmental impact of weeds (QCC) (GTBB_B2004-72)
- identify and characterize pathological disorders of plants (QCC) (GTBB_B2004-73)
- diagram and explain the use and functions of water in plants (QCC) (GTBB_B2004-74)
- identify and describe components of commercial plant growth systems used in the plant industry (QCC) (GTBB_B2004-75)
- explain how plants affect the environment (QCC) (GTBB_B2004-76)
- explain the importance of consumer education in science and safety (QCC) (GTBB_B2004-77)
- illustrate how the food industry utilizes biotechnology in the safe, efficient and economical production of food products (QCC) (GTBB_B2004-78)
- describe local, state and federal regulations that affect the food products and processing industry (QCC) (GTBB_B2004-79)
- describe the relationships among humans, agriculture and the environment (QCC) (GTBB_B2004-80)
- describe the use of agricultural chemicals and their effects on the environment (QCC) (GTBB_B2004-81)
- determine the impact and process of crop improvement (QCC) (GTBB_B2004-82)

Introduction to Photography

A - Creation and Performance

- demonstrate use of an adjustable manual 35mm single lens reflex camera to produce quality photos (QCC) (GTC1_A2006-1)
- change lens settings properly on an SLR camera (QCC) (GTC1_A2006-2)
- measure light in varying situations using in-camera and hand-held light meters (QCC) (GTC1_A2006-3)
- run exposure tests to demonstrate the effect of f-stops, film speed and shutter speeds on film (QCC) (GTC1_A2006-4)
- evaluate the difference of film types in relation to film speed (QCC) (GTC1_A2006-5)
- compose photographs as viewed through a 35mm SLR camera and make exposures using the correct light readings, F-stops, shutter speed and film speeds (QCC) (GTC1_A2006-6)
- identify, measure and mix chemistry for photo-sensitive materials while demonstrating safety procedures (GPS) (GTC1_A2006-7)
- develop, dry, inspect and evaluate negatives (QCC) (GTC1_A2006-8)
- setup a photographic enlarger and attachments for exposing paper (QCC) (GTC1_A2006-9)
- produce a non-corrected and corrected contact proof sheet as needed for each assignment (QCC) (GTC1_A2006-10)
- setup darkroom sink and solutions in trays for developing black and white photographic prints (QCC) (GTC1_A2006-11)
- record all darkroom data as a record of work including setups, exposure and development information so it can be replicated (QCC) (GTC1_A2006-12)
- produce clean, sharp, black and white photographs (QCC) (GTC1_A2006-13)
- inspect and retouch prints (QCC) (GTC1_A2006-14)
- measure, tack, mount and finish prints (QCC) (GTC1_A2006-15)
- identify various types of flash units, guide numbers and basic uses of flash and attachments/equipment for measuring flash (QCC) (GTC1_A2006-16)
- research basic kinds of cameras and their uses in professional photography (QCC) (GTC1_A2006-17)
- demonstrate the operation of various digital cameras (QCC) (GTC1_A2006-18)
- manipulate images for publication within a photo-imaging program (QCC) (GTC1_A2006-19)
- create and produce images for publication using both digital still images and self-generated artwork/photographs (QCC) (GTC1_A2006-20)
- create and produce images for publications using 35mm black and white, color and transparency film scanned through a film scanner (QCC) (GTC1_A2006-21)

B - Perception and Analysis

- recognize and identify various art forms created by photographic and digital media (QCC) (GTC1_B2006-22)
- define and use specialized vocabulary of photographic and digital media (QCC) (GTC1_B2006-23)
- select, present and display photographic images in an aesthetically pleasing manner (QCC) (GTC1_B2006-24)

C - Cultural and Historical Context

- analyze contemporary and historical developments in photography (QCC) (GTC1_C2006-25)
- describe and analyze the characteristics of digital photographs (QCC) (GTC1_C2006-26)
- analyze the characteristics of fine art photographs (QCC) (GTC1_C2006-27)

D - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTC1_D2006-28)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTC1_D2006-29)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTC1_D2006-30)
- set goals and monitor progress toward meeting goals (QCC) (GTC1_D2006-31)
- participate and interact as a team member and leader (QCC) (GTC1_D2006-32)
- work to satisfy customer/client expectations (QCC) (GTC1_D2006-33)

D – Core Skills *(continued)*

- acquire, store, allocate and use materials and space efficiently (QCC) (GTC1_D2006-34)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTC1_D2006-35)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTC1_D2006-36)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTC1_D2006-37)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTC1_D2006-38)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTC1_D2006-39)

Advanced Photography

A - Creation and Performance

- identify key parts and equipment of a commercial studio (QCC) (GTC2_A2006-1)
- identify operational parts of a medium format camera (QCC) (GTC2_A2006-2)
- demonstrate a working knowledge of peripheral studio equipment (QCC) (GTC2_A2006-3)
- demonstrate basic operations of a studio flash meter using traditional and digital equipment (QCC) (GTC2_A2006-4)
- identify types and uses of basic studio lighting (QCC) (GTC2_A2006-5)
- demonstrate the use of backdrops and props for commercial photography use (QCC) (GTC2_A2006-6)
- produce correctly exposed negatives for capturing personalities in portrait form using the correct combination of elements (QCC) (GTC2_A2006-7)
- produce formal male and female portraits using single and multiple light sources, Rembrandt and butterfly techniques (QCC) (GTC2_A2006-8)
- produce formal group portraits using conservative and informal grouping (QCC) (GTC2_A2006-9)
- produce an environmental portrait (QCC) (GTC2_A2006-10)
- measure, tack, mount and finish prints (QCC) (GTC2_A2006-11)
- prepare and present a portfolio for final critique (QCC) (GTC2_A2006-12)
- set up a digital studio camera and computer for making portraits in the studio (QCC) (GTC2_A2006-13)
- produce a successful advertising image using a digital camera (color or black and white) (QCC) (GTC2_A2006-14)
- identify various substrate types and describe their use in industry (QCC) (GTC2_A2006-15)

B - Perception and Analysis

- use specialized vocabulary of photographic media (QCC) (GTC2_B2006-16)
- analyze current professional work for creativity and methods (QCC) (GTC2_B2006-17)
- discuss contemporary business trends related to photography (artistic and commercial) (QCC) (GTC2_B2006-18)

C - Cultural and Historical Context

- discuss contemporary and historical developments in photography (QCC) (GTC2_C2006-19)
- discuss contemporary developments in digital photography (QCC) (GTC2_C2006-20)
- describe and analyze the characteristics of digital photographs (QCC) (GTC2_C2006-21)
- analyze the characteristics of fine art photographs (QCC) (GTC2_C2006-22)

D - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTC2_D2006-23)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTC2_D2006-24)

D – Core Skills *(continued)*

- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTC2_D2006-25)
- use effective learning techniques to acquire and apply new knowledge and skills (GTC2_D2006-26)
- set goals and monitor progress toward meeting goals (QCC) (GTC2_D2006-27)
- participate and interact as a team member and leader (QCC) (GTC2_D2006-28)
- work to satisfy customer/client expectations (QCC) (GTC2_D2006-29)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTC2_D2006-30)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTC2_D2006-31)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTC2_D2006-32)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTC2_D2006-33)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTC2_D2006-34)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTC2_D2006-35)

Commercial Photography - Special Topics

A - Creation and Performance

- identify the various printing and production methods used in fine and commercial photographic design (QCC) (GTC3_A2006-1)
- contact printing companies to make film positives or duplicate films (QCC) (GTC3_A2006-2)
- create a Polaroid transfer print and/or Polaroid emulsion transfer (QCC) (GTC3_A2006-3)
- produce a cyanotype and/or Van Dyke Brown print (QCC) (GTC3_A2006-4)
- demonstrate chemical toning and hand tinting of black and white photographs (QCC) (GTC3_A2006-5)
- demonstrate the use of backdrops/props for commercial photography use (QCC) (GTC3_A2006-6)

B - Perception and Analysis

- prepare a portfolio for professional critique and consideration (QCC) (GTC3_B2006-7)
- present and display digital images in an aesthetically pleasing manner (QCC) (GTC3_B2006-8)
- identify various forms created by fine art printing methods (QCC) (GTC3_B2006-9)
- use specialized vocabulary of fine art photography (QCC) (GTC3_B2006-10)

C - Cultural and Historical Context

- discuss contemporary developments in digital photography (QCC) (GTC3_C2006-11)
- describe career opportunities related to photo-imaging and digital photography (QCC) (GTC3_C2006-12)

D - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTC3_D2006-13)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTC3_D2006-14)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTC3_D2006-15)
- set goals and monitor progress toward meeting goals (QCC) (GTC3_D2006-16)
- participate and interact as a team member and leader (QCC) (GTC3_D2006-17)
- work to satisfy customer/client expectations (QCC) (GTC3_D2006-18)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTC3_D2006-19)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTC3_D2006-20)

D – Core Skills *(continued)*

- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTC3_D2006-21)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTC3_D2006-22)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTC3_D2006-23)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTC3_D2006-24)

Professional Foods I

A - Knowledge and Skills

- identify knowledge, skills, certification and experience required for careers in hospitality, food production and service and food science industries (GTAF_A2006-1)
- understand and apply the basic principles of food safety and sanitation in food service occupations (GTAF_A2006-2)
- apply risk management procedures to food safety, food security, food testing and sanitation (GTAF_A2006-3)
- demonstrate selecting, using and maintaining food production equipment (GTAF_A2006-4)
- identify and apply basic scientific information on food preservation; the effects of microorganisms on food, diet and wellness; and the structures and functions of nutrients before, during and after food preparation and processing (GTAF_A2006-5)
- identify and apply the principles and processes of cooking in a professional kitchen (GTAF_A2006-6)
- demonstrate commercial preparation of all menu categories to produce a variety of food products (GTAF_A2006-7)
- identify and apply basic front-of-the-house operations (GTAF_A2006-8)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTAF_B2006-9)
- identify problems, analyze alternative solutions and develop a plan of action (GTAF_B2006-10)
- use effective learning techniques to acquire and apply new knowledge and skills (GTAF_B2006-11)
- set goals and monitor progress toward meeting goals (GTAF_B2006-12)
- participate and interact as a team member and leader (GTAF_B2006-13)
- work to satisfy customer/client expectations (GTAF_B2006-14)
- acquire, store, allocate and use materials and space efficiently (GTAF_B2006-15)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTAF_B2006-16)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTAF_B2006-17)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTAF_B2006-18)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTAF_B2006-19)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTAF_B2006-20)

Professional Foods II

A - Knowledge and Skills

- identify knowledge, skills, certification and experience required for careers in hospitality, restaurant and tourism industries (GTAP_A2006-1)
- identify and apply front-of-the-house operations (GTAP_A2006-2)
- understand and apply the basic principles of food safety and sanitation in food service operations (GTAP_A2006-3)
- demonstrate commercial preparation of all menu categories to produce a variety of food products (GTAP_A2006-4)
- demonstrate commercial preparation of all bakery categories to produce a variety of baking, pastry and dessert products (GTAP_A2006-5)
- identify and apply basic scientific information on food preservation; the effects of microorganisms on food, diet and wellness; and the structures and functions of nutrients before, during, and after food preparation and processing (GTAP_A2006-6)
- identify and apply practices required for menu planning and development, purchasing and receiving, cost analysis, and marketing functions in quality food service operations (GTAP_A2006-7)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTAP_B2006-8)
- identify problems, analyze alternative solutions and develop a plan of action (GTAP_B2006-9)
- use effective learning techniques to acquire and apply new knowledge and skills (GTAP_B2006-10)
- set goals and monitor progress toward meeting goals (GTAP_B2006-11)
- participate and interact as a team member and leader (GTAP_B2006-12)
- work to satisfy customer/client expectations (GTAP_B2006-13)
- acquire, store, allocate and use materials and space efficiently (GTAP_B2006-14)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTAP_B2006-15)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTAP_B2006-16)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTAP_B2006-17)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTAP_B2006-18)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTAP_B2006-19)

Digital Media and Design

A - Graphic Design Fundamentals

- demonstrate basic technical art skills (tradition and electronic) (GPS, QCC) (GTDD_A2006-1)
- demonstrate design skills applied to both print and electronic media (GPS, QCC) (GTDD_A2006-2)
- use available graphics software programs (GPS, QCC) (GTDD_A2006-3)
- create computer graphics (GPS, QCC) (GTDD_A2006-4)
- apply knowledge of typography (GPS, QCC) (GTDD_A2006-5)
- identify and correctly use terminology related to digital media design careers, principles, concepts, procedures and work ethics (GTDD_A2006-6)
- discuss contemporary and historical developments related to digital media design (GTDD_A2006-7)
- define the design attributes and requirements of products created for a variety of purposes including poster, billboards, business cards, stationery, book jackets, folder, booklets, pamphlets, brochures and magazines (GPS) (GTDD_A2006-8)

B - Digital Media Design

- create visual design guidelines (GTDD_B2006-9)
- use digital imaging techniques and equipment (GTDD_B2006-10)
- demonstrate basic audio editing principles (GPS) (GTDD_B2006-11)
- demonstrate basic video editing principles (GPS) (GTDD_B2006-12)
- manipulate images (GPS) (GTDD_B2006-13)

C - Interactive Digital Media Production

- demonstrate interactive media (GPS) (GTDD_C2006-14)
- produce interactive media as a member of a development team (GPS) (GTDD_C2006-15)

D - Project Development

- develop project concept proposal (GPS) (GTDD_D2006-16)
- meet client needs (GPS) (GTDD_D2006-17)
- develop storyboards and/or thumbnails/roughs to communicate ideas (GPS) (GTDD_D2006-18)
- develop flowchart/navigational blueprints (GPS) (GTDD_D2006-19)
- write scripts (GPS) (GTDD_D2006-20)
- combine media elements to produce an interactive multimedia project (QCC) (GTDD_D2006-21)

E - Core Skills

- communicate in a clear, concise and courteous manner (GPS) (GTDD_E2006-22)
- identify problems, analyze alternative solutions and develop a plan of action (GPS) (GTDD_E2006-23)
- use effective learning techniques to acquire and apply new knowledge and skills (GPS) (GTDD_E2006-24)
- set goals and monitor progress toward meeting goals (QCC) (GTDD_E2006-25)
- participate and interact as a team member and leader (GPS) (GTDD_E2006-26)
- work to satisfy customer/client expectations (GPS) (GTDD_E2006-27)
- acquire, store, allocate and use materials and space efficiently (GPS) (GTDD_E2006-28)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GPS) (GTDD_E2006-29)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GPS) (GTDD_E2006-30)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GPS) (GTDD_E2006-31)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GPS) (GTDD_E2006-32)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GPS) (GTDD_E2006-33)

Graphics and Animation Foundations

A - Knowledge and Skills

- demonstrate and use of operating systems, software applications, and communication and networking components (QCC) (GTDG_A2006-1)
- compare, contrast, and appropriately use the various input, processing, output, and primary/secondary storage devices (QCC) (GTDG_A2006-2)
- use vocabulary as it relates to digital graphics, web design and animation software (QCC) (GTDG_A2006-3)
- distinguish between and correctly use color models (RGB and CYMK) and color mixing theories to the creation of new colors in the digital format (QCC) (GTDG_A2006-4)
- model respect of intellectual property when manipulating, morphing and editing graphics, video, text and sound (GTDG_A2006-5)
- use relevant graphics, web design and animation software programs (GTDG_A2006-6)
- demonstrate proper etiquette and knowledge of acceptable use policies when using networks, especially resources on the Internet and intranet (QCC) (GTDG_A2006-7)
- research the impact of digital graphics in society and as an art form (QCC) (GTDG_A2006-8)
- identify and demonstrate the elements and principles of design to create effective visual communications (GTDG_A2006-9)
- identify and demonstrate the use of typography to create effective visual communications (GTDG_A2006-10)
- apply the fundamentals of Web page layout/design and site preparation (GTDG_A2006-11)

B - Information Acquisition

- use strategies to access research information from different resources, including local area networks (LANs), wide area networks (WANs), the Internet, and intranet (QCC) (GTDG_B2006-12)
- obtain print and digital information for a variety of resources including, but not limited to, encyclopedias, databases, and libraries of images (QCC) (GTDG_B2006-13)

C - Solving Problems

- use basic technical art skills (traditional and electronic), such as perspective, to capture a focal point and create depth (QCC) (GTDG_C2006-14)
- combine graphics, images, and sound for foundation or enrichment curricular projects (QCC) (GTDG_C2006-15)
- integrate the productivity tools including, but not limited to, word processor, database, spreadsheet, telecommunications, draw, paint, and utility programs into the digital graphics (QCC) (GTDG_C2006-16)
- use appropriate scripting language to create an animation or movie (QCC) (GTDG_C2006-17)

D - Communication

- identify and use the elements and principles of design to create visual unity and desired effects in designs (QCC) (GTDG_D2006-18)
- publish information in a variety of ways including, but not limited to, printed copy or monitor display, in saved files, Internet documents, CD-ROM discs, or video (QCC) (GTDG_D2006-19)
- edit files using appropriate digital editing tools and established design principles including consistency, repetition, alignment, proximity, ratio of text to white space, image file size, color use, font size, type and style (GPS) (GTDG_D2006-20)

E - Drawing 2-D and 3-D Animation

- discuss the history and evolution of animation (QCC) (GTDG_E2006-21)
- use basic animation techniques (GPS) (GTDG_E2006-22)
- create acting in animation showing the personality of characters (QCC) (GTDG_E2006-23)
- demonstrate the basics of scene planning for interesting visual effects (QCC) (GTDG_E2006-24)
- set up and plan shots and scenes in a storyboard (QCC) (GTDG_E2006-25)

F - Web Design

- use Web page basics (GTDG_F2006-26)
- demonstrate the fundamentals of Web page layout/design and site preparation (GTDG_F2006-27)
- demonstrate an acute awareness of the necessity for electronic Web site security and accessibility (GTDG_F2006-28)
- format page layout controlling alignment, white space and border to enhance the look of a Web page (GTDG_F2006-29)
- insert and link inline graphics and multimedia files (GTDG_F2006-30)
- manipulate markup language text to include but not limited to creating tables, radio buttons, checkboxes, scroll boxes and pull down menus (GTDG_F2006-31)

G - Core Skills

- communicate in a clear, concise and courteous manner (GPS) (GTDG_G2006-32)
- identify problems, analyze alternative solutions and develop a plan of action (GPS) (GTDG_G2006-33)
- use effective learning techniques to acquire and apply new knowledge and skills (GPS) (GTDG_G2006-34)
- set goals and monitor progress toward meeting goals (GPS) (GTDG_G2006-35)
- participate and interact as a team member and leader (GPS) (GTDG_G2006-36)
- work to satisfy customer/client expectations (GPS) (GTDG_G2006-37)
- acquire, store, allocate and use materials and space efficiently (GPS) (GTDG_G2006-38)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GPS) (GTDG_G2006-39)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GPS) (GTDG_G2006-40)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GPS) (GTDG_G2006-41)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GPS) (GTDG_G2006-42)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GPS) (GTDG_G2006-43)

Advanced Digital Media and Design

A - Knowledge and Skills

- use operating systems, software applications, and communication and networking components (QCC) (GTDA_A2006-1)
- compare, contrast, and appropriately use the various input, processing, output, and primary/secondary storage devices (QCC) (GTDA_A2006-2)
- use the vocabulary as it relates to digital graphics, web design and animation software (QCC) (GTDA_A2006-3)
- distinguish between and correctly use process color models (RGB and CYMK) and color mixing theories to the creation of new colors in the digital format (QCC) (GTDA_A2006-4)
- model respect of intellectual property when manipulating, morphing, and editing graphics, video, text, and sound (QCC) (GTDA_A2006-5)
- use relevant graphic, web design and animation software programs (GTDA_A2006-6)
- demonstrate proper etiquette and knowledge of acceptable use policies when using networks, especially resources on the Internet and intranet (QCC) (GTDA_A2006-7)
- research the impact of digital graphics in society and as an art form (QCC) (GTDA_A2006-8)
- identify the elements and principles of design to create effective visual communications (GTDA_A2006-9)
- use typography to create effective visual communications (GTDA_A2006-10)

B - Information Acquisition

- use strategies to access research information from different resources, including local area networks (LANs), wide area networks (WANs), the Internet, and intranet (QCC) (GTDA_B2006-11)
- obtain print and digital information for a variety of resources including, but not limited to, encyclopedias, databases, and libraries of images (QCC) (GTDA_B2006-12)

C - Solving Problems

- use basic technical art skills (traditional and electronic) such as perspective to capture a focal point and create depth (GTDA_C2006-13)
- combine graphics, images, and sound for foundation or enrichment curricular projects (QCC) (GTDA_C2006-14)
- integrate the productivity tools including, but not limited to, word processor, database, spreadsheet, telecommunications, draw, paint, and utility programs into the digital graphics (QCC) (GTDA_C2006-15)
- use appropriate scripting language to create an animation or movie (QCC) (GTDA_C2006-16)

D - Communication

- edit files using appropriate digital editing tools and established design principles including consistency, repetition, alignment, proximity, ratio of text to white space, image file size, color use, font size, type and style (GTDA_D2006-17)
- identify and use the elements and principles of design to create visual unity and desired effects in designs (QCC) (GTDA_D2006-18)
- publish information in a variety of ways including, but not limited to, printed copy or monitor display, in saved files, Internet documents, CD-ROM discs, or video (QCC) (GTDA_D2006-19)

E - Drawing 2-D and 3-D Animation

- discuss the history and evolution of animation (QCC) (GTDA_E2006-20)
- demonstrate basic animation techniques (GTDA_E2006-21)
- create acting in animation showing the personality of characters (QCC) (GTDA_E2006-22)
- set up and plan shots and scenes in a storyboard (QCC) (GTDA_E2006-23)

F - Core Skills

- communicate in a clear, concise and courteous manner (GTDA_F2006-24)
- identify problems, analyze alternative solutions and develop a plan of action (GTDA_F2006-25)
- use effective learning techniques to acquire and apply new knowledge and skills (GTDA_F2006-26)
- set goals and monitor progress toward meeting goals (GTDA_F2006-27)
- participate and interact as a team member and leader (GTDA_F2006-28)
- work to satisfy customer/client expectations (GTDA_F2006-29)
- acquire, store, allocate and use materials and space efficiently (GTDA_F2006-30)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTDA_F2006-31)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTDA_F2006-32)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTDA_F2006-33)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTDA_F2006-34)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTDA_F2006-35)

Landscape Design and Management

A - Knowledge and Skills

- design residential and commercial landscapes (QCC) (GTSL_A2006-1)
- develop a marketing plan for providing residential and commercial landscapes (QCC) (GTSL_A2006-2)
- identify, select, establish and manage soils, landscape plants, turf, irrigation, landscape structures and equipment (QCC) (GTSL_A2006-3)
- identify and control pests in the landscape (QCC) (GTSL_A2006-4)

B - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTSL_B2006-5)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTSL_B2006-6)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTSL_B2006-7)
- set goals and monitor progress toward meeting goals (QCC) (GTSL_B2006-8)
- participate and interact as a team member and leader (QCC) (GTSL_B2006-9)
- work to satisfy customer/client expectations (QCC) (GTSL_B2006-10)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTSL_B2006-11)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTSL_B2006-12)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTSL_B2006-13)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTSL_B2006-14)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTSL_B2006-15)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTSL_B2006-16)

Floriculture Production and Management

A - Knowledge and Skills

- describe the economic and environmental impact of pests on the floriculture industry (QCC) (GTEF_A2006-1)
- identify, select and maintain floriculture plants, supplies and equipment (QCC) (GTEF_A2006-2)
- propagate, schedule and grow plants in the greenhouse (QCC) (GTEF_A2006-3)
- construct and price floral designs (QCC) (GTEF_A2006-4)

B - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTEF_B2006-5)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTEF_B2006-6)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTEF_B2006-7)
- set goals and monitor progress toward meeting goals (QCC) (GTEF_B2006-8)
- participate and interact as a team member and leader (QCC) (GTEF_B2006-9)
- work to satisfy customer/client expectations (QCC) (GTEF_B2006-10)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTEF_B2006-11)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTEF_B2006-12)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTEF_B2006-13)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTEF_B2006-14)

B – Core Skills *(continued)*

- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTEF_B2006-15)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTEF_B2006-16)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTEF_B2006-17)

Horticulture

A - Knowledge and Skills

- analyze the processes of plant cells including photosynthesis and environmental requirements for good plant growth (QCC) (GTEH_A2006-1)
- demonstrate proper use of growth stimulants, retardants and rooting hormones (QCC) (GTEH_A2006-2)
- establish and maintain interior and exterior landscapes (QCC) (GTEH_A2006-3)
- select and maintain horticulture equipment (QCC) (GTEH_A2006-4)
- demonstrate horticulture techniques with annuals, perennials, vegetables, trees and shrubs (QCC) (GTEH_A2006-5)
- explain the aesthetic and environmental value for both interior and exterior environments (QCC) (GTEH_A2006-6)
- demonstrate horticulture techniques to propagate plants (QCC) (GTEH_A2006-7)
- propagate, schedule and grow plants in the greenhouse (QCC) (GTEH_A2006-8)
- demonstrate greenhouse operations and management procedures (QCC) (GTEH_A2006-9)

B - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTEH_B2006-10)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTEH_B2006-11)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTEH_B2006-12)
- set goals and monitor progress toward meeting goals (QCC) (GTEH_B2006-13)
- participate and interact as a team member and leader (QCC) (GTEH_B2006-14)
- work to satisfy customer/client expectations (QCC) (GTEH_B2006-15)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTEH_B2006-16)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTEH_B2006-17)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTEH_B2006-18)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTEH_B2006-19)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTEH_B2006-20)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTEH_B2006-21)

Natural Resources Conservation

A - Core Skills

- locate, understand, and interpret written information in a variety of formats, including such documents as manuals, graphs, reports, and schedules (QCC) (GTSN_A2004-1)
- communicate thoughts, ideas, information, and messages in writing and utilize appropriate technology documents such as letters, directions, manuals, reports, graphs, flowcharts and spreadsheets (QCC) (GTSN_A2004-2)
- perform and apply numerical concepts and calculations, and solve problems by choosing appropriately from a variety of mathematical techniques using mental, manual, and technological methods (QCC) (GTSN_A2004-3)
- receive, interpret, and respond to verbal and nonverbal messages in a manner appropriate to a given situation (QCC) (GTSN_A2004-4)
- organize ideas and communicate orally in a clear, concise, and courteous manner (QCC) (GTSN_A2004-5)
- specify goals, objectives, constraints, and supporting factors (QCC) (GTSN_A2004-6)
- identify problems, alternative solutions, and consequences of alternative solutions, and use appropriate techniques to resolve given problems (QCC) (GTSN_A2004-7)
- implement a plan of action making modifications as needed to achieve stated objectives (QCC) (GTSN_A2004-8)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTSN_A2004-9)
- assess self accurately, set personal goals, monitor progress, and exhibit self-control (QCC) (GTSN_A2004-10)
- choose ethical courses of action (QCC) (GTSN_A2004-11)
- take initiative to accomplish tasks in a timely manner (QCC) (GTSN_A2004-12)
- exert a high level of effort and persevere towards goal attainment (QCC) (GTSN_A2004-13)
- demonstrate adaptability, dependability, and responsibility and such social behaviors as tolerance, honesty, empathy, and courtesy (QCC) (GTSN_A2004-14)
- participate and interact as a team member and leader (QCC) (GTSN_A2004-15)
- share knowledge and skills with others (QCC) (GTSN_A2004-16)
- perform effectively in various environments with people of different ages, genders, cultures, socioeconomic backgrounds, attitudes, and abilities (QCC) (GTSN_A2004-17)
- work to satisfy customer/client expectations (QCC) (GTSN_A2004-18)
- use strategies appropriate to a given situation to prevent and resolve conflicts (QCC) (GTSN_A2004-19)
- select goal-relevant activities, prioritize them, manage time, and prepare and follow schedules (QCC) (GTSN_A2004-20)
- use or prepare budgets, make projections, keep records, and make adjustments to meet objectives (QCC) (GTSN_A2004-21)
- acquire, store, allocate, and use materials and space efficiently (QCC) (GTSN_A2004-22)
- prevent, identify, or solve problems with technical or electronic equipment (QCC) (GTSN_A2004-23)
- operate and maintain technical equipment and the work environment safely following applicable industry regulations and guidelines (QCC) (GTSN_A2004-24)
- utilize a variety of technologies (QCC) (GTSN_A2004-25)
- demonstrate understanding of basic economic concepts and how they are applied in business functions and activities (QCC) (GTSN_A2004-26)
- identify forms of business ownership (QCC) (GTSN_A2004-27)
- demonstrate understanding of the scope of a business, its place within an industry, and interrelationship of its parts (QCC) (GTSN_A2004-28)
- demonstrate understanding of the individual's role, responsibilities, and relationships in the organizational structure of a business (QCC) (GTSN_A2004-29)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTSN_A2004-30)
- make potential career decisions based upon interests, abilities, and values and formulate appropriate plan to reach career goals (QCC) (GTSN_A2004-31)
- demonstrate understanding of the relationship between educational achievement and career planning and how career choices impact family patterns and lifestyle (QCC) (GTSN_A2004-32)

A – Core Skills *(continued)*

- demonstrate effective skills for seeking and securing employment (QCC) (GTSN_A2004-33)
- demonstrate understanding of education and career development as a lifelong learning process that requires preparation for change (QCC) (GTSN_A2004-34)

B - Knowledge and Skills

- develop math, reading and writing skills as they relate to environmental science, forestry and natural resources (QCC) (GTSN_B2004-35)
- explore the scope of and careers in the environmental science and natural resource industry (QCC) (GTSN_B2004-36)
- develop leadership, communication, citizenship and competitive skills through co-curricular student organization activities (QCC) (GTSN_B2004-37)
- develop computer skills relevant to environmental science and natural resources (QCC) (GTSN_B2004-38)
- describe the relationships among humans, Agriculture and the environment (QCC) (GTSN_B2004-39)
- explain how Agriculture affects ecosystems (QCC) (GTSN_B2004-40)
- identify the types and proper management of agricultural waste products (QCC) (GTSN_B2004-41)
- describe the use of agricultural chemicals and their effects on the environment (QCC) (GTSN_B2004-42)
- list and describe management practices used in Agriculture to protect soil and water resources (QCC) (GTSN_B2004-43)
- list and describe management practices used in Agriculture to protect air quality (QCC) (GTSN_B2004-44)
- develop record-keeping skills (QCC) (GTSN_B2004-45)
- identify and list uses and characteristics of natural resources (QCC) (GTSN_B2004-46)
- describe the origin and composition of soils (QCC) (GTSN_B2004-47)
- prescribe measure that will reduce the chance of soil depletion and foster soil stewardship (QCC) (GTSN_B2004-48)
- describe the importance of forestry to the environment and the economy (QCC) (GTSN_B2004-49)
- develop a plan for maintaining a healthy forest (QCC) (GTSN_B2004-50)
- list and characterize products made from forest resources (QCC) (GTSN_B2004-51)
- define principles used in the management and conservation of wildlife (QCC) (GTSN_B2004-52)
- develop math, reading and writing skills as they relate to physical science applications in the agricultural mechanization industry (QCC) (GTSN_B2004-53)
- illustrate the use, measurement and control of power systems in Agriculture (QCC) (GTSN_B2004-54)
- compare and contrast alternative energy sources for agricultural purposes (QCC) (GTSN_B2004-55)
- define electrical power and describe its uses in Agriculture (QCC) (GTSN_B2004-56)
- develop math, reading and writing skills as they relate to the forest production and management industry (QCC) (GTSN_B2004-57)
- develop management skills relevant to the forest production and management industry (QCC) (GTSN_B2004-58)
- identify trees (QCC) (GTSN_B2004-59)
- evaluate sites for forestry production (QCC) (GTSN_B2004-60)
- procure seeds and seedlings for reforestation (QCC) (GTSN_B2004-61)
- identify methods for preventing and controlling wildfires (QCC) (GTSN_B2004-62)
- control undesirable forest species (QCC) (GTSN_B2004-63)
- conduct a prescribed burn (QCC) (GTSN_B2004-64)
- control forest insects and diseases (QCC) (GTSN_B2004-65)
- measure standing timber (QCC) (GTSN_B2004-66)
- determine the growth rate of trees (QCC) (GTSN_B2004-67)
- develop skills needed for employment in the natural resources industry (QCC) (GTSN_B2004-68)
- develop management skills relevant to the natural resources industry (QCC) (GTSN_B2004-69)
- gather and analyze field data for soil and water conservation plan (QCC) (GTSN_B2004-70)
- plan and implement routine conservation practices (QCC) (GTSN_B2004-71)
- read maps, aerial photographs and legal land descriptions (QCC) (GTSN_B2004-72)

B – Knowledge and Skills *(continued)*

- identify fish, wildlife and plants (QCC) (GTSN_B2004-73)
- manage fish, wildlife and vegetation (QCC) (GTSN_B2004-74)
- develop skills in wildlife management, forestry, or recreation and air quality (QCC) (GTSN_B2004-75)
- explain concepts in natural resources conservation (QCC) (GTSN_B2004-76)
- identify laws and regulations applicable to land and water resources (QCC) (GTSN_B2004-77)

Criminal Investigation and Forensics

A - Forensics: An Introduction and Analysis
- explore the role and responsibilities of the forensic scientist (GPS) (GTCI_A2009-1)

B - Identification, Collection, and Examination of Trace Evidence
- analyze and understand the significance of hairs, fibers, paint, glass, soil, and blood spatter to a forensic investigation (GPS) (GTCI_B2009-2)

C - Fingerprints
- demonstrate methods of fingerprint development (GPS) (GTCI_C2009-3)

D - Impressions Evidence
- recognize the importance of impressions evidence and how that evidence is used in a criminal investigation (GPS) (GTCI_D2009-4)

E - The Body as Evidence
- analyze the methods involved when using the body as evidence for a criminal investigation (GPS) (GTCI_E2009-5)

F - Serology and DNA
- describe the evidentiary value of human body evidence (GPS) (GTCI_F2009-6)

G - Drugs and Toxicology
- analyze how substances in the body are identified (GPS) (GTCI_G2009-7)

H - Interviews and Interrogations
- demonstrate basic interview techniques (GPS) (GTCI_H2009-8)

I - Notes, Reports, and Legal Issues
- complete concise investigative reports (GPS) (GTCI_I2009-9)

J - Preliminary Investigation and Preserving the Crime Scene
- demonstrate skills necessary for crime scene investigation (GPS) (GTCI_J2009-10)

K - Conducting A Homicide Investigation
- demonstrate the ability to conduct a homicide investigation (GPS) (GTCI_K2009-11)

L - Criminological Theory
- examine various approaches to explain crime (GPS) (GTCI_L2009-12)

M - Serial Criminals
- describe the importance of criminal profiling as well as the role of the profiler in an investigation (GPS) (GTCI_M2009-13)

N - Organized Crime
- explore and explain organized crime (GPS) (GTCI_N2009-14)

Introduction to Law and Justice

A - Careers in Law and Justice

- recognize and evaluate the career opportunities that are available in criminal justice and public safety professions including employment requirements (GPS) (GTIL_A2009-1)

B - Overview of the Criminal Justice System

- describe the relationship among police, courts, and corrections (GPS) (GTIL_B2009-2)
- investigate the dangers associated with various law and justice professions (GPS) (GTIL_B2009-3)

C - Basic Criminal and Constitutional Law

- analyze the structure of the government and the court system (GPS) (GTIL_C2009-4)
- identify criminal laws used frequently in the criminal justice system (GPS) (GTIL_C2009-5)

D - Police Reports

- complete various law enforcement reports and documents with accuracy (GPS) (GTIL_D2009-6)

E - Use of Force

- investigate how force is used by law and justice professionals (GPS) (GTIL_E2009-7)

F - Approach and Arrest of Suspects

- demonstrate proper protocol in communication, coordination, and control when approaching and arresting suspects (GPS) (GTIL_F2009-8)

G - Patrol Operations

- analyze the purpose and importance of patrol operations within a policy agency (GPS) (GTIL_G2009-9)
- explain proper police response to both unknown and high risk traffic stops (GPS) (GTIL_G2009-10)

H - Traffic Codes and Investigations

- describe appropriate traffic enforcement and accident investigations (GPS) (GTIL_H2009-11)

I - Community Policing, Conflict Resolution and Cultural Diversity

- describe the procedures involved in community policing (GPS) (GTIL_I2009-12)
- utilize conflict resolution in role play (GPS) (GTIL_I2009-13)
- analyze cultural differences that may have an impact on participants in the criminal justice system (GPS) (GTIL_I2009-14)

J - Sentencing and Correctional Issues

- explain and evaluate the various purposes and different types of sentences (GPS) (GTIL_J2009-15)
- describe American corrections (GPS) (GTIL_J2009-16)

K - Agency Administration

- analyze police mission, operational strategies, and police management and styles (GPS) (GTIL_K2009-17)

L - Ethics in Law and Justice

- investigate and evaluate the role of ethics in policing (GPS) (GTIL_L2009-18)

Law, Community Response, and Policing

A - Careers In Law and Justice

- explore the different careers available in the field of law and justice (GPS) (GTLP_A2009-1)

B - The History and Structure of the American Legal System

- explain the history and characteristics of the structure of the American court system (GPS) (GTLP_B2009-2)
- identify and explain the various roles of courtroom participants (GPS) (GTLP_B2009-3)

C - Federal and Georgia Criminal Law

- analyze state and federal criminal codes (GPS) (GTLP_C2009-4)

D - Constitutional Law

- explain the importance of the United States and Georgia constitutions and the basic protections and restrictions guaranteed by the Bill of Rights (GPS) (GTLP_D2009-5)
- evaluate major United States Supreme Court decisions as they apply to the role and function of law enforcement (GPS) (GTLP_D2009-6)
- identify how constitutions define the structure of government and the rights of citizens (GPS) (GTLP_D2009-7)

E - Criminal Procedure

- recognize and explain constitutional limitations to proper prosecutorial procedure (GPS) (GTLP_E2009-8)

F - Pre-Trial Procedures

- explore the roles of each participant in the pre-trial process (GPS) (GTLP_F2009-9)

G - Juries, Trial Procedures, and Examinations

- explain how juries are selected (GPS) (GTLP_G2009-10)
- conduct a mock trial (GPS) (GTLP_G2009-11)

H - Post Trial Legal Procedures

- examine the post trial process (GPS) (GTLP_H2009-12)

I - Civil Law

- define civil law and cite examples of the primary areas of civil law (GPS) (GTLP_I2009-13)
- identify the functions of civil lawsuits (GPS) (GTLP_I2009-14)
- advocate for a particular issue in a mock civil hearing (GPS) (GTLP_I2009-15)
- apply civil law to law enforcement (GPS) (GTLP_I2009-16)

J - Community Emergency Response Team (CERT) Training

- discuss the following disaster preparedness/emergency management agencies, including but not limited to: Department of Homeland Security, Federal Emergency Management Agency (FEMA), Citizens Corps, and Georgia Emergency Management Agents (GEMA) (GPS) (GTLP_J2009-17)
- demonstrate the steps of Basic Life Support (BLS) (GPS) (GTLP_J2009-18)
- identify the types of hazards most likely to affect homes and communities and describe steps to prepare for emergencies (GPS) (GTLP_J2009-19)
- describe the various origins of fire, classes of fire, and the correct means to extinguish each type of fire (GPS) (GTLP_J2009-20)
- identify and treat injuries of victims in a simulated disaster or emergency situation (GPS) (GTLP_J2009-21)
- analyze the components of an effective search and rescue operation (GPS) (GTLP_J2009-22)

J – Community Emergency Response Team (CERT) Training *(continued)*

- evaluate techniques for managing intra-personal reactions to crisis situations to assist in effectively meeting the needs of the victims and rescuers (GPS) (GTLP_J2009-23)
- define terrorism and explore the cause and effect relationship (GPS) (GTLP_J2009-24)

K - Advanced police Skills and Tactics

- develop and demonstrate safety skills in law enforcement including the use of force (GPS) (GTLP_K2009-25)

Introduction to Hotel, Travel, and Tourism

A - Travel Industry Basics

- describe the evolution and current trends in the hotel/lodging and travel/tourism industry (QCC) (GTHT_A2006-1)
- identify types of travelers and cite reasons why people travel (QCC) (GTHT_A2006-2)
- describe social, environmental, economic and business factors that impact the hotel/lodging and travel/tourism industry (QCC) (GTHT_A2006-3)
- identify and describe career opportunities, certifications and requirements for obtaining certification in the hotel/lodging and travel/tourism industry (QCC) (GTHT_A2006-4)
- describe the services that travel agents, major industry associations and convention and visitor's bureaus provide (QCC) (GTHT_A2006-5)
- describe the impact of travel and tourism on the local, state, national and international economy (GTHT_A2006-6)
- contrast the advantages of proprietorship, partnership or corporation as an organizational structure for a travel agency (QCC) (GTHT_A2006-7)
- list and describe different types of travel reference guides available for different segments of the travel and tourism industry (QCC) (GTHT_A2006-8)

B - Industry Segments

- describe the different options of rail travel available to travelers and identify the benefits of each (QCC) (GTHT_B2006-9)
- define types of cruise ships and contrast the cruise ship experience with a hotel and freighter (QCC) (GTHT_B2006-10)
- plan a sea voyage for a client (QCC) (GTHT_B2006-11)
- identify accommodations and travel services provided by the motorcoach industry (QCC) (GTHT_B2006-12)
- identify domestic and international car rental services and policies and the procedures for booking a car rental (QCC) (GTHT_B2006-13)
- identify the process and regulations required for booking airline tickets while meeting the ARC and IATAN requirements (QCC) (GTHT_B2006-14)
- identify and compare types of lodging facilities and ownership and demonstrate booking procedures for both individuals and groups (QCC) (GTHT_B2006-15)

C - Marketing and Business Fundamentals

- describe the types of promotional strategies and media used in the hotel/lodging and travel/tourism industry (QCC) (GTHT_C2006-16)
- describe the advantages, disadvantages and security issues of marketing hotel/lodging and travel/tourism products and services on the Internet (QCC) (GTHT_C2006-17)
- explain pricing structures and mixes as well as factors that impact profit margins of businesses in the hotel/lodging and travel/tourism industry (QCC) (GTHT_C2006-18)
- identify various target markets and factors to determine whether to market to specific groups (QCC) (GTHT_C2006-19)
- compare features and benefits of products and services offered in the U.S. to those offered internationally (QCC) (GTHT_C2006-20)
- outline the steps to develop a marketing plan in the travel/tourism industry and develop a plan for a niche market (QCC) (GTHT_C2006-21)

D - Technology Integration and Automated Systems

- identify the automated reservations equipment options available to companies in the hotel/lodging and travel/tourism industry and the impact these systems have on the industry (QCC) (GTHT_D2006-22)
- contrast operating automated reservations systems for foreign and domestic travel services (QCC) (GTHT_D2006-23)
- describe the data and forms needed for agency automated bookkeeping and documentation of customer services (QCC) (GTHT_D2006-24)

D – Technology Integration and Automated Systems *(continued)*

- describe a typical accounting system used in a travel agency and trends that will improve backroom accounting systems (QCC) (GTHT_D2006-25)
- identify backroom systems that interface with computer reservations systems (QCC) (GTHT_D2006-26)
- plan various types of travel packages for business and leisure travelers using automated systems (QCC) (GTHT_D2006-27)

E - Special Customer Services

- describe the value and cost of traveler's insurance (QCC) (GTHT_E2006-28)
- identify client benefits and costs for purchasing traveler's checks (QCC) (GTHT_E2006-29)
- prepare tipping guidelines and clothing/packing guidelines for travelers taking various types of trips (QCC) (GTHT_E2006-30)

F - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTHT_F2006-31)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTHT_F2006-32)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTHT_F2006-33)
- set goals and monitor progress toward meeting goals (QCC) (GTHT_F2006-34)
- participate and interact as a team member and leader (QCC) (GTHT_F2006-35)
- work to satisfy customer/client expectations (QCC) (GTHT_F2006-36)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTHT_F2006-37)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTHT_F2006-38)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTHT_F2006-39)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTHT_F2006-40)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTHT_F2006-41)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTHT_F2006-42)

Hotel and Lodging

A - Organization of Hotels

- describe the criteria used to classify hotel properties (QCC) (GTHH_A2006-1)
- identify the primary departments of a major hotel and prepare a job description for each department (QCC) (GTHH_A2006-2)
- describe various organizational structures in the hotel/lodging industry and create organizational charts for various types of lodging properties (QCC) (GTHH_A2006-3)
- describe how the following departments/positions impact guest relations and profit: front desk and reservations, bell captain, housekeeping, concierge, sales staff, food and beverage personnel (QCC) (GTHH_A2006-4)

B - Business Operations

- explain the standard differences in cost efficiencies of business operations for management contract companies, resorts, large chains and independently owned establishments (QCC) (GTHH_B2006-5)
- identify the acronyms and definitions for such terms as front-of-the-house, back-of-the-house, general manager, manager on duty, mom and pop, resident manager, concierge, valet, bed and breakfast, amenities, average daily rate, revenue per available room, (QCC) (GTHH_B2006-6)
- describe the differences in sleeping rooms, rates, and types of services offered, by type of hotel, including business, budget, leisure, bed and breakfast, and luxury resort (QCC) (GTHH_B2006-7)

B – Business Operations *(continued)*

- describe the key areas where operating efficiencies must be maintained for front-of-the-house operations, such as reservation systems, automated check-out, and Internet reservations, and back-of-the-house operations, such as computerized housekeeping reports (QCC) (GTHH_B2006-8)
- define revenue/income, overhead/operating expense, and profit/net income/margin, and identify the criteria managers or owners use to evaluate the property's performance in comparison to industry standards (QCC) (GTHH_B2006-9)
- describe and apply proper accounting techniques in the collection and finalization of guest accounts, including cash and check handling, credit card use, posting charges and payments, and direct billing (QCC) (GTHH_B2006-10)
- describe the primary types of accounting procedures and financial statements used by the management of a lodging establishment (QCC) (GTHH_B2006-11)

C - Marketing Hotel Services

- distinguish among marketing, sales, and operational functions in the lodging industry (QCC) (GTHH_C2006-12)
- outline techniques used by hotel properties to generate revenue such as parking charges, telephone charges, movie rentals, room service, audiovisual rental, sale of health club privileges to non-guests, banquets, and special exhibits (QCC) (GTHH_C2006-13)
- explain the purpose of the marketing plan in selling hotel/lodging services (QCC) (GTHH_C2006-14)
- identify and outline different marketing approaches appropriate for independent and chain properties and for full-service and limited service hotels (QCC) (GTHH_C2006-15)
- explain factors that determine room rates and package plans (QCC) (GTHH_C2006-16)
- describe how documents such as cashier reports, arrival and departure reports, contracts, room availability reports, guest history reports, and credit reports, are used by sales and marketing (QCC) (GTHH_C2006-17)
- describe interdependencies between the sales and marketing team and other hotel departments in planning and executing a large conference (QCC) (GTHH_C2006-18)
- identify customer's needs based on market demographics, industry sources and standards (QCC) (GTHH_C2006-19)
- complete a feature-benefit analysis and demonstrate feature-benefit selling for business and leisure travelers (QCC) (GTHH_C2006-20)
- develop a promotional plan for a specialty market to include print media promotionals, broadcast commercials, special promotional and public relations events, and personal sales strategies (QCC) (GTHH_C2006-21)
- demonstrate effective sales techniques, including determining needs, gaining commitment, objection handling, cross-selling and suggesting alternative, and closing the sale (QCC) (GTHH_C2006-22)

D - Front Desk

- identify the acronyms and definitions for such terms as American Plan, Modified American Plan, European Plan, overbooking, folio, walk-in, guarantee late arrival, complimentary, day rate, stayovers, availability, occupancy rate, corporate rate, direct billing (QCC) (GTHH_D2006-23)
- explain the major tasks to be performed at the front desk during each state of the guest cycle, including pre-arrival, arrival, occupancy and departure (QCC) (GTHH_D2006-24)
- demonstrate the use of front desk equipment and technology, including handling telephone systems and calls (QCC) (GTHH_D2006-25)
- describe documents that flow through the front desk department, including occupancy report, room status reports, manager-on-duty log and departmental log reports (QCC) (GTHH_D2006-26)
- explain laws, regulations, and standards pertaining to front desk operations (QCC) (GTHH_D2006-27)

E - Housekeeping

- describe the responsibilities of the housekeeping department (QCC) (GTHH_E2006-28)
- explain guest safety and confidentiality policies such as key control, handling guests' personal belongings, and lost and found (QCC) (GTHH_E2006-29)
- describe the financial impact of inventory control and quality control in housekeeping operations (QCC) (GTHH_E2006-30)

E – Housekeeping *(continued)*

- explain state, federal and OSHA laws and guidelines related to housekeeping operations and sanitation and safety (QCC) (GTHH_E2006-31)
- identify documents that flow through the housekeeping department, including room status reports, log reports, inspection sheets, maintenance reports, and inventory/linen (par) reports (QCC) (GTHH_E2006-32)
- define the terms bucket check and turndown service (QCC) (GTHH_E2006-33)

F - Guest Services

- explain hotel amenities to a guest (QCC) (GTHH_F2006-34)
- demonstrate the handling of multiple requests for assistance (QCC) (GTHH_F2006-35)
- identify key inspection points for the bell stand and concierge positions (QCC) (GTHH_F2006-36)
- explain the impact of discourteous service by the bell stand, concierge, or other staff (QCC) (GTHH_F2006-37)
- give information and/or make recommendations for dining; sightseeing; and cultural, sports and recreation events, using brochures, computers, etc. (QCC) (GTHH_F2006-38)
- explain the use of public transportation in a large city (QCC) (GTHH_F2006-39)
- demonstrate giving directions for walking and driving to designated locations using hotel area/city maps (QCC) (GTHH_F2006-40)
- provide alternatives to guest inquiries and demonstrate strategies for resolving complaints (QCC) (GTHH_F2006-41)
- coordinate group/tour locations for arrivals and departures (QCC) (GTHH_F2006-42)
- describe the types of assistance a concierge provides to the front desk in daily operations (QCC) (GTHH_F2006-43)
- demonstrate service methods that exceed the expectations of customers (QCC) (GTHH_F2006-44)
- determine the relationship between employees attitude and actions to customer satisfaction (QCC) (GTHH_F2006-45)

G - Group Events

- compare and contrast different types of meetings, such as trade shows, conventions, and special exhibitions and the impact each have on profit, market identification and types of services offered (QCC) (GTHH_G2006-46)
- demonstrate the ability to convey hotel features, meeting room and sleeping room capacities, services, amenities and special events to guests in a simulated planning meeting (QCC) (GTHH_G2006-47)
- identify the documents that flow through the food and beverage department, including the catering contract, banquet/catering event order (BEO), and menus (QCC) (GTHH_G2006-48)
- define terms unique to the food and beverage department such as walk-in, sous chef, garde manger, expeditor, haute cuisine, and table d'hote (QCC) (GTHH_G2006-49)
- list procedures in managing the use, care, maintenance and storage of equipment, tools, and supplies used to stage group events (QCC) (GTHH_G2006-50)
- demonstrate all steps needed to book an event plan including drawing plans for meeting space, preparing function sheets, and developing invoices of charges by planning an event for a business or a private party (QCC) (GTHH_G2006-51)

H - Security, Safety, and Confidentiality

- describe the major communication tools used by the safety and security department, including the Manager-on-Duty Log and departmental logs (QCC) (GTHH_H2006-52)
- describe guest safety and security features and procedures of a lodging establishment, including peepholes, smoke alarms, fire extinguishers, surveillance equipment, asset protection devices, and key control (QCC) (GTHH_H2006-53)
- cite the major provisions of laws related to hotel guest safety and security (QCC) (GTHH_H2006-54)
- identify safety issues pertaining to the public areas of a lodging organization including the pool, stairwells, parking lots, garage, and exercise facilities (QCC) (GTHH_H2006-55)
- develop a severe weather/hurricane preparedness plan (QCC) (GTHH_H2006-56)
- diagram an evacuation plan to include location of fire exit routes, emergency alarm locations, and stairwells (QCC) (GTHH_H2006-57)
- simulate the use of walkie-talkies and other communication devices in ensuring guest safety (QCC) (GTHH_H2006-58)

I - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTHH_I2006-59)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTHH_I2006-60)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTHH_I2006-61)
- set goals and monitor progress toward meeting goals (QCC) (GTHH_I2006-62)
- participate and interact as a team member and leader (QCC) (GTHH_I2006-63)
- work to satisfy customer/client expectation (QCC) (GTHH_I2006-64)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTHH_I2006-65)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTHH_I2006-66)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTHH_I2006-67)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTHH_I2006-68)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTHH_I2006-69)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTHH_I2006-70)

Information Technology Foundations

A - Foundations

- discuss the history of information technology and its impact on society (GPS, QCC) (GTIF_A2006-1)
- apply and classify knowledge of the hardware components associated with information systems (QCC) (GTIF_A2006-2)
- identify and explore the future of information technologies (QCC) (GTIF_A2006-3)
- install/configure software programs and evaluate application software packages (QCC) (GTIF_A2006-4)
- describe system components, apply knowledge of computer memory and auxiliary storage to operate a network system and maintain security requirements (QCC) (GTIF_A2006-5)
- use basic data communications components and trends, access information using electronic sources and demonstrate proficiency with electronic mail and other communication methods such as newsgroups, Usenet, mailing lists and chat rooms (QCC) (GTIF_A2006-6)
- use basic network classifications and topologies, LAN physical media and network connectivity basics (QCC) (GTIF_A2006-7)
- access the Internet and utilize Internet services (QCC) (GTIF_A2006-8)

B - User Support

- maintain security requirements and network systems (QCC) (GTIF_B2006-9)
- perform standard computer backup procedures and provide support and training (GTIF_B2006-10)
- perform software configuration and loading, system maintenance, and software upgrades and fixes (GTIF_B2006-11)
- monitor the information system and manage backup and recovery, both on- and off-site (GTIF_B2006-12)
- troubleshoot problems and evaluate problem-solving processes and outcomes (GTIF_B2006-13)
- analyze technical support needed and perform customer service (GTIF_B2006-14)

C - Operating Systems Management

- demonstrate the fundamentals of hardware standards, computer architecture and processor types and components, computer system architecture and connectivity devices (QCC) (GTIF_C2006-15)
- analyze the computer site environment (QCC) (GTIF_C2006-16)
- describe system components and demonstrate knowledge of computer memory and operating systems while maintaining systems and security requirements (QCC) (GTIF_C2006-17)
- perform standard computer backup procedures and provide support and training (QCC) (GTIF_C2006-18)
- employ computer system interfaces (QCC) (GTIF_C2006-19)
- demonstrate mainframe operations (QCC) (GTIF_C2006-20)
- install/configure software programs and evaluate application software packages (QCC) (GTIF_C2006-21)
- perform general system administration tasks and transfer files between mid-range and microcomputer systems (GTIF_C2006-22)

D - Networking

- create an operational network system by applying knowledge of basic network classifications and topologies (QCC) (GTIF_D2006-23)
- discuss local-area network trends and issues, common network computing platforms, LAN physical media network connectivity basics, the Open Systems Interconnection (ISO) Standard (ISO Standard) and communication standards for networks (GTIF_D2006-24)
- differentiate processes, services and protocols (QCC) (GTIF_D2006-25)
- discuss the basics of network architecture, Ethernet technology, token ring technology, token bus, Fiber Distributed Data Interface (FDDI) and wireless LAN technology, TCP/IP protocol, communication protocols (QCC) (GTIF_D2006-26)
- install basic system architectures using current Windows operating system software (QCC) (GTIF_D2006-27)

D – Networking *(continued)*

- discuss the general characteristics of network operating systems (e.g., Novel NetWare, Windows NT, LINUX, UNIX, IBM, Network, AppleTalk) (GTIF_D2006-28)
- install network system (GPS) (GTIF_D2006-29)
- discuss basic telecommunications and the interconnection of networks (QCC) (GTIF_D2006-30)
- demonstrate network management activities, procedures and applications (QCC) (GTIF_D2006-31)
- solve network applications problems (GPS) (GTIF_D2006-32)
- perform network analysis, selection and design, installation procedures, operation procedures and design network security systems (QCC) (GTIF_D2006-33)
- perform hardware and desktop support, network administration, network maintenance and diagnostics and testing (GPS) (GTIF_D2006-34)

E - Core Skills

- communicate in a clear, concise, and courteous manner (QCC) (GTIF_E2006-35)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTIF_E2006-36)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTIF_E2006-37)
- set goals and monitor progress toward meeting goals (GPS) (GTIF_E2006-38)
- participate and interact as a team member and leader (QCC) (GTIF_E2006-39)
- work to satisfy customer/client expectations (QCC) (GTIF_E2006-40)
- acquire, store, allocate and use materials and space efficiently (GPS) (GTIF_E2006-41)
- apply mathematical concepts and calculations, and solve problems using appropriate mathematical techniques (GPS) (GTIF_E2006-42)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GPS) (GTIF_E2006-43)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GPS) (GTIF_E2006-44)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GPS) (GTIF_E2006-45)
- maintain safety, health, and environmental standards, and address ergonomic concerns in program area (GPS) (GTIF_E2006-46)

Programming and Business Systems

A - Programming Concepts

- use programming language concepts (QCC) (GTIP_A2006-1)
- identify the stages of program development (QCC) (GTIP_A2006-2)
- develop technical documentation associated with software development (QCC) (GTIP_A2006-3)

B - Applied Programming Languages

- apply computational and logical operations (QCC) (GTIP_B2006-4)
- apply techniques for building applications (QCC) (GTIP_B2006-5)
- apply language-specific programming techniques (QCC) (GTIP_B2006-6)
- debug programs (QCC) (GTIP_B2006-7)

C - Software Development

- identify software development methodology (QCC) (GTIP_C2006-8)
- use basic software systems design (QCC) (GTIP_C2006-9)
- develop software requirements/specifications (QCC) (GTIP_C2006-10)

C – Software Development *(continued)*

- code programs (QCC) (GTIP_C2006-11)
- execute software testing, validation, change control, defect tracking, and documentation (QCC) (GTIP_C2006-12)
- use data structures (QCC) (GTIP_C2006-13)

D - Concepts of Programming

- describe a programming need and its solution and code and test a programming solution (GPS) (GTIP_D2006-14)

E - Business Law, Ethics, and Legal Issues

- discuss intellectual property rights covered by intellectual law as well as social, ethical and legal issues in the information field (GPS) (GTIP_E2006-15)

F - Database Administration

- apply databases to actual situations and business problems (QCC) (GTIP_F2006-16)
- create conceptual data models (QCC) (GTIP_F2006-17)
- create logical data models (QCC) (GTIP_F2006-18)
- normalize data models (QCC) (GTIP_F2006-19)
- apply data structure concepts to the storage and retrieval of data (GPS) (GTIP_F2006-20)
- query a database (GPS) (GTIP_F2006-21)

G - Core Skills

- communicate in a clear, concise, and courteous manner (GPS) (GTIP_G2006-22)
- identify problems, analyze alternative solutions and develop a plan of action (GPS) (GTIP_G2006-23)
- use effective learning techniques to acquire and apply new knowledge and skills (GPS) (GTIP_G2006-24)
- set goals and monitor progress toward meeting goals (GPS) (GTIP_G2006-25)
- participate and interact as a team member and leader (GPS) (GTIP_G2006-26)
- work to satisfy customer/client expectations (GPS) (GTIP_G2006-27)
- acquire, store, allocate and use materials and space efficiently (GPS) (GTIP_G2006-28)
- apply mathematical concepts and calculations, and solve problems using appropriate mathematical techniques (GTIP_G2006-29)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GPS) (GTIP_G2006-30)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GPS) (GTIP_G2006-31)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GPS) (GTIP_G2006-32)
- maintain safety, health, and environmental standards, and address ergonomic concerns in program area (GPS) (GTIP_G2006-33)

Foundations of Sound and Recording

A - The Physics of Sound

- define amplitude, frequency and time in reference to sound waves and waveforms (QCC) (GTRF_A2006-1)
- define different types of sound waves and waveforms (QCC) (GTRF_A2006-2)
- demonstrate relationship between sound waves and waveforms by plotting a waveform on a graph (QCC) (GTRF_A2006-3)
- demonstrate waveforms with an oscillator and an oscilloscope (QCC) (GTRF_A2006-4)
- define the sound range of human hearing (QCC) (GTRF_A2006-5)
- measure sound levels and frequency content with a sound pressure meter, white noise, pink noise, and a Real Time Analyzer (RTA) (QCC) (GTRF_A2006-6)
- illustrate several items/musical instruments within the range of human hearing (voice, piano, cymbals) (QCC) (GTRF_A2006-7)

B - Acoustics

- define acoustics, space, delay and reverb (GTRF_B2006-8)
- define absorption, reflection and diffusion (GTRF_B2006-9)
- explain how absorption, reflection and diffusion affect sound waves (GTRF_B2006-10)
- demonstrate how various objects/materials and their properties affect sound waves in different rooms and space (GTRF_B2006-11)
- explain and demonstrate the basic operation of microphone placement and how acoustic space plays an important role in recording (GTRF_B2006-12)

C - Recording Systems

- summarize the history of recording (GTRF_C2006-13)
- explain different types of analog and digital recording mediums and media (GTRF_C2006-14)
- describe the differences of modern day direct to two-track, direct to disk, and multi-track recording processes (GTRF_C2006-15)
- explain the process of tracking, overdubbing and mixing in multi-track recording (GTRF_C2006-16)
- illustrate the process of mastering recordings (GTRF_C2006-17)
- explain the process of CD/DVD/tape replication (GTRF_C2006-18)

D - The Components of Recording Sound

- identify the signal path (flowchart) of recording sound from initial source-microphone-mixing console components-recording device-playback/monitoring system (GTRF_D2006-19)
- explain the various connectivity types and wiring (patch bays, cables (1/48/phono. RCA/cinch, TT/TinyTelephone, XLR, DSUB, ELCO, balanced, unbalanced, +4, -10, AES/EBU, SPDIF, optical, TOSLINK, TDIF, fire wire, USB) (GTRF_D2006-20)
- categorize the different types of microphones and their uses (dynamic, condenser, ribbon, pressure zone) (GTRF_D2006-21)
- explain the function of microphone preamps (GTRF_D2006-22)
- describe the importance of gain staging (levels) (GTRF_D2006-23)
- explain routing and switching of audio (GTRF_D2006-24)
- discuss the function of compressors/limiters (GTRF_D2006-25)
- describe the function(s) of various effects processors (QCC) (GTRF_D2006-26)
- discuss the functions of and operate a mixing console (GTRF_D2006-27)
- describe the function and use of playback/monitoring systems (GTRF_D2006-28)
- summarize the assembly of all components into a mixing console (GTRF_D2006-29)
- demonstrate the basic operation of a mixing console (GTRF_D2006-30)
- create a simple recording by utilizing the recording components (GTRF_D2006-31)

E - Recording Session

- establish the roles and responsibilities of the engineer, assistant engineer and producer (GTRF_E2006-32)
- illustrate how and why music stands, lighting, line of sight, and chart notation are important (GTRF_E2006-33)
- set up a recording session using microphones, direct boxes, direct lines, microphone stands, cables, music stands, and cues system (GTRF_E2006-34)
- create a recording utilizing appropriate devices and equipment (GTRF_E2006-35)
- demonstrate the overdubbing process (GTRF_E2006-36)
- create a final mix for production (GTRF_E2006-37)
- create a CD Master (GTRF_E2006-38)

F - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTRF_F2006-39)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTRF_F2006-40)
- use effective learning techniques to acquire and apply new knowledge and skills (QCC) (GTRF_F2006-41)
- set goals and monitor progress toward meeting goals (QCC) (GTRF_F2006-42)
- participate and interact as a team member and leader (QCC) (GTRF_F2006-43)
- work to satisfy customer/client expectations (QCC) (GTRF_F2006-44)
- acquire, store, allocate and use materials and space efficiently (QCC) (GTRF_F2006-45)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (QCC) (GTRF_F2006-46)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTRF_F2006-47)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTRF_F2006-48)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTRF_F2006-49)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTRF_F2006-50)

Advanced Recording and Post-Production Techniques

A - Advanced Recording Techniques

- demonstrate various microphone types and setups for different musical styles (GTRA_A2006-1)
- demonstrate and explain various microphone pre-amps to illustrate different sonic characteristics to capture while recording (GTRA_A2006-2)
- utilize recording techniques including musical equalization, compression, and limiting during the recording session (GTRA_A2006-3)
- demonstrate effective usage of various special effects processors in the mixing process (GTRA_A2006-4)

B - Digital Audio Workstation

- briefly explain the history of digital audio workstations (GTRA_B2006-5)
- describe different forms of digital audio workstations (Host, Native, and Proprietary) (GTRA_B2006-6)
- define relevant digital audio workstation terms (GTRA_B2006-7)
- apply basic operation inputting and outputting audio with a digital audio workstation (GTRA_B2006-8)
- apply basic editing features such as cut, copy, and paste (GTRA_B2006-9)
- apply advanced editing features such as phase reversal, time and pitch shifting, looping, cross-fading, digital delay, normalization, and waveform drawing (GTRA_B2006-10)
- apply various mixing tools such as aux sends/returns, reverberation, limiting, equalization and fading within the digital audio workstation (GTRA_B2006-11)

B – Digital Audio Workstation *(continued)*

- create a music recording utilizing a digital audio workstation (GTRA_B2006-12)

C - Synchronization for Post Production

- use time sync in the post production process (GTRA_C2006-13)
- explain time code and its various types (25fps, 29fps, 30fps, non-drop frame, drop frame, MIDI) (GTRA_C2006-14)
- apply SMPTE Time code to an audio track (GTRA_C2006-15)
- apply synchronization for an audio track to a video track (GTRA_C2006-16)
- synchronize midi tracks, multi-channel digital audio to a video via TC (GTRA_C2006-17)
- embed mixed audio into a video track (GTRA_C2006-18)
- apply remote control via RS422, RS232 (GTRA_C2006-19)

D - Core Skills

- communicate in a clear, concise and courteous manner (QCC) (GTRA_D2006-20)
- identify problems, analyze alternative solutions and develop a plan of action (QCC) (GTRA_D2006-21)
- use effective learning techniques to acquire and apply new knowledge and skills (GTRA_D2006-22)
- set goals and monitor progress toward meeting goals (GTRA_D2006-23)
- participate and interact as a team member and leader (GTRA_D2006-24)
- work to satisfy customer/client expectations (GTRA_D2006-25)
- acquire, store, allocate and use materials and space efficiently (GTRA_D2006-26)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTRA_D2006-27)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (QCC) (GTRA_D2006-28)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (QCC) (GTRA_D2006-29)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (QCC) (GTRA_D2006-30)
- maintain safety, health, and environmental standards, and address ergonomic concerns (QCC) (GTRA_D2006-31)

Multi-Channel and Applied Digital Audio

A - Multi-Channel Audio Application

- employ various types of microphones for a multi-channel audio recording (GTRM_A2006-1)
- apply fundamental and differing multi-channel microphone placement techniques (GTRM_A2006-2)
- create music tracks utilizing multi-channel microphone techniques, equalization and spatial positioning settings (GTRM_A2006-3)
- modify tracks by expanding the aural soundscape through overdubs (GTRM_A2006-4)
- apply multi-channel audio joystick positioning (panning) during the mixing process (GTRM_A2006-5)
- create a visual interface for the surround sound project (GTRM_A2006-6)
- explain the basics of surround sound encoding/decoding and their translation to various speaker arrays (consumer home audio-television broadcast) (GTRM_A2006-7)
- demonstrate encoding techniques for surround sound encoding (GTRM_A2006-8)
- demonstrate decoding techniques for surround sound decoding (GTRM_A2006-9)
- apply the finished, mixed multi-channel recording in the proper format and media (GTRM_A2006-10)
- create a music project for DVD (GTRM_A2006-11)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTRM_B2006-12)
- identify problems, analyze alternative solutions and develop a plan of action (GTRM_B2006-13)
- use effective learning techniques to acquire and apply new knowledge and skills (GTRM_B2006-14)
- set goals and monitor progress toward meeting goals (GTRM_B2006-15)
- participate and interact as a team member and leader (GTRM_B2006-16)
- work to satisfy customer/client expectations (GTRM_B2006-17)
- acquire, store, allocate and use materials and space efficiently (GTRM_B2006-18)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTRM_B2006-19)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTRM_B2006-20)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTRM_B2006-21)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTRM_B2006-22)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTRM_B2006-23)

Introduction to Music Technology and Production

A - MIDI Concepts

- discuss concepts of MIDI, MIDI channels, and Standard MIDI Files (SMF) (GTM1_A2006-1)
- explain the function of General MIDI, Polyphony, Multi-Timbral as they apply to an electronic keyboard (GTM1_A2006-2)
- import and export MIDI files from sequencing and notation software (GTM1_A2006-3)
- assign sounds to different MIDI channels including various drum kits (GTM1_A2006-4)

B - MIDI Sequencing Software

- discuss the basic operation of sequencing software (GTM1_B2006-5)
- demonstrate the function of transport controls (GTM1_B2006-6)
- demonstrate the function and tools of step/graphic editing window (GTM1_B2006-7)
- explain the process of quantizing drum and other instrument tracks (GTM1_B2006-8)
- edit tracks utilizing copy and paste of tracks, measures, and MIDI events (GTM1_B2006-9)
- utilize concepts of editing by applying transpose function (GTM1_B2006-10)
- utilize concepts of editing by applying various tempo features (GTM1_B2006-11)
- edit tracks by adjusting velocity and duration (GTM1_B2006-12)
- edit tracks by adjusting pitch and point of entry (GTM1_B2006-13)
- demonstrate concepts of record features including overdub and punch in /out (GTM1_B2006-14)
- mix tracks including adjusting volume levels, pan, and equalization (GTM1_B2006-15)
- mix tracks including automation of volume and pan (GTM1_B2006-16)

C - Intelligent Accompaniment Software

- describe the basic operation of intelligent accompaniment software (GTM1_C2006-17)
- apply various features such as changing styles, tempos, and instruments (GTM1_C2006-18)
- create a project using intelligent accompaniment software (GTM1_C2006-19)

D - Notation Software

- describe the basic operation of notation software (GTM1_D2006-20)
- apply various features such as changing clefs, time, and key signature (GTM1_D2006-21)
- edit tracks utilizing copy and paste of measures and staves (GTM1_D2006-22)
- apply page layout features including title, composer and staff name (GTM1_D2006-23)
- apply various editing features including articulations, slurs, and dynamics (GTM1_D2006-24)
- create a short musical composition using multiple staves (GTM1_D2006-25)

E - Music Composition

- create a multi-track sequence using popular song forms (GTM1_E2006-26)
- analyze formal elements of a variety of musical examples (GTM1_E2006-27)

F - Sound Reinforcement

- demonstrate basic operation of a mixing console (GTM1_F2006-28)
- discuss concepts of panning, equalization, buss routing and effects loops (GTM1_F2006-29)
- discuss different types of microphones, and demonstrate proper selection and usage (GTM1_F2006-30)
- demonstrate proper setup and operation of sound reinforcement systems (GTM1_F2006-31)
- explain speaker impedance and how it applies to sound systems (GTM1_F2006-32)

G - Physics of Sound

- explain the concepts of frequency, amplitude and timbre (GTM1_G2006-33)
- discuss the overtone series, waveforms and envelope (GTM1_G2006-34)
- describe the harmonic spectrum of a given sound (GTM1_G2006-35)

H - History of Music Technology

- evaluate major developments in music technology (GTM1_H2006-36)
- compare and contrast early electronic instrument technology (GTM1_H2006-37)
- categorize chronological timeline of music technology (GTM1_H2006-38)

I - Core Skills

- communicate in a clear, concise and courteous manner (GTM1_I2006-39)
- identify problems, analyze alternative solutions and develop a plan of action (GTM1_I2006-40)
- use effective learning techniques to acquire and apply new knowledge and skills (GTM1_I2006-41)
- set goals and monitor progress toward meeting goals (GTM1_I2006-42)
- participate and interact as a team member and leader (GTM1_I2006-43)
- work to satisfy customer/client expectations (GTM1_I2006-44)
- acquire, store, allocate and use materials and space efficiently (GTM1_I2006-45)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTM1_I2006-46)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTM1_I2006-47)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTM1_I2006-48)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTM1_I2006-49)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTM1_I2006-50)

Intermediate Music Technology Production Applications

A - MIDI Sequencing

- discuss concepts of MIDI, MIDI channels, and Standard MIDI Files (SMF) (GTM2_A2006-1)
- import and export of MIDI files from sequencing to other software (GTM2_A2006-2)
- discuss the usage of DSP (digital signal processors) and their effect on sequencing (GTM2_A2006-3)
- apply various common effects such as reverb, chorus, delay, etc. (GTM2_A2006-4)
- explain the concepts of different controllers and their effect on sequencing (GTM2_A2006-5)
- demonstrate concepts of mixing including adjusting volume levels, pan, and equalization (GTM2_A2006-6)

B - Musical Composition

- create a multi-track sequence of musical form utilizing an introduction, main theme, and ending (GTM2_B2006-7)
- analyze formal elements of a variety of musical examples (GTM2_B2006-8)
- create a multi-track sequence of background music for a specific setting such as a TV/movie score, computer game, etc. (GTM2_B2006-9)
- apply concepts of basic recording techniques (GTM2_B2006-10)
- create an appropriate rhythm background for a particular musical style (GTM2_B2006-11)
- create a multi-track sequence of background music and synchronize it to a video format (GTM2_B2006-12)
- expand understanding and use of compositional techniques including harmonization, orchestration, and arranging as it applies to recording (GTM2_B2006-13)

B - Musical Composition *(continued)*

- develop a portfolio of recorded projects incorporating techniques used with a MIDI sequencer (GTM2_B2006-14)
- combine sequencing and digital audio (guitar, voice, clarinet, etc.) to produce a commercial project (GTM2_B2006-15)

C - Music Editing

- demonstrate importing an audio file into music editing software (GTM2_C2006-16)
- edit an imported audio file for length and apply effects plug-ins (GTM2_C2006-17)
- export edited audio file in a different file format (GTM2_C2006-18)

D - Digital Audio

- describe basic concepts of digital audio (GTM2_D2006-19)
- demonstrate digital audio recording techniques (GTM2_D2006-20)
- edit recorded audio with digital audio software (GTM2_D2006-21)
- create an audio CD of a digital audio recording (GTM2_D2006-22)

E - Multimedia

- discuss the concepts and components of multimedia (GTM2_E2006-23)
- explain the different types of multimedia (GTM2_E2006-24)
- distinguish music usage and requirements for inclusion in multimedia (GTM2_E2006-25)
- create a multimedia project utilizing video, graphics, audio and music (GTM2_E2006-26)

F - Foley

- critique examples from film excerpts (GTM2_F2006-27)
- discuss and demonstrate current techniques (GTM2_F2006-28)
- create a foley track and sync to film excerpt (GTM2_F2006-29)

G - Core Skills

- communicate in a clear, concise and courteous manner (GTM2_G2006-30)
- identify problems, analyze alternative solutions and develop a plan of action (GTM2_G2006-31)
- use effective learning techniques to acquire and apply new knowledge and skills (GTM2_G2006-32)
- set goals and monitor progress toward meeting goals (GTM2_G2006-33)
- participate and interact as a team member and leader (GTM2_G2006-34)
- work to satisfy customer/client expectations (GTM2_G2006-35)
- acquire, store, allocate and use materials and space efficiently (GTM2_G2006-36)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTM2_G2006-37)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTM2_G2006-38)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTM2_G2006-39)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTM2_G2006-40)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTM2_G2006-41)

Animal Science

A - Knowledge and Skills

- describe the scientific foundations of animal agriculture and biotechnology (QCC) (GTVC_A2006-1)
- explain the scientific foundations of poultry science (QCC) (GTVC_A2006-2)
- explain the scientific foundations of aquaculture production and management (QCC) (GTVC_A2006-3)
- explain the scientific foundations of alternative agriculture animal production and management (QCC) (GTVC_A2006-4)
- classify agricultural animals (QCC) (GTVC_A2006-5)
- identify consumer and environmental concerns in animal production and management (QCC) (GTVC_A2006-6)
- identify and explain the issues of animal welfare (QCC) (GTVC_A2006-7)
- use animal behavior to facilitate the safe, efficient and humane management and movement of animals (QCC) (GTVC_A2006-8)
- explain and apply the principles of animal genetics and bioengineering (QCC) (GTVC_A2006-9)
- select agricultural animals on the basis of scientific and research data (QCC) (GTVC_A2006-10)
- describe and apply the underlying principles of animal reproduction to the management and production of agricultural animals (QCC) (GTVC_A2006-11)
- describe the underlying scientific principles of animal growth and development (QCC) (GTVC_A2006-12)
- apply the principles of animal nutrition to animal production and management (QCC) (GTVC_A2006-13)
- explain the application of the principles of meat science to the safe, efficient and economical delivery of meat products to the consumer (QCC) (GTVC_A2006-14)
- identify and describe diseases and parasites that attack agricultural animals (QCC) (GTVC_A2006-15)
- demonstrate skills in developing a supervised agricultural experience program (GTVC_A2006-16)
- explain the scientific foundations of large animal production (QCC) (GTVC_A2006-17)
- explain the scientific foundations of dairy production (QCC) (GTVC_A2006-18)
- identify and characterize diseases that attack agricultural animals (GTVC_A2006-19)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTVC_B2006-20)
- identify problems, analyze alternative solutions and develop a plan of action (GTVC_B2006-21)
- use effective learning techniques to acquire and apply new knowledge and skills (GTVC_B2006-22)
- set goals and monitor progress toward meeting goals (GTVC_B2006-23)
- participate and interact as a team member and leader (GTVC_B2006-24)
- work to satisfy customer/client expectations (GTVC_B2006-25)
- acquire, store, allocate and use materials and space efficiently (GTVC_B2006-26)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTVC_B2006-27)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTVC_B2006-28)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTVC_B2006-29)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTVC_B2006-30)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTVC_B2006-31)

Animal Production and Management

A - Knowledge and Skills

- develop management skills relevant to the animal production industry (QCC) (GTVM_A2006-1)
- develop skills and abilities in specialty animal production (GTVM_A2006-2)
- explore the scope of careers in the animal production industry (GTVM_A2006-3)
- demonstrate skills in developing a supervised agricultural experience program (GTVM_A2006-4)
- develop computer skills relevant to the animal production industry (GTVM_A2006-5)
- develop skills and abilities in beef production (GTVM_A2006-6)
- develop skills and abilities in dairy production (GTVM_A2006-7)
- develop skills and abilities in equine production (GTVM_A2006-8)
- develop skills and abilities in swine production (GTVM_A2006-9)
- develop skills and abilities in sheep production (GTVM_A2006-10)
- develop skills and abilities in poultry production (GTVM_A2006-11)
- develop skills in showing, fitting and selecting livestock (GTVM_A2006-12)
- explore the scope of careers in the animal science industry (GTVM_A2006-13)
- develop skills in agribusiness management (GTVM_A2006-14)
- develop basic knowledge in organizing an agricultural business (GTVM_A2006-15)
- conduct and interpret a feasibility study for starting an agribusiness in a selected area of agriculture (GTVM_A2006-16)
- explore ways to make the most efficient use of capital resources (GTVM_A2006-17)
- competitively price agricultural products and services (GTVM_A2006-18)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTVM_B2006-19)
- identify problems, analyze alternative solutions and develop a plan of action (GTVM_B2006-20)
- use effective learning techniques to acquire and apply new knowledge and skills (GTVM_B2006-21)
- set goals and monitor progress toward meeting goals (GTVM_B2006-22)
- participate and interact as a team member and leader (GTVM_B2006-23)
- work to satisfy customer/client expectations (GTVM_B2006-24)
- acquire, store, allocate and use materials and space efficiently (GTVM_B2006-25)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTVM_B2006-26)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTVM_B2006-27)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTVM_B2006-28)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTVM_B2006-29)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTVM_B2006-30)

Equine Science

A - Knowledge and Skills

- describe the scientific foundations of equine agriculture and biotechnology (QCC) (GTVE_A2006-1)
- explain the scientific foundations of equine production and management (QCC) (GTVE_A2006-2)
- identify consumer and environmental concerns in equine production and management (QCC) (GTVE_A2006-3)
- identify and explain the issues of animal welfare (QCC) (GTVE_A2006-4)
- use animal behavior to facilitate the safe, efficient and humane management and movement of equines (QCC) (GTVE_A2006-5)
- explain and apply the principles of animal genetics and bioengineering (QCC) (GTVE_A2006-6)
- select agricultural animals on the basis of scientific and research data (QCC) (GTVE_A2006-7)
- describe and apply the underlying principles of animal reproduction to the management and production of equine animals (QCC) (GTVE_A2006-8)
- apply the principles of animal nutrition to the production and management of equine animals (QCC) (GTVE_A2006-9)
- identify and describe diseases and parasites that attack equine animals (QCC) (GTVE_A2006-10)
- develop skills and abilities in selected practices of equine production (QCC) (GTVE_A2006-11)
- demonstrate skills in developing a supervised agricultural experience program (GTVE_A2006-12)
- classify equine animals (GTVE_A2006-13)
- describe the underlying scientific principles of equine growth and development (GTVE_A2006-14)

B - Core Skills

- communicate in a clear, concise and courteous manner (GTVE_B2006-15)
- identify problems, analyze alternative solutions and develop a plan of action (GTVE_B2006-16)
- use effective learning techniques to acquire and apply new knowledge and skills (GTVE_B2006-17)
- set goals and monitor progress toward meeting goals (GTVE_B2006-18)
- participate and interact as a team member and leader (GTVE_B2006-19)
- work to satisfy customer/client expectations (GTVE_B2006-20)
- acquire, store, allocate and use materials and space efficiently (GTVE_B2006-21)
- apply mathematical concepts and calculations and solve problems using appropriate mathematical techniques (GTVE_B2006-22)
- use and create text and multimedia documents in a variety of formats and be able to troubleshoot problems with technical or electronic equipment (GTVE_B2006-23)
- identify the scope of a business, its organization and activities, and the interrelationship of its parts (GTVE_B2006-24)
- discuss factors that impact career decisions and formulate appropriate plans to reach career goals (GTVE_B2006-25)
- maintain safety, health, and environmental standards, and address ergonomic concerns (GTVE_B2006-26)

Broadcast / Video Production I

A -

- identify inventions and technical and social developments that led to the creation of radio and television in a broadcast environment (GPS) (GTP1_A2009-1)
- utilize trade terminology in an appropriate manner (GPS) (GTP1_A2009-2)
- describe and follow safety procedures when working with TV equipment (GPS) (GTP1_A2009-3)
- demonstrate proper set-up and use of basic production equipment (GPS) (GTP1_A2009-4)
- identify and create different script types (GPS) (GTP1_A2009-5)
- demonstrate proper use and operation of studio equipment and production techniques while working as part of a production team (GPS) (GTP1_A2009-6)
- demonstrate skills related to set design and layout (GPS) (GTP1_A2009-7)
- identify lighting instruments and design a light plot for studio or field production following all safety procedures and utilizing proper television terminology (GPS) (GTP1_A2009-8)
- identify different editing methods, equipment, and techniques and demonstrate them in the production of an edited story (GPS) (GTP1_A2009-9)
- demonstrate teamwork and proper use of equipment in a production team while producing a studio production (GPS) (GTP1_A2009-10)
- investigate and demonstrate ethical use of equipment and storytelling (GPS) (GTP1_A2009-11)

Broadcast / Video Production II

A - Pre-Production, Production, and Post-Production Procedures

- demonstrate basic planning, writing, directing, and editing of a production (GPS) (GTP2_A2009-1)

B - Field Production

- utilize field equipment appropriately (GPS) (GTP2_B2009-2)

C - Basic Electrical Functions

- describe basic electrical functions (GPS) (GTP2_C2009-3)

D - Operational Setup and Maintenance

- utilize specified operational set-up/maintenance procedures (GPS) (GTP2_D2009-4)

E - Advanced Editing Operations

- perform advanced editing operations (GPS) (GTP2_E2009-5)

F - Studio Production

- model techniques involved with studio production (GPS) (GTP2_F2009-6)

G - Production Performance

- utilize appropriate production performance techniques (GPS) (GTP2_G2009-7)

H - Audio/Video Control Systems

- utilize audio/video control systems (GPS) (GTP2_H2009-8)

I - Production Graphics

- create production graphics (GPS) (GTP2_I2009-9)

J - Career Investigation

- identify career opportunities in broadcast/video production (GPS) (GTP2_J2009-10)

K - Entrepreneurship

- explain expenses, production costs, and budgets as they relate to a production (GPS) (GTP2_K2009-11)
- describe the importance of marketing in video production (GPS) (GTP2_K2009-12)
- exhibit qualities of a professional in and out of the studio (GPS) (GTP2_K2009-13)

Broadcast / Video Production III

A - Independent Production

- demonstrate independent technical skills and techniques in broadcasting and video production (GPS) (GTP3_A2009-1)

B - Collaborative Production

- create a group media production (GPS) (GTP3_B2009-2)

Broadcast / Video Production IV

A -

- demonstrate a mastery level of production equipment used in broadcasting and video production in various workplace settings (GPS) (GTP4_A2009-1)
- produce a variety of programming that emulates professional productions (GPS) (GTP4_A2009-2)
- produce samples to enhance or replace existing portfolio artifacts (GPS) (GTP4_A2009-3)

Work-Based Learning

A -

- compute hours and wages and maintain work records accurately and in a timely manner (QCC) (GTIN_A2006-1)
- evaluate career choices (QCC) (GTIN_A2006-2)
- investigate career choices in an academic major (QCC) (GTIN_A2006-3)
- write resumes using standard formats (QCC) (GTIN_A2006-4)
- complete error free job applications (QCC) (GTIN_A2006-5)
- list qualities expected by employer (QCC) (GTIN_A2006-6)
- follow written and verbal directions (QCC) (GTIN_A2006-7)
- practice safe working habits including the use of any required or necessary equipment (QCC) (GTIN_A2006-8)
- function in a work environment in accordance with company policies, child labor laws, and employer expectations (QCC) (GTIN_A2006-9)
- exhibit professionalism in employability skills such as punctuality and attendance (QCC) (GTIN_A2006-10)
- communicate verbally and in writing using standard English (QCC) (GTIN_A2006-11)
- identify sources of governmental services (QCC) (GTIN_A2006-12)
- perform assigned tasks (QCC) (GTIN_A2006-13)
- complete required forms and records accurately and in a timely manner (QCC) (GTIN_A2006-14)
- dress appropriately for the job setting (QCC) (GTIN_A2006-15)
- model appropriate public appearance (QCC) (GTIN_A2006-16)
- obtain a work permit (QCC) (GTIN_A2006-17)
- develop and modify work training agreements (QCC) (GTIN_A2006-18)
- acquire job specific content and knowledge (QCC) (GTIN_A2006-19)
- model desirable work traits (QCC) (GTIN_A2006-20)
- model cooperative behavior with coworkers (QCC) (GTIN_A2006-21)
- adapt to the work environment (QCC) (GTIN_A2006-22)
- perform an acceptable volume of work in a job setting (QCC) (GTIN_A2006-23)
- examine self-aptitude, interests, and attitudes (QCC) (GTIN_A2006-24)
- prepare for the interview process (QCC) (GTIN_A2006-25)
- complete appropriate job-related documents (QCC) (GTIN_A2006-26)
- establish short- and long-term goals (QCC) (GTIN_A2006-27)
- set, pursue, and attain goals in a work setting (QCC) (GTIN_A2006-28)
- perform job duties accurately and professionally (QCC) (GTIN_A2006-29)
- manage money and time using appropriate techniques (QCC) (GTIN_A2006-30)
- speak with proper articulation and pronunciation to communicate ideas (QCC) (GTIN_A2006-31)
- prepare speaking outlines (QCC) (GTIN_A2006-32)
- make oral presentations (QCC) (GTIN_A2006-33)
- identify and demonstrate appropriate work habits (QCC) (GTIN_A2006-34)
- accomplish tasks independently, accept constructive criticism and work cooperatively in a team-based environment (QCC) (GTIN_A2006-35)
- document and cite sources for presentations (QCC) (GTIN_A2006-36)
- utilize a day planner or other organizing system to structure job tasks and manage time to meet deadlines (QCC) (GTIN_A2006-37)

Aeroscholars Aviation Ground School

A - Introduction to Flight

- describe aviation resources, historical development, and basic aerodynamic principles involved in flight (GPS) (MXAA_A2009-1)
- describe the airframe, power plant, and instruments of an aircraft (GPS) (MXAA_A2009-2)
- analyze the historical and technological influences that helped shape the development of aviation (GPS) (MXAA_A2009-3)
- describe the relationship between the entities involved in the airspace system (GPS) (MXAA_A2009-4)

B - Advanced Principles

- analyze the factors that affect aircraft performance (GPS) (MXAA_B2009-5)
- utilize available resources for flight planning (GPS) (MXAA_B2009-6)
- explore careers available in aviation (GPS) (MXAA_B2009-7)

Aviation Meteorology

A - Dynamics

- identify the climate and seasonal changes of the Earth's atmosphere (GPS) (MXAM_A2009-1)
- describe the relationship between air pressure, temperature, and density (GPS) (MXAM_A2009-2)
- operate and employ weather technology and terminology (GPS) (MXAM_A2009-3)
- describe mid-latitude weather patterns and systems (GPS) (MXAM_A2009-4)
- apply techniques to analyze and forecast weather data (GPS) (MXAM_A2009-5)

B - Aviation Applications

- define aviation weather codes and terminology (GPS) (MXAM_B2009-6)
- apply atmospheric dynamics to aeronautical components (GPS) (MXAM_B2009-7)
- identify aviation weather hazards (GPS) (MXAM_B2009-8)

Fundamentals of Aviation

A - Science as Inquiry

- utilize scientific inquiry to analyze explanations and models as applied to aerospace (GPS) (MXFA_A2009-1)

B - Physical Science

- analyze the structure and properties of matter; laws of motion, force, and universal gravitation as they apply to flight; and conservation of energy and interactions of energy and matter (GPS) (MXFA_B2009-2)

C - Earth and Space Science

- describe how energy in the earth's system affects climate and identify ways weather affects flight (GPS) (MXFA_C2009-3)

D - Science and Technology

- describe how technology is used to solve societal problems, often resulting in new scientific knowledge, and identify emerging technologies incorporated in the aerospace industry (GPS) (MXFA_D2009-4)

E - History and Nature of Science

- describe the importance of the global contributions of individuals and teams to aerospace (GPS) (MXFA_E2009-5)

Navigation and Communication

A - Navigation

- identify tools of basic, radio, and advanced navigation (GPS) (MXNC_A2009-1)
- demonstrate appropriate aviation measurements and calculations (GPS) (MXNC_A2009-2)
- analyze basic aeronautical charts and their application to flight planning (GPS) (MXNC_A2009-3)
- analyze the complexities of operating in three-dimensional space (GPS) (MXNC_A2009-4)
- students will incorporate navigation and communication tools to create a flight plan (GPS) (MXNC_A2009-5)

B - Navigation and Communication

- incorporate standard aviation vocabulary, phraseology, and acronyms for communications (GPS) (MXNC_B2009-6)
- utilize current weather information when creating a flight plan (GPS) (MXNC_B2009-7)
- describe the various roles of air traffic control in the airspace system (GPS) (MXNC_B2009-8)

Aircraft Support/Aviation Maintenance I

A -

- demonstrate the ability to solve mathematical problems (GPS) (MXMA_A2010-1)
- identify parts or systems of an aircraft where Boyle's, Charles' and/or Pascal's Laws apply (GPS) (MXMA_A2010-2)
- calculate force, area, or pressure in a specific application (GPS) (MXMA_A2010-3)
- identify one or more methods of heat transfer in aircraft systems and where and how heat damage may occur when performing aircraft maintenance (GPS) (MXMA_A2010-4)
- determine which of the five forces/stresses are acting on an aircraft or aircraft parts at specific points under given conditions (GPS) (MXMA_A2010-5)
- design a simple machine (on paper) that uses one or more methods of mechanical advantage (GPS) (MXMA_A2010-6)
- interpret aircraft drawings (GPS) (MXMA_A2010-7)
- apply aerodynamic principles and solve problems related to aerodynamics (GPS) (MXMA_A2010-8)

Aircraft Support/Aviation Maintenance II

A -

- solve weight and balance problems (GPS) (MXMN_A2010-1)
- evaluate and analyze technical drawing and blueprints related to the aircraft industry (GPS) (MXMN_A2010-2)
- weigh equipment, prepare, and setup according to manufacturer's instructions (GPS) (MXMN_A2010-3)
- locate procedures for leveling and the leveling points for an aircraft (GPS) (MXMN_A2010-4)
- locate weight points and procedures for determining CG and determine the weight point arms for an aircraft (GPS) (MXMN_A2010-5)
- identify tare items for a specific aircraft and weighing procedure (GPS) (MXMN_A2010-6)
- find the datum for at least two different aircraft (GPS) (MXMN_A2010-7)

A – ***(continued)***

- determine the weight and location of required ballast after an (actual and hypothetical) equipment change (GPS) (MXMN_A2010-8)
- select and install standard aircraft hardware to include one or more self-locking nuts (GPS) (MXMN_A2010-9)
- select, install, and secure a clevis bolt and associated hardware (GPS) (MXMN_A2010-10)
- select and install one or more appropriate screws/bolts, nuts, cotter pins, and washers (GPS) (MXMN_A2010-11)
- inspect hardware for defects and proper installation (GPS) (MXMN_A2010-12)
- safety a turnbuckle (GPS) (MXMN_A2010-13)
- identify rivets by physical characteristics (GPS) (MXMN_A2010-14)
- start, ground operate, move, service, and secure aircraft (GPS) (MXMN_A2010-15)
- identify typical ground operation hazards (GPS) (MXMN_A2010-16)
- inspect a battery and installed battery system (GPS) (MXMN_A2010-17)
- accomplish a battery state-of-charge (hydrometer) and/or electrical leak (cell imbalance) test (GPS) (MXMN_A2010-18)
- accomplish removal and/or installation of a battery in an aircraft (GPS) (MXMN_A2010-19)
- setup and connect a charger to one or more batteries for constant current and/or constant voltage charging (GPS) (MXMN_A2010-20)

Chassis System and Design

A -

- apply knowledge of general suspension and steering systems, diagnosis, and repair (GPS) (MXCS_A2009-1)
- apply principles of geometry in diagnosis, adjustment, and repair of steering systems (GPS) (MXCS_A2009-2)
- identify and define chassis materials and components (GPS) (MXCS_A2009-3)
- apply knowledge of hydraulic system diagnosis and repair (GPS) (MXCS_A2009-4)
- apply knowledge of brake diagnosis and repair (GPS) (MXCS_A2009-5)
- apply knowledge of related physical science principles (GPS) (MXCS_A2009-6)
- identify hybrid vehicle power steering system electrical circuits, service, and safety precautions (GPS) (MXCS_A2009-7)

Electrical/Electronic Systems and Design

A -

- apply principles of general electrical concepts, diagnosis, and repair (GPS) (MXES_A2009-1)
- apply principles of battery concepts, diagnosis, and repair (GPS) (MXES_A2009-2)
- apply principles of starting system concepts, diagnosis, and repair (GPS) (MXES_A2009-3)
- apply principles of charging system concepts, diagnosis, and repair (GPS) (MXES_A2009-4)
- apply principles of lighting systems concepts, diagnosis, and repair (GPS) (MXES_A2009-5)
- apply principles of gauges, warning devices, and driver information (GPS) (MXES_A2009-6)
- apply principles of electrical accessory systems, diagnosis, and repair (GPS) (MXES_A2009-7)
- apply and recall related physical science principles (GPS) (MXES_A2009-8)
- locate and disconnect (un-plug) hybrid vehicle high voltage circuit (GPS) (MXES_A2009-9)
- observe location and apply safety procedures (GPS) (MXES_A2009-10)

Engine Performance Concepts

A -

- apply knowledge of general engine diagnosis (GPS) (MXEP_A2009-1)
- apply knowledge of computerized engine controls concepts, diagnosis, and repair (GPS) (MXEP_A2009-2)
- apply knowledge of ignition system concepts, diagnosis, and repair (GPS) (MXEP_A2009-3)
- identify hybrid vehicle internal combustion engine service precautions (GPS) (MXEP_A2009-4)
- demonstrate knowledge of fuel, air induction, and exhaust systems concepts, diagnosis, and repair (GPS) (MXEP_A2009-5)
- demonstrate knowledge of emissions control systems concepts, diagnosis, and repair (GPS) (MXEP_A2009-6)
- demonstrate knowledge of engine-related service (GPS) (MXEP_A2009-7)
- demonstrate knowledge of related physical science principles (GPS) (MXEP_A2009-8)
- demonstrate knowledge of alternative fuel sources (GPS) (MXEP_A2009-9)

Foundations of Transportation and Logistics

A -

- identify and apply automotive service safety procedures (GPS) (MXLT_A2009-1)
- identify contemporary automotive shop operation, tools, and equipment (GPS) (MXLT_A2009-2)
- describe shop organization, management, and workflow systems (GPS) (MXLT_A2009-3)
- describe and explain the properties of electricity (GPS) (MXLT_A2009-4)
- demonstrate knowledge of related physical science principles (GPS) (MXLT_A2009-5)
- apply and use electronic and published reference materials (GPS) (MXLT_A2009-6)
- explain mechanical systems (GPS) (MXLT_A2009-7)
- analyze transportation entrepreneurship management (GPS) (MXLT_A2009-8)
- exhibit appropriate oral and written communication on personal and professional levels (GPS) (MXLT_A2009-9)
- determine problem-solving strategies (GPS) (MXLT_A2009-10)

Introduction to Collision Repair and Refinish

A -

- comply with personal and environmental safety practices associated with clothing and the use of gloves, respiratory protection, eye protection, hand tools, power tools, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and environmental regulations (GPS) (MXCR_A2010-1)
- explore the different areas of the collision repair industry (GPS) (MXCR_A2010-2)
- identify and correctly use power tools and hand tools used in collision repair (GPS) (MXCR_A2010-3)
- perform basic metal repair techniques (GPS) (MXCR_A2010-4)
- identify the most common types of plastic used in automotive construction and be able to perform simple repairs (GPS) (MXCR_A2010-5)
- identify the types of vehicle construction and know the advantages and disadvantages of each (GPS) (MXCR_A2010-6)
- identify and explain the differences in the different type of refinish material used in the automotive refinish industry as well as demonstrating basic spray techniques (GPS) (MXCR_A2010-7)
- read and write both simple handwritten and computer generated estimates (GPS) (MXCR_A2010-8)

Non-Structural Analysis and Damage Repair I

A -

- comply with personal and environmental safety practices associated with clothing and the use of gloves, respiratory protection, eye protection, hand tools, power tools, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and environmental regulations (GPS) (MXCN_A2010-1)
- generate an overall repair plan for any repair(s) needed (GPS) (MXCN_A2010-2)
- replace, align, straighten, or service any exterior panel on a vehicle (GPS) (MXCN_A2010-3)
- straighten steel body panels with appropriate tools (GPS) (MXCN_A2010-4)

Non-Structural Analysis and Damage Repair II

A -

- comply with personal and environmental safety practices associated with clothing and the use of gloves, respiratory protection, eye protection, hand tools, power tools, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and environmental regulations (GPS) (MXCD_A2010-1)
- remove and replace vehicle glass according to manufacturer's instructions (GPS) (MXCD_A2010-2)
- apply Mig Welding techniques to Auto Collision Repair (GPS) (MXCD_A2010-3)
- identify the type of plastics used on vehicles and repair them with manufacturer approved methods (GPS) (MXCD_A2010-4)

Painting and Refinishing I

A -

- comply with personal and environmental safety practices associated with clothing and the use of gloves, respiratory protection, eye protection, hand tools, power tools, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and environmental regulations (GPS) (MXCP_A2010-1)
- prepare a surface to be refinished (GPS) (MXCP_A2010-2)
- inspect, remove, store, and replace exterior trim and components necessary for proper surface preparation (GPS) (MXCP_A2010-3)
- inspect and identify substrate, type of finish, surface condition, and film thickness (GPS) (MXCP_A2010-4)
- develop and document a plan for refinishing using a total product system (GPS) (MXCP_A2010-5)
- apply suitable metal treatment or primer in accordance with the paint system used (GPS) (MXCP_A2010-6)
- mask and protect all other areas that are not being refinished (GPS) (MXCP_A2010-7)
- apply suitable sealer to area being refinished when sealer is either needed or desirable (GPS) (MXCP_A2010-8)
- restore corrosion-resistant coatings, caulking, and seam sealer to repaired areas (GPS) (MXCP_A2010-9)
- prepare adjacent panels for blending (GPS) (MXCP_A2010-10)
- identify parts of a paint gun and be able to disassemble and reassemble a paint gun after cleaning (GPS) (MXCP_A2010-11)

Painting and Refinishing II

A -

- comply with personal and environmental safety practices associated with clothing and the use of gloves, respiratory protection, eye protection, hand tools, power tools, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and environmental regulations (GPS) (MXC2_A2010-1)
- mix and apply refinish material according to the paint manufacturer's instructions (GPS) (MXC2_A2010-2)
- apply various refinish materials using appropriate spray techniques (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap) for the finish being applied (GPS) (MXC2_A2010-3)
- identify and determine the cause and correct the condition of many common paint defects (GPS) (MXC2_A2010-4)
- final detail a vehicle that will be returned to a customer (GPS) (MXC2_A2010-5)

Carpentry I

A -

- know, understand, and apply general construction and specific OSHA and EPA safety concepts and practices (GPS) (MXC1_A2009-1)
- use tools and equipment in a professional and safe manner (GPS) (MXC1_A2009-2)
- become familiar with the selection, handling, storage, and proper use of construction materials used in site layout and floors and wall construction (GPS) (MXC1_A2009-3)
- read, interpret, apply information, and estimate costs from a variety of architectural and construction working drawings (GPS) (MXC1_A2009-4)
- know and understand the materials, processes, and safety related to all cement and concrete products (GPS) (MXC1_A2009-5)
- know and understand the concepts and practices of basic site layout and footings (GPS) (MXC1_A2009-6)
- understand proper and necessary carpentry tasks that enable a team to construct floor and wall systems (GPS) (MXC1_A2009-7)

Introduction to Construction

A -

- explain the history and traditions of the four building trades (GPS) (MXIC_A2009-1)
- identify and use the basic tools used in the four building trades (GPS) (MXIC_A2009-2)
- differentiate between the four building trade's plans and specifications (GPS) (MXIC_A2009-3)

Masonry I

A -

- know, understand, and apply general construction and specific OSHA and EPA safety concepts and practices (GPS) (MXM1_A2009-1)
- use masonry tools and equipment in a professional and safe manner (GPS) (MXM1_A2009-2)
- become familiar with the selection, handling, storage, and proper use of masonry materials (GPS) (MXM1_A2009-3)
- read, interpret, apply information, and estimate costs from a variety of architectural and construction working drawings (GPS) (MXM1_A2009-4)

Occupational Safety and Fundamentals

A -

- apply and practice construction safety (GPS) (MXOS_A2009-1)
- understand and apply math concepts as applied to construction (GPS) (MXOS_A2009-2)
- use basic hand and power tools in a professional and safe manner (GPS) (MXOS_A2009-3)
- explain knowledge of blueprint terms, components, and symbols (GPS) (MXOS_A2009-4)
- explain and implement safe rigging procedures (GPS) (MXOS_A2009-5)
- explore career pathways in the construction industry (GPS) (MXOS_A2009-6)

Cosmetology - Core I

A - State and Local Laws, Rules, and Regulations

- classify the history of cosmetology and the origins of hairstyling and barbering (GPS) (MXCB_A2010-1)
- explain the requirements for different types of cosmetology licenses, hours required, and a breakdown of units of study for the different licenses (GPS) (MXCB_A2010-2)
- identify sanitation requirements for the salon and schools (GPS) (MXCB_A2010-3)
- list the career opportunities available to a licensed beauty practitioner (GPS) (MXCB_A2010-4)
- summarize and define personal and public hygiene, ethics, human relations, and ergonomic principles (GPS) (MXCB_A2010-5)

B - Infection Control

- evaluate and apply the regulations of infection control (principles, prevention, procedures, and precautions) (GPS) (MXCB_B2010-6)
- demonstrate safety rules when mixing disinfectants, using electrical equipment, facial implements, and machines (GPS) (MXCB_B2010-7)

C - Chemistry in Cosmetology

- explain, describe, and list the basic components of chemistry in cosmetology (GPS) (MXCB_C2010-8)
- differentiate shampoos and conditioners for a variety of hair types, using the pH scale (GPS) (MXCB_C2010-9)
- demonstrate the technique for shampooing and scalp and hair treatments (GPS) (MXCB_C2010-10)

D - Anatomy and Physiology

- demonstrate a working knowledge of anatomy as it relates to massage in facials, manicures, and pedicures (GPS) (MXCB_D2010-11)

E - Introduction to Chemical Texturing

- describe the chemical reaction of chemical hair texture services (GPS) (MXCB_E2010-12)
- explain the purpose of a scalp and hair analysis in relation to the chemical service (GPS) (MXCB_E2010-13)

F - Histology of the Skin, Hair, and Scalp

- identify the basic histology of the hair and skin, their diseases and disorders, and corrective treatments (GPS) (MXCB_F2010-14)
- describe the structure and function of the human skin in order to analyze and perform the types of services required for a specific skin condition (GPS) (MXCB_F2010-15)

Cosmetology - Core II

A - Safety and Infection Control

- maintain a safe work environment and prevent accidents by using safety precautions and/or practices including adherence to hazardous labeling requirements and compliance with safety signs, symbols, and labels (GPS) (MXCE_A2010-1)
- understand and apply infection control guidelines including techniques for sanitation, disinfection, and sterilization (GPS) (MXCE_A2010-2)

B - Hair Styling

- apply the fundamental theory and skills required to shampoo and create various hair styles and shapes (GPS) (MXCE_B2010-3)

C - Haircutting

- apply techniques of hair cutting and styling (GPS) (MXCE_C2010-4)

Cosmetology - Core III

A - Safety and Infection Control

- maintain a safe work environment and prevent accidents by using safety precautions and/or practices including adherence to hazardous labeling requirements and compliance with safety signs, symbols, and labels (GPS) (MXCF_A2010-1)
- understand and apply infection control guidelines including techniques for sanitation, disinfection, and sterilization (GPS) (MXCF_A2010-2)

B - Lash and Brow Tints

- describe lash and brow tinting (GPS) (MXCF_B2010-3)
- demonstrate color theory including law of color, primary, secondary, tertiary, complementary colors, natural levels, and contributing pigment levels by creating different haircolor activities (GPS) (MXCF_B2010-4)
- describe a proper haircolor consultation and color formulations (GPS) (MXCF_B2010-5)
- distinguish between different haircolor developers and levels of lift in haircolor (GPS) (MXCF_B2010-6)
- discuss advanced haircolor formulations and applications for lighteners and gray coverage (GPS) (MXCF_B2010-7)
- describe when to use the recommended techniques and formulations for corrective haircolor (GPS) (MXCF_B2010-8)

C - Intermediate Chemical Texturing

- evaluate the physical and chemical reactions of permanent waves and how the hair is altered in a permanent wave service (GPS) (MXCF_C2010-9)
- compare and contrast the different types of permanent waves, ingredients, process, recommended hair types, advantages, and disadvantages of each perm (GPS) (MXCF_C2010-10)
- demonstrate a professional client consultation for a permanent wave service (GPS) (MXCF_C2010-11)
- discriminate between different perm tools for various perm wraps according to the desired results (GPS) (MXCF_C2010-12)

D - Chemical Hair Relaxing

- explain the chemistry of hair relaxing and types of relaxers (GPS) (MXCF_D2010-13)
- perform client consultations for hair relaxer services including hair analysis and correct product selection (GPS) (MXCF_D2010-14)
- demonstrate timed relaxer applications using mannequins or clients (GPS) (MXCF_D2010-15)

Cosmetology - Core IV

A - Safety and Infection Control

- maintain a safe work environment and prevent accidents by using safety precautions and/or practices including adherence to hazardous labeling requirements and compliance with safety signs, symbols, and labels (GPS) (MXCG_A2010-1)
- understand and apply infection control guidelines including techniques for sanitation, disinfection, and sterilization (GPS) (MXCG_A2010-2)

B - Skin, Scalp, and Hair

- perform scalp and hair treatments (GPS) (MXCG_B2010-3)

B - Skin, Scalp, and Hair *(continued)*

- perform a skin analysis and provide services suitable for the client's individual skin care needs (GPS) (MXCG_B2010-4)

C - Intermediate Hairstyling

- perform thermal hair curling techniques on clients/mannequins with appropriate tools (GPS) (MXCG_C2010-5)
- demonstrate the technique of thermal hair pressing (GPS) (MXCG_C2010-6)
- perform blow-dry styling techniques to achieve desired style (GPS) (MXCG_C2010-7)
- provide hair services including shampoo and styling of different types of artificial hair (GPS) (MXCG_C2010-8)

D - Nail Care Services

- distinguish between nail disorders and irregularities of the nail as well as recognize the need to refer clients to a physician (GPS) (MXCG_D2010-9)
- perform nail care services to include manicures and pedicures (hand, arm, and foot massages) (GPS) (MXCG_D2010-10)
- perform acrylic (methacrylate) nail enhancement services including nail tips, nail forms, and overlays (GPS) (MXCG_D2010-11)

Advanced Cosmetology Services

A - Safety and Infection Control

- maintain a safe work environment and prevent accidents by using safety precautions and/or practices including adherence to hazardous labeling requirements and compliance with safety signs, symbols, and labels (GPS) (MXCA_A2010-1)
- understand and apply infection control guidelines including techniques for sanitation, disinfection, and sterilization (GPS) (MXCA_A2010-2)

B - Advanced Nail Techniques

- demonstrate the pre-service and post-service steps for artificial nail applications (GPS) (MXCA_B2010-3)
- demonstrate procedures for sculpture nails, tips with acrylic overlay, fabric wraps, gel nails, and dipped nails (GPS) (MXCA_B2010-4)
- create wearable and competitive nail art using a variety of techniques (GPS) (MXCA_B2010-5)

C - Chemical Texturing Services

- consult with clients to determine their needs and preferences (GPS) (MXCA_C2010-6)
- perform permanent wave techniques in accordance with manufacturers' directions (GPS) (MXCA_C2010-7)
- explain the difference between giving a perm to virgin hair and hair that has been previously treated with color or lightening products (GPS) (MXCA_C2010-8)

D - Advanced Styling and Shaping Principles

- create various wearable and marketable day, evening, and formal hairstyles on live models/mannequins using hair design principles (GPS) (MXCA_D2010-9)
- design and create competitive hairstyles (GPS) (MXCA_D2010-10)
- perform advanced shaping techniques (GPS) (MXCA_D2010-11)

Health, Safety, and Nutrition for the Young Child

A - Employment Opportunities and Professional Issues

- analyze employment opportunities and professional characteristics for the field of early childhood education (GPS) (MXSN_A2009-1)

B - Safety

- provide a safe environment for children (GPS) (MXSN_B2009-2)

C - Health

- provide a healthy environment for children (GPS) (MXSN_C2009-3)

D - Nutrition

- plan, prepare, and serve nutritious food based on USDA standards to promote children's growth and development (GPS) (MXSN_D2009-4)

E - Child Abuse

- identify symptoms of and protocol for reporting abuse and neglect of young children (GPS) (MXSN_E2009-5)

F - Communicable Illnesses

- identify communicable disease process (GPS) (MXSN_F2009-6)
- demonstrate infection control procedures (GPS) (MXSN_F2009-7)

G - Creating Quality Environments

- identify components of a safe environment in an early childhood setting (GPS) (MXSN_G2009-8)
- develop lesson plans for teaching health and safety concepts that meet DHR/Bright from the Start/OSHA standards (GPS) (MXSN_G2009-9)

Human Growth and Development for Early Childhood

A - Career Decisions

- analyze possible career decisions that reflect personal, family, and career goals (GPS) (MXHG_A2009-1)

B - Newborn Growth, Development, and Care

- explore the growth, development, and care of the newborn (GPS) (MXHG_B2009-2)

C - Infant Growth, Development, and Care

- analyze the growth, development, and care of the infant (GPS) (MXHG_C2009-3)

D - Toddler Growth and Development

- investigate the growth and development of the toddler (GPS) (MXHG_D2009-4)

E - Preschool Child Growth and Development

- examine the growth and development of the preschool child (GPS) (MXHG_E2009-5)

F - Observation

- observe and assess behavior and development of children (GPS) (MXHG_F2009-6)

G - Developmentally Appropriate Practice in a Learning Environment

- identify characteristics of age-appropriate curriculum (GPS) (MXHG_G2009-7)
- describe a well-organized environment conducive to student learning (GPS) (MXHG_G2009-8)
- identify appropriate materials and equipment for a child care center (GPS) (MXHG_G2009-9)
- analyze ways to encourage and guide the creative development of children ages birth to five years of age (GPS) (MXHG_G2009-10)
- describe an appropriate daily routine in an early childhood setting (GPS) (MXHG_G2009-11)

H - Guidance Techniques

- identify developmentally appropriate guidance techniques in an early childhood education (GPS) (MXHG_H2009-12)

I - Introduction to Children with Special Needs

- identify various aspects of working with special needs children (GPS) (MXHG_I2009-13)

Introduction to Early Childhood Care and Education

A - Career Paths

- analyze career paths within the early childhood education field (GPS) (MXCC_A2009-1)

B - Historical Perspective

- identify major contributors to the field of early childhood care and education and analyze their implications for educational and childcare practices (GPS) (MXCC_B2009-2)

C - Professional Work Ethics

- identify and practice professional work ethics (GPS) (MXCC_C2009-3)

D - Guidance and Collaborative Relationships

- demonstrate techniques for positive collaborative relationships with children (GPS) (MXCC_D2009-4)

E - Cultural Diversity and Special Needs

- explain appropriate methods of responding to cultural diversity in the learning environment (GPS) (MXCC_E2009-5)
- determine ways to adapt the curriculum and classroom for children with special needs (GPS) (MXCC_E2009-6)

F - Routines and Transitional Activities

- create and utilize routines and transitional techniques with children (GPS) (MXCC_F2009-7)

G - Program Management and Curriculum

- demonstrate integration of curriculum and instruction to meet children's developmental needs and interests (GPS) (MXCC_G2009-8)

H - Learning Environments

- determine components of a well-organized, developmentally appropriate learning environment (GPS) (MXCC_H2009-9)

I - Licensing and Accreditation

- analyze licensing and accreditation standards (GPS) (MXCC_I2009-10)

J - Professional Portfolio Guidelines

- demonstrate professional development planning (GPS) (MXCC_J2009-11)

Criminal Investigation and Forensics

A - Forensics: An Introduction and Analysis
- explore the role and responsibilities of the forensic scientist (GPS) (MXIF_A2009-1)

B - Identification, Collection, and Examination of Trace Evidence
- analyze and understand the significance of hairs, fibers, paint, glass, soil, and blood spatter to a forensic investigation (GPS) (MXIF_B2009-2)

C - Fingerprints
- demonstrate methods of fingerprint development (GPS) (MXIF_C2009-3)

D - Impressions Evidence
- recognize the importance of impressions evidence and how that evidence is used in a criminal investigation (GPS) (MXIF_D2009-4)

E - The Body as Evidence
- analyze the methods involved when using the body as evidence for a criminal investigation (GPS) (MXIF_E2009-5)

F - Serology and DNA
- describe the evidentiary value of human body evidence (GPS) (MXIF_F2009-6)

G - Drugs and Toxicology
- analyze how substances in the body are identified (GPS) (MXIF_G2009-7)

H - Interviews and Interrogations
- demonstrate basic interview techniques (GPS) (MXIF_H2009-8)

I - Notes, Reports, and Legal Issues
- complete concise investigative reports (GPS) (MXIF_I2009-9)

J - Preliminary Investigation and Preserving the Crime Scene
- demonstrate skills necessary for crime scene investigation (GPS) (MXIF_J2009-10)

K - Conducting a Homicide Investigation
- demonstrate the ability to conduct a homicide investigation (GPS) (MXIF_K2009-11)

L - Criminological Theory
- examine various approaches to explain crime (GPS) (MXIF_L2009-12)

M - Serial Criminals
- describe the importance of criminal profiling as well as the role of the profiler in an investigation (GPS) (MXIF_M2009-13)

N - Organized Crime
- explore and explain organized crime (GPS) (MXIF_N2009-14)

Introduction to Law and Justice

A - Careers in Law and Justice

- recognize and evaluate the career opportunities that are available in criminal justice and public safety professions including employment requirements (GPS) (MXLJ_A2009-1)

B - Overview of the Criminal Justice System

- describe the relationship among police, courts, and corrections (GPS) (MXLJ_B2009-2)
- investigate the dangers associated with various law and justice professions (GPS) (MXLJ_B2009-3)

C - Basic Criminal and Constitutional Law

- analyze the structure of the government and the court system (GPS) (MXLJ_C2009-4)
- identify criminal laws used frequently in the criminal justice system (GPS) (MXLJ_C2009-5)

D - Police Reports

- complete various law enforcement reports and documents with accuracy (GPS) (MXLJ_D2009-6)

E - Use of Force

- investigate how force is used by law and justice professionals (GPS) (MXLJ_E2009-7)

F - Approach and Arrest of Suspects

- demonstrate proper protocol in communication, coordination, and control when approaching and arresting suspects (GPS) (MXLJ_F2009-8)

G - Patrol Operations

- analyze the purpose and importance of patrol operations within a police agency (GPS) (MXLJ_G2009-9)
- explain proper police response to both unknown and high risk traffic stops (GPS) (MXLJ_G2009-10)

H - Traffic Codes and Investigations

- describe appropriate traffic enforcement and accident investigations (GPS) (MXLJ_H2009-11)

I - Community Policing, Conflict Resolution, and Cultural Diversity

- describe the procedures involved in community policing (GPS) (MXLJ_I2009-12)
- utilize conflict resolution in role play (GPS) (MXLJ_I2009-13)
- analyze cultural differences that may have an impact on participants in the criminal justice system (GPS) (MXLJ_I2009-14)

J - Sentencing and Correctional Issues

- explain and evaluate the various purposes and different types of sentences (GPS) (MXLJ_J2009-15)
- describe American corrections (GPS) (MXLJ_J2009-16)

K - Agency Administration

- analyze police mission, operational strategies, and police management and styles (GPS) (MXLJ_K2009-17)

L - Ethics in Law and Justice

- investigate and evaluate the role of ethics in policing (GPS) (MXLJ_L2009-18)

Law, Community Response, and Policing

A - Careers in Law and Justice
- explore the different careers available in the field of law and justice (GPS) (MXLP_A2009-1)

B - The History and Structure of the American Legal System
- explain the history and characteristics of the structure of the American court system (GPS) (MXLP_B2009-2)
- identify and explain the various roles of courtroom participants (GPS) (MXLP_B2009-3)

C - Federal and Georgia Criminal Law
- analyze state and federal criminal codes (GPS) (MXLP_C2009-4)

D - Constitutional Law
- explain the importance of the United States and Georgia constitutions and the basic protections and restrictions guaranteed by the Bill of Rights (GPS) (MXLP_D2009-5)
- evaluate major United States Supreme Court decisions as they apply to the role and function of law enforcement (GPS) (MXLP_D2009-6)
- identify how constitutions define the structure of government and the rights of citizens (GPS) (MXLP_D2009-7)

E - Criminal Procedure
- recognize and explain constitutional limitations to proper prosecutorial procedure (GPS) (MXLP_E2009-8)

F - Pre-Trial Procedures
- explore the roles of each participant in the pre-trial process (GPS) (MXLP_F2009-9)

G - Juries, Trial Procedures, and Examinations
- explain how juries are selected (GPS) (MXLP_G2009-10)
- conduct a mock trial (GPS) (MXLP_G2009-11)

H - Post Trial Legal Procedures
- examine the post-trial process (GPS) (MXLP_H2009-12)

I - Civil Law
- define civil law and cite examples of the primary areas of civil law (GPS) (MXLP_I2009-13)
- identify the functions of civil lawsuits (GPS) (MXLP_I2009-14)
- advocate for a particular issue in a mock civil hearing (GPS) (MXLP_I2009-15)
- apply civil law to law enforcement (GPS) (MXLP_I2009-16)

J - Community Emergency Response Team (CERT) Training
- discuss the following disaster preparedness/emergency management agencies, including but not limited to: Department of Homeland Security, Federal Emergency Management Agency (FEMA), Citizens Corps, and Georgia Emergency Management Agents (GEMA) (GPS) (MXLP_J2009-17)
- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXLP_J2009-18)
- identify the types of hazards most likely to affect homes and communities and describe steps to prepare for emergencies (GPS) (MXLP_J2009-19)
- describe the various origins of fire, classes of fire, and the correct means to extinguish each type of fire (GPS) (MXLP_J2009-20)
- identify and treat injuries of victims in a simulated disaster or emergency situation (GPS) (MXLP_J2009-21)
- analyze the components of an effective search and rescue operation (GPS) (MXLP_J2009-22)

J – Community Emergency Response Team (CERT) Training *(continued)*

- evaluate techniques for managing intra-personal reactions to crisis situations to assist in effectively meeting the needs of the victims and rescuers (GPS) (MXLP_J2009-23)
- define terrorism and explore the cause and effect relationship (GPS) (MXLP_J2009-24)

K - Advanced Police Skills and Tactics

- develop and demonstrate safety skills in law enforcement including the use of force (GPS) (MXLP_K2009-25)

Emergency Services

A - Overview of the Public Safety System

- describe the public safety system (GPS) (MXGP_A2010-1)

B - History of Emergency Services

- create a timeline of the history of emergency services (GPS) (MXGP_B2010-2)

C - First Aid

- demonstrate basic first aid skills (GPS) (MXGP_C2010-3)

D - Fire Science Organization and Procedures

- describe the history, traditions, basic terminology, and organization of fire service (GPS) (MXGP_D2010-4)
- analyze the role, benefits, and/or drawbacks of national and state fire service organizations (GPS) (MXGP_D2010-5)
- describe fire department organization and procedures (GPS) (MXGP_D2010-6)

E - Firefighting

- describe the principles of fire chemistry (GPS) (MXGP_E2010-7)
- discuss rescue operations (GPS) (MXGP_E2010-8)
- describe the importance of firefighter safety (GPS) (MXGP_E2010-9)
- describe personal protective equipment used by firefighters (GPS) (MXGP_E2010-10)
- describe the importance of fire hoses, nozzles, portable lighting, appliances, and ladders (GPS) (MXGP_E2010-11)

F - Fire Prevention

- evaluate methods of preventing fires (GPS) (MXGP_F2010-12)
- describe safety procedures involved in the prevention of fires (GPS) (MXGP_F2010-13)

G - Hazmat - Hazardous Materials Overview

- examine hazardous materials from the perspective of a community threat response (GPS) (MXGP_G2010-14)

H - Emergency Prevention and Preparedness

- recommend improvements to community prevention and preparedness plans (GPS) (MXGP_H2010-15)

I - Disaster Simulation - Responder Role

- participate in a disaster simulation as a responder (GPS) (MXGP_I2010-16)

First Responder and Emergency Leadership

A - Introduction to Emergency Medical Care

- describe the Emergency Medical Services System, including personnel training, certification, and responsibilities (GPS) (MXGF_A2010-1)

B - Well-Being of the Emergency Medical Services Provider

- evaluate the necessity of scene safety, emotional well-being, and stress management of the emergency medical services provider (GPS) (MXGF_B2010-2)

C - Medical, Legal, and Ethical Issues

- analyze the legal and ethical issues of emergency medical services providers including first responders and all levels of emergency medical technicians (GPS) (MXGF_C2010-3)

D - Anatomy and Physiology

- describe the different systems of the body and how they relate to patient care (GPS) (MXGF_D2010-4)

E - Lifting and Moving

- utilize EMS equipment and demonstrate the proper implementation of lifting and moving patients (GPS) (MXGF_E2010-5)

F - Airway Management

- demonstrate the ability to manage an airway (GPS) (MXGF_F2010-6)

G - Scene Size-Up/Patient Assessment

- assess a patient's need for treatment (GPS) (MXGF_G2010-7)

H - Public Safety Communications

- communicate effectively through the various avenues within the EMS system (GPS) (MXGF_H2010-8)

I - Cardiovascular Emergencies

- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXGF_I2010-9)

J - Medical, Environmental, and Behavioral Emergencies

- assess and treat emergencies of a medical, environmental, and behavioral nature (GPS) (MXGF_J2010-10)

K - Trauma

- assess and treat patients with bleeding, soft-tissue, and musculoskeletal injuries (GPS) (MXGF_K2010-11)

L - Obstetrics/Gynecology

- recognize, assess, and treat obstetric and gynecological emergencies (GPS) (MXGF_L2010-12)

M - Infants and Children

- identify, assess, and treat infants and children with medical, traumatic, and environmental emergencies (GPS) (MXGF_M2010-13)

N - EMS Operations - Gaining Access/Extrication/Triage/Hazardous Materials

- demonstrate the ability to effectively manage a scene using components of access, extraction, triage, and hazardous materials (GPS) (MXGF_N2010-14)

O - Pharmacology/Oxygen Therapy

- describe the rules of pharmacology (e.g., giving and assisting with medications and routes of medications including proper techniques for use of oxygen therapy) (GPS) (MXGF_O2010-15)

P - Decision Making and Problem Solving

- identify problems and analyze circumstances of various response scenarios (GPS) (MXGF_P2010-16)

Q - Incident Command Systems

- discuss the command and control function of leadership and management positions within the various organizations (GPS) (MXGF_Q2010-17)

R - National Incident Management System

- discuss the history and implementation of the National Incident Management System (GPS) (MXGF_R2010-18)

S - Public Information and Communications

- identify technologies for emergency warning to the public (GPS) (MXGF_S2010-19)

T - Special Events Contingency Planning

- explore the differences in needs based on particular special events (GPS) (MXGF_T2010-20)

U - Emergency Management Exercise Design

- compare the resource needs to conduct successful exercises to include drills, tabletop, functional, and full scale exercises (GPS) (MXGF_U2010-21)

V - Disaster Simulation - Leadership Role

- discuss various methods of special effects in providing realism to disaster simulations (e.g., moulage, makeup, smoke, fire, and drama) (GPS) (MXGF_V2010-22)

W - Intelligence Collection and Analysis

- explore the use of computer technologies in information collection, analysis, and dissemination (GPS) (MXGF_W2010-23)

X - Trends in Emergency Management

- investigate the expanding role of emergency management in the coordination of the increased number of federal, state, and local agencies involved in response of various emergencies (GPS) (MXGF_X2010-24)

Homeland Security

A - Careers in Homeland Security:

- explore the different careers available in the field of Homeland Security (GPS) (MXGH_A2010-1)

B - Homeland Security Structure, Organization, and Jurisdiction

- explore the various Homeland Security agencies and departments for their structure and organization at each level of government (GPS) (MXGH_B2010-2)

C - Community Emergency Response Team (CERT) Training

- discuss the history and basic overview of the following disaster preparedness/emergency management agencies, including but not limited to Department of Homeland Security, Federal Emergency Management Agency (FEMA), Citizens Corps, and Georgia Emergency Management Agency (GEMA) (GPS) (MXGH_C2010-3)

C – Community Emergency Response Team (CERT) Training *(continued)*

- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXGH_C2010-4)
- identify the types of hazards most likely to affect his/her home and community and describe steps to prepare for emergencies (GPS) (MXGH_C2010-5)
- analyze the various origins of fire, classes of fires, and the correct means to extinguish each type of fire (GPS) (MXGH_C2010-6)
- identify and treat injuries of victims in a simulated disaster or emergency situation (GPS) (MXGH_C2010-7)
- analyze the components of an effective search and rescue operation (GPS) (MXGH_C2010-8)
- evaluate techniques for managing intra-personal reactions to emergency/disaster situations to assist in effectively meeting the needs of the victims and rescuers (GPS) (MXGH_C2010-9)
- define terrorism and identify common terrorist goals (GPS) (MXGH_C2010-10)

D - International Terrorism

- describe international terrorist organizations (GPS) (MXGH_D2010-11)
- identify techniques used in terrorist investigations (GPS) (MXGH_D2010-12)

E - Domestic Terrorism

- describe domestic terrorist organizations (GPS) (MXGH_E2010-13)
- identify domestic counter terrorism measures (GPS) (MXGH_E2010-14)

F - Terrorist Tactics

- identify methods used by terrorist organizations to accomplish their objectives (GPS) (MXGH_F2010-15)

G - Community Preparation for Terrorism

- create a terrorism preparation awareness plan for their community (GPS) (MXGH_G2010-16)

H - Constitutional Law, Criminal Law, and The Patriot Act

- apply constitutional law, criminal law, Presidential Directives, and other relevant laws to given legal scenarios (GPS) (MXGH_H2010-17)

I - Communications and Dispatch

- explain the various technologies that exist for the operation of public safety communications centers (GPS) (MXGH_I2010-18)
- demonstrate professional communication skills in a variety of situations (GPS) (MXGH_I2010-19)
- demonstrate the appropriate steps to follow when processing an emergency call (GPS) (MXGH_I2010-20)
- explain various types of calls that dispatchers might receive (GPS) (MXGH_I2010-21)
- describe the civil liability of a communications dispatcher (GPS) (MXGH_I2010-22)
- analyze stress and the effect it has on the human body (GPS) (MXGH_I2010-23)

Advanced Graphic Design

A - Portfolio

- recall constructive critiques, then collect and refine all previous graphic design projects to develop a professional portfolio (GPS) (MXGD_A2009-1)

B - Professional Practices

- identify and utilize ethical professional business practices and pricing guidelines as they relate to graphic design (GPS) (MXGD_B2009-2)

C - Employability Preparation

- research and determine the business markets, educational/career requirements, and performance fundamentals needed to acquire and maintain employment in the graphic design industry (GPS) (MXGD_C2009-3)

D - Advanced Problem Solving/Methodology

- research, identify, and understand the importance of developing a graphic design project from concept through completion (GPS) (MXGD_D2009-4)
- develop a comprehensive advertising campaign consisting of multiple print and web applications (GPS) (MXGD_D2009-5)
- identify and demonstrate the current procedures, terms, industry standard software applications, and equipment utilized to produce specific graphic design projects (GPS) (MXGD_D2009-6)

Graphic Design and Production

A - Color Theory and Principles

- explore and apply color as required by industry-related projects (GPS) (MXDP_A2009-1)
- initiate, analyze, and convert color models as projects require (GPS) (MXDP_A2009-2)
- explain and utilize digital and analog color model technology for printed and electronic output (GPS) (MXDP_A2009-3)
- explain and demonstrate appropriate use of design elements and principles for industry projects (GPS) (MXDP_A2009-4)
- identify and demonstrate a working knowledge of elements and principles (GPS) (MXDP_A2009-5)
- identify and utilize traditional and digital techniques as used in professional illustrations (GPS) (MXDP_A2009-6)
- apply proper digital typographic, page layout, document layout, and design procedures and techniques (GPS) (MXDP_A2009-7)
- appraise and apply effective communication skills as pertaining to supervision, collaboration, and customer relations (GPS) (MXDP_A2009-8)

B - Introduction to Career Paths and Opportunities in the Design Profession.

- research and determine the business markets, educational/career requirements, and performance fundamentals needed to acquire and maintain employment in the graphic design industry (GPS) (MXDP_B2009-9)

C - Digital File Preparation

- initiate, manipulate, and manage file formats and folder structure to successfully complete electronic and printed projects (GPS) (MXDP_C2009-10)
- identify and demonstrate the terminology, tools, equipment, and procedures for developing and preflighting digital files (GPS) (MXDP_C2009-11)

D - Introduction to Output Operations

- identify and correctly apply use of industry safety equipment, standards, organizations, and procedures (GPS) (MXDP_D2009-12)
- explore and identify the theories, techniques, systems, and controls of various output devices (GPS) (MXDP_D2009-13)
- prepare and output a project according to proper procedures and customer specifications (GPS) (MXDP_D2009-14)

E - Binding and Finishing

- organize the finishing and binding procedures and workflow for multipage documents with maximum efficiency (GPS) (MXDP_E2009-15)
- identify, explain, and utilize production binding equipment and procedures needed for efficient and safe completion of printed projects (GPS) (MXDP_E2009-16)
- identify, explain, and utilize production finishing equipment and processes needed for efficient and safe completion of printed projects (GPS) (MXDP_E2009-17)
- identify, demonstrate, and practice paper-cutting techniques in the safest and most efficient manner on various class projects (GPS) (MXDP_E2009-18)

F - Ink and Substrates

- identify and demonstrate use of terms, calculations, attributes, and procedures associated with paper (GPS) (MXDP_F2009-19)
- identify types of ink, their characteristics, and their appropriate uses (GPS) (MXDP_F2009-20)

G - Work Flow

- apply appropriate principles to the full cycle of customer relations management (GPS) (MXDP_G2009-21)
- devise and execute effective project management as it relates to preparing digital graphics files (GPS) (MXDP_G2009-22)
- devise and execute effective project management as it relates to output, finishing, and binding of a project (GPS) (MXDP_G2009-23)

Graphic Output Processes

A -

- demonstrate ability to complete projects in a professional, ethical, and customer-centered manner (GPS) (MXOP_A2009-1)
- investigate entrepreneurship as it relates to economic development (GPS) (MXOP_A2009-2)
- apply necessary skills to enter the industry including market research and portfolio development (GPS) (MXOP_A2009-3)
- produce industry projects while meeting job specifications on a schedule and with the most efficient use of resources (GPS) (MXOP_A2009-4)
- anticipate, manage, and intervene with proper pre-flight procedures for output (GPS) (MXOP_A2009-5)
- accurately analyze and manage business costs (GPS) (MXOP_A2009-6)
- exhibit appropriate customer relations management (GPS) (MXOP_A2009-7)
- develop and prepare industry projects from concept to completion (GPS) (MXOP_A2009-8)
- produce industry projects while meeting job specifications on a schedule and with the most efficient use of resources (GPS) (MXOP_A2009-9)
- utilize finishing procedures to complete an industry-level project (GPS) (MXOP_A2009-10)
- demonstrate digital resource organization and management necessary to generate and maintain industry projects (GPS) (MXOP_A2009-11)

Introduction to Graphics and Design

A - Professional Careers and Ethics

- describe the basic history, characteristics, limitations, future trends, and benefits of a career in the graphic communications and design industry (GPS) (MXIG_A2009-1)
- identify key developments and individuals relating to the history of the graphics and design industry and explore emerging trends and technologies (GPS) (MXIG_A2009-2)
- identify and utilize ethical professional business practices and pricing guidelines as they relate to graphic communications and design (GPS) (MXIG_A2009-3)
- describe the business markets, job opportunities, and potential advancements in the graphic communications industry (GPS) (MXIG_A2009-4)
- demonstrate employability skills as appropriate to the area of study (GPS) (MXIG_A2009-5)

B - Environmental Health and Safety

- identify industry safety equipment, standards, organizations, and procedures (GPS) (MXIG_B2009-6)
- research and identify safety and health procedures utilized in the classroom/lab environment (GPS) (MXIG_B2009-7)

C - Basic Math and Measurements for Graphic Communications

- demonstrate communication, mathematical, and science skills as applicable to the appropriate area of study (GPS) (MXIG_C2009-8)
- identify and demonstrate use of terms, calculations, and procedures associated with paper (GPS) (MXIG_C2009-9)
- identify the terms and procedures for digital pre-press and publishing (GPS) (MXIG_C2009-10)
- identify terms and procedures for typography (GPS) (MXIG_C2009-11)
- identify and apply proper pre-flight procedures for output processes (GPS) (MXIG_C2009-12)

D - Design and Layout

- apply proper digital page layout, document layout, and design procedures and techniques (GPS) (MXIG_D2009-13)
- apply acceptable use of design principles, color model use, and elements of design and layout (GPS) (MXIG_D2009-14)
- explain and utilize the file format technology of graphic communications and design (GPS) (MXIG_D2009-15)
- identify and demonstrate page layout terminology and tools (GPS) (MXIG_D2009-16)
- evaluate current graphics industry standard software applications as they apply to producing specific graphic communications and design projects (GPS) (MXIG_D2009-17)

E - Typography

- explore the origins of type by examining the evolution of letterforms (GPS) (MXIG_E2009-18)

F - Graphic Output Processes

- identify and explain the major printing processes and the uses for each (GPS) (MXIG_F2009-19)
- identify terms and procedures for typography (MXIG_F2009-20)
- demonstrate a working knowledge of current graphics industry standard software applications as they apply to producing specific graphic communications and design projects (GPS) (MXIG_F2009-21)

Applications in Health Informatics

A - Health Information Management and Career Planning

- analyze the role of health information management in healthcare organizations (GPS) (MXHI_A2010-1)
- analyze career opportunities within the Health Informatics pathway (GPS) (MXHI_A2010-2)
- engage in self-assessment, develop a detailed career plan, initiate portfolio development, and recognize the need for continuous self-assessment with goals modification in order to encourage personal and professional growth in the process of life-long learning (GPS) (MXHI_A2010-3)

B - Health Data Concepts

- outline the evolution of a client's medical record and analyze the purpose, utilization, ownership, and the value of data contents (GPS) (MXHI_B2010-4)

C - Medicolegal Principles and Risk Management

- analyze medicolegal concepts and risk management (GPS) (MXHI_C2010-5)

D - Communication Technology and Equipment

- demonstrate correct use of the telephone, fax, scanner, intercom, pager, and other office equipment (GPS) (MXHI_D2010-6)
- analyze key elements in types of documentation on the medical record (GPS) (MXHI_D2010-7)
- analyze different types of technical filing (GPS) (MXHI_D2010-8)
- discuss electronic health/medical records applications, maintenance, and storage (GPS) (MXHI_D2010-9)

E - Health Unit Coordination

- describe the role of the health unit coordinator in obtaining supplies and services (GPS) (MXHI_E2010-10)
- discuss the role of the health unit coordinator/unit secretary in transcribing orders (GPS) (MXHI_E2010-11)

F - Patient Access/Admissions

- discuss the role of the patient access representative (GPS) (MXHI_F2010-12)

G - Medical Coding

- describe the role of the medical coder (GPS) (MXHI_G2010-13)

Application of Therapeutic Services

A - Academic Foundations

- demonstrate knowledge and use the academic subject matter required for proficiency within healthcare science technology (HSTE) (GPS) (MXTS_A2009-1)

B - Career Planning and Development

- explain and demonstrate the knowledge necessary for career planning as established by the five healthcare career clusters (GPS) (MXTS_B2009-2)

C - Leadership and Intrateam Communication

- demonstrate and develop communication and team leadership skills using the various methods of giving and obtaining information either written, oral, or technical (GPS) (MXTS_C2009-3)

D - Safety Practices and Infection Control

- recognize and apply safety standards as applicable to the area of study in the classroom, lab, and clinical settings (GPS) (MXTS_D2009-4)

E - Client Interaction-Progressive Communication Techniques

- recite and record terms and abbreviations both oral and written as appropriate to the healthcare environment (GPS) (MXTS_E2009-5)

F - Information Technology Applications

- demonstrate and differentiate between appropriate and inappropriate use of telecommunication technology and the impact of HIPPA on communication in healthcare in each of the five career clusters (GPS) (MXTS_F2009-6)

G - Treatment Plans - Problem Solving and Critical Thinking

- analyze the general purpose and components of a treatment plan, as well as the procedures to implement within the scope of practice (GPS) (MXTS_G2009-7)

H - Applied Anatomy, Physiology, and Fundamental Pathophysiology of the Body's System

- analyze the anatomy, physiology, and pathophysiology of each of the body's systems and apply knowledge in applicable healthcare settings (GPS) (MXTS_H2009-8)

I - Monitoring and Evaluating Client/Patient Status

- analyze and demonstrate the process for assessing, monitoring, and reporting/recording patients health status before, during, and after provision of care (GPS) (MXTS_I2009-9)

J - Community First Aid

- demonstrate the integration of accepted first aid practices with respect to implementing proper usage of personal protection devices compliant with OSHA and JCAHO federal mandates (GPS) (MXTS_J2009-10)

K - Basic Life Support Techniques Infants and Children

- verbalize and demonstrate proper techniques of BLS while utilizing personal protective equipment and adhering to all American Heart Association (AHA) standards and guidelines (GPS) (MXTS_K2009-11)

Concepts of Emergency Medicine

A - Academic Foundations

- apply academic subject matter required for proficiency (GPS) (MXEM_A2009-1)

B - Introduction to Emergency Medical Care

- analyze EMS healthcare delivery system models and the role of the health professional within each model (GPS) (MXEM_B2009-2)

C - Well-Being of the Emergency Medical Services Provider

- evaluate the necessity of scene safety, emotional well-being, and stress management of the emergency medical services provider (GPS) (MXEM_C2009-3)

D - Medical, Legal, and Ethical Issues

- explain and analyze the legal responsibilities, limitations, and implications of EMS providers' actions within the healthcare delivery setting (GPS) (MXEM_D2009-4)

E - Anatomy and Physiology

- analyze the anatomy, physiology, and pathophysiology of each of the body's systems and apply knowledge in applicable health care settings (GPS) (MXEM_E2009-5)

F - Lifting and Moving

- utilize the necessary equipment and demonstrate the proper implementation of lifting and moving patients (GPS) (MXEM_F2009-6)

G - Airway Management

- demonstrate the ability to manage an airway (GPS) (MXEM_G2009-7)

H - Scene Size-Up/Patient Assessment

- analyze the general purpose and components of a treatment plan, as well as the procedures to implement within scope of practice (GPS) (MXEM_H2009-8)

I - Public Safety Communications

- demonstrate and develop communication skills using the various methods of giving and obtaining information either written, oral, or technologically (GPS) (MXEM_I2009-9)

J - Cardiovascular Emergencies

- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXEM_J2009-10)

K - Medical, Environmental, and Behavioral Emergencies

- demonstrate how to accurately assess and treat emergencies of a medical, environmental, and behavioral nature (GPS) (MXEM_K2009-11)

L - Trauma

- demonstrate accurate assessment and treatment of patients with bleeding, soft-tissue, and musculoskeletal injuries (GPS) (MXEM_L2009-12)

M - Obstetrics/Gynecology

- recognize, assess, and treat obstetric and gynecological emergencies (GPS) (MXEM_M2009-13)

N - Infants and Children

- identify, assess, and treat infants and children with medical, traumatic, and environmental emergencies (GPS) (MXEM_N2009-14)

O - EMC Operations - Gaining Access/Extrication/Triage/Hazardous Materials

- demonstrate the ability to effectively manage a scene, using components of access, extrication, triage, and hazardous materials (GPS) (MXEM_O2009-15)

P - Pharmacology/Oxygen Therapy

- analyze and demonstrate the rules of pharmacology (e.g., giving and assisting with medications and routes of medications including proper techniques for use of oxygen therapy) (GPS) (MXEM_P2009-16)
- demonstrate the integration of accepted ethical practices with respect to cultural, social, and ethnic differences within the classroom and clinical environments (GPS) (MXEM_P2009-17)

Concepts of Physical Medicine

A - Injury Assessment, Evaluation, Prevention, and Treatment of Head and Face Injuries

- analyze the anatomy, muscular structure, and vascular structure and describe the mechanisms, signs and symptoms, and potential complications associated with head and facial injuries (GPS) (MXPM_A2010-1)

B - Injury Assessment, Evaluation, Prevention and Treatment of Cervical Spine, Upper Thoracic Spine, Lower Thoracic Spine, and Lumbar Spine

- analyze the anatomy, muscular structure, vascular structure, ROM, MMT, and special tests as well as prevention and treatment of the cervical spine, upper thoracic spine, lower thoracic spine, and lumbar spine (GPS) (MXPM_B2010-2)

C - Injury Assessment, Evaluation, Prevention, and Treatment of Thoracic and Abdomen

- analyze the anatomy, muscular structure, vascular structure, ROM, and special tests as well as prevention and treatment of the thoracic and abdomen (GPS) (MXPM_C2010-3)

D - Injury Assessment, Evaluation, Prevention, and Treatment of Cardiorespiratory and Visceral Conditions

- analyze the anatomy, muscular structure, vascular structure as well as prevention and treatment of cardiorespiratory and visceral region conditions (GPS) (MXPM_D2010-4)

E - Infection Control in Physical Medicine

- identify and describe pathogens commonly encountered in physical medicine and demonstrate knowledge of infection control principles (GPS) (MXPM_E2010-5)

F - Career Planning in Physical Medicine

- identify and evaluate careers in the area of physical medicine (GPS) (MXPM_F2010-6)

G - Role of Nutrition in Physical Medicine

- evaluate the importance of nutrition in physical medicine (GPS) (MXPM_G2010-7)

H - Monitoring and Evaluating Client/Patient Status

- demonstrate the process for basic assessment (e.g., vital signs, height, weight, etc.), monitoring, and reporting/recording patient/client health status (GPS) (MXPM_H2010-8)

I - Environmental Issues

- demonstrate knowledge and understanding of the environmental conditions such as heat, humidity, moisture, and cold that can impair the body's ability to function properly (GPS) (MXPM_I2010-9)

J - Emergency Action Planning

- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXPM_J2010-10)

Emergency and Disaster Preparedness

A - Introduction to Disaster Preparedness

- analyze the history and basic overview of the following disaster preparedness/emergency management agencies, including but not limited to: Department of Homeland Security, Federal Emergency Management Agency (FEMA), Citizens Corps, and Georgia Emergency Management Agency (GEMA) (GPS) (MXED_A2009-1)

B - Cardiopulmonary Resuscitation

- demonstrate the steps of Basic Life Support (BLS) (GPS) (MXED_B2009-2)

C - Disaster Preparedness

- identify the types of hazards most likely to affect his/her home and community and describe steps to prepare for emergencies (GPS) (MXED_C2009-3)

D - Fire Chemistry

- describe the various origins of fires, classes of fires, and the correct means to extinguish each type of fire (GPS) (MXED_D2009-4)

E - Disaster Medical Assistance

- demonstrate the ability to identify and treat injuries of victims in a disaster or emergency situation (GPS) (MXED_E2009-5)

F - Basic Search and Rescue Operations

- analyze the components of an effective search and rescue operation (size-up, search, and rescue) including the methods/techniques that rescuers can use to locate and safely remove victims (GPS) (MXED_F2009-6)

G - Disaster Psychology

- evaluate techniques for managing intra-personal reactions to emergency/disaster situations to assist in effectively meeting the needs of the victims and rescuers (GPS) (MXED_G2009-7)

H - Terrorism Awareness

- define terrorism and identify common terrorist goals (GPS) (MXED_H2009-8)
- analyze the effects of stress on a trained medical caregiver (GPS) (MXED_H2009-9)

General Medicine

A - Professionalism

- demonstrate through appearance and character the role of health professionals within each career cluster while utilizing employability skills appropriate to the area of study (GPS) (MXGM_A2009-1)

B - Communication and Customer Service

- demonstrate ability to communicate effectively in written, verbal, and non-verbal modalities necessary for effective team/customer dynamics (GPS) (MXGM_B2009-2)

C - Ethical and Legal Responsibilities

- verbalize the ethical and legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting (GPS) (MXGM_C2009-3)

D - Data Collection

- analyze the general purpose and components of a treatment plan, as well as the procedures to implement within the scope of practice (GPS) (MXGM_D2009-4)

E - Infection Control

- demonstrate sanitizing, disinfecting, and sterilization techniques as it relates to infection control protocols and guidelines established by OSHA and JACHO regulations (GPS) (MXGM_E2009-5)

F - Safety and the Economy of Healthcare

- analyze the financial implications associated with client and employee safety to include body mechanics and ergonometry (GPS) (MXGM_F2009-6)

G - Medical Terminology

- define and utilize medical terminology as appropriate to specific body systems and anatomy (GPS) (MXGM_G2009-7)
- demonstrate career specific skills as appropriate to the clinical setting (GPS) (MXGM_G2009-8)

H - Advanced Technical Skills

- analyze the anatomy, physiology, and pathophysiology of the musculoskeletal systems and apply the knowledge and skill techniques applicable in the healthcare setting (GPS) (MXGM_H2009-9)

I - Monitoring Client Status

- analyze and demonstrate recording of vital signs to include monitoring and assisting patient throughout admissions, transferring, and discharge processes (GPS) (MXGM_I2009-10)
- verbalize and demonstrate proper airway management to include proper placement for oxygen therapy (GPS) (MXGM_I2009-11)
- analyze the anatomy, physiology, and pathophysiology of the medical surgical patient as it relates to wound care, to include irrigation and drains (GPS) (MXGM_I2009-12)
- demonstrate knowledge of gastroenterology and urological care associated with intake and body elimination (GPS) (MXGM_I2009-13)
- analyze the anatomy, physiology and pathophysiology of the cardiovascular systems and apply the knowledge and skill techniques applicable in the healthcare settings (GPS) (MXGM_I2009-14)
- demonstrate knowledge of the radiological techniques utilized in CAT, MRI, PET, and ultrasound imaging (GPS) (MXGM_I2009-15)

Introduction to Healthcare Science

A - Safety Applications in the Healthcare Classroom/Laboratory

- recognize and apply safety standards as applicable to the area of study in the classroom, lab, and clinical settings and demonstrate patient care skills related to safety (GPS) (MXHS_A2009-1)

B - Healthcare Delivery Systems

- analyze healthcare delivery system models and the role of health professionals within each model (GPS) (MXHS_B2009-2)

C - Teamwork and Leadership

- demonstrate employability skills as appropriate to the area of study (GPS) (MXHS_C2009-3)

D - Introduction to Healthcare Communications

- demonstrate and develop communication skills using the various methods of giving and obtaining information either written, orally, and technologically (GPS) (MXHS_D2009-4)

E - Introduction to Life Changes - The Process of Change

- identify and evaluate health and social service needs of health care consumers (GPS) (MXHS_E2009-5)

F - Ethical Responsibilities

- demonstrate the integration of accepted ethical practices with respect to cultural, social, and ethnic differences within the classroom and clinical environments (GPS) (MXHS_F2009-6)

G - Legal Responsibilities

- explain the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting (GPS) (MXHS_G2009-7)

H - Health Maintenance Practices
- practice preventive health behaviors personally and professionally with clients (GPS) (MXHS_H2009-8)

I - Concepts of Microbiology
- recognize and apply safety standards as applicable to the area of study in the classroom, lab, and clinical settings (GPS) (MXHS_I2009-9)

J - Introduction to Medical and Technology Terminology and Abbreviations
- define and utilize medical terminology (GPS) (MXHS_J2009-10)

K - Introduction to Community Safety
- demonstrate patient care skills as related to cardio-pulmonary resuscitation (GPS) (MXHS_K2009-11)

Medical Terminology in Healthcare Systems

A - Word Origins (Roots, Prefixes, and Suffixes)
- identify medical terminology fundamentals, including but not limited to, word origins, roots, prefixes, and suffixes (GPS) (MXMT_A2010-1)

B - Word Building, Abbreviations, and Symbols
- build and interpret medical words using and combining morphemes (GPS) (MXMT_B2010-2)
- identify, articulate, interpret, and accurately list medical abbreviations and acronyms (GPS) (MXMT_B2010-3)

C - Terminology Related to the Human body
- identify, articulate, interpret, and accurately spell medical terms related to the anatomy and physiology of body systems as they relate to diagnoses and procedures (GPS) (MXMT_C2010-4)
- identify, articulate, interpret, and accurately spell occupational specific medical terminology and abbreviations for the students' field of study (GPS) (MXMT_C2010-5)

D - Fundamentals of Medical Science
- explain the fundamentals of the disease process (GPS) (MXMT_D2010-6)
- list and describe common diseases of the body with emphasis on diagnosis and treatment (GPS) (MXMT_D2010-7)

E - Health Records
- examine the types, content, and structure of the health record (GPS) (MXMT_E2010-8)
- locate and interpret information on the client's health record (GPS) (MXMT_E2010-9)

Nursing Essentials

A - Academic Skills
- demonstrate knowledge and use the of the academic subject matter required for proficiency within healthcare science technology (HSTE) (GPS) (MXNE_A2009-1)
- identify and evaluate health and social service needs of health care consumers (GPS) (MXNE_A2009-2)

A - Academic Skills *(continued)*
- explain the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting (GPS) (MXNE_A2009-3)

B - Employability Skills
- interact effectively and sensitively with all members of the health care team (GPS) (MXNE_B2009-4)
- demonstrate employability skills as appropriate to the area of study (GPS) (MXNE_B2009-5)

C - Resident/Patient/Client Rights
- demonstrate the integration of accepted ethical practices with respect to cultural, social, and ethnic differences within the classroom and clinical environments (GPS) (MXNE_C2009-6)

D - Communications
- demonstrate and develop communication skills using the various methods of giving and obtaining information either written, oral, or technical (GPS) (MXNE_D2009-7)
- analyze and demonstrate the process for assessing, monitoring, and reporting/recording patient's health status before, during, and after provision of care (GPS) (MXNE_D2009-8)

E - Mental Health and Social Service Needs
- identify and evaluate health and social service needs of health care consumers (GPS) (MXNE_E2009-9)

F - Systems
- analyze healthcare delivery system models and the role of nurses within each model (GPS) (MXNE_F2009-10)

G - Legal/Ethical Responsibility
- explain the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting (GPS) (MXNE_G2009-11)

H - Safety Practices
- recognize and apply safety standards as applicable (GPS) (MXNE_H2009-12)

I - Infection Control
- demonstrate patient care skills as related to medical asepsis and standard precautions (GPS) (MXNE_I2009-13)

J - Teamwork
- interact effectively and sensitively with all members of the health care team (GPS) (MXNE_J2009-14)

K - Personal Care Skills
- demonstrate patient care skills (GPS) (MXNE_K2009-15)

L - Basic Nursing Assistant Skills
- analyze the anatomy, physiology, and pathophysiology of each of the body's systems and apply knowledge in applicable healthcare settings (GPS) (MXNE_L2009-16)

M - Basic Restorative Services
- analyze healthcare delivery system models and the role of nurses within each model (GPS) (MXNE_M2009-17)

N - Nurse Assisting in Sub-Acute and Acute Care
- identify and evaluate health and social service needs of health care consumers (GPS) (MXNE_N2009-18)

O - Home Healthcare

- analyze healthcare delivery system models and the role of nurses within each model (GPS) (MXNE_O2009-19)
- recognize and apply safety standards as applicable (GPS) (MXNE_O2009-20)

Principles of Physical Medicine

A - Foundations of Structural Kinesiology

- analyze anatomic positions, directional terms, movements, and postures as related to the appendicular skeleton (GPS) (MXPP_A2010-1)

B - Documentation Within Physical Medicine

- utilize correct terminology, abbreviations, and symbols to appropriately communicate oral and written information within the physical medicine team (GPS) (MXPP_B2010-2)

C - Introduction to Injury Classification

- demonstrate knowledge and apply injury classifications (GPS) (MXPP_C2010-3)

D - Community First Aid

- perform first aid procedures meeting and/or exceeding all standards of the American Red Cross (ARC) and/or American Heart Association's (AHA) utilizing personal protection devices and equipment in compliance with all OSHA regulatory guidelines (GPS) (MXPP_D2010-4)

E - Introduction to Injury Evaluation

- demonstrate knowledge and understanding of injury evaluation (GPS) (MXPP_E2010-5)

F - Injury Assessment, Evaluation, Prevention, and Treatment

- analyze the anatomy, muscular structure, vascular structure, Range of Motion (ROM), Manual Muscle Tests (MMT) and special tests as well as prevention and treatment of the shoulder joint, elbow joint, wrist, hand, hip joint, knee joint, and ankle joint (GPS) (MXPP_F2010-6)

Rehabilitation in Physical Medicine

A - Concepts of Healing

- explain the basic principles and concepts of healing (GPS) (MXRP_A2010-1)

B - Concepts of Rehabilitation

- analyze and describe the basic principles and concepts of rehabilitation (GPS) (MXRP_B2010-2)

C - Ideologies of Exercise

- explain the principles of reconditioning and exercise physiology (GPS) (MXRP_C2010-3)

D - Basic Principles and Application of Neurology with Physical Medicine

- analyze and describe neurological considerations in physical medicine (GPS) (MXRP_D2010-4)

E - Principles of Functional Exercise

- identify and explain the purpose of functional exercise (GPS) (MXRP_E2010-5)

F - Foundations of Posture and Body Mechanics

- analyze and describe the importance of posture and body mechanics (GPS) (MXRP_F2010-6)

G - Foundations of Proper Gait Mechanics

- analyze and describe the phases of gait mechanics (GPS) (MXRP_G2010-7)

H - Principles of Therapeutic Exercise in Physical Medicine

- describe the different phases and principles of each phase of rehabilitation (GPS) (MXRP_H2010-8)

I - Applications of Therapeutic Exercise in Physical Medicine

- develop therapeutic exercise programs for each body segment (GPS) (MXRP_I2010-9)

J - Applications of Pharmacology in the Physical Medicine Profession

- analyze and describe the principles of pharmacology (GPS) (MXRP_J2010-10)

K - Principles of Modalities in Physical Medicine

- analyze and describe the appropriate use of therapeutic modalities (GPS) (MXRP_K2010-11)

Welding

A -

- determine the classification of welding joint design (QCC) (MXWE_A2006-1)
- demonstrate the established procedures for the use of the oxyacetylene torch equipment (QCC) (MXWE_A2006-2)
- review technical mathematics in relation to the welding trades area (QCC) (MXWE_A2006-3)
- determine job requirements needed to perform shielded metal arc welding (SMAW) (QCC) (MXWE_A2006-4)
- select the welding electrode in accordance with job requirements (QCC) (MXWE_A2006-5)
- strike an arc and run continuous beads in the flat and horizontal positions (QCC) (MXWE_A2006-6)
- determine job requirements needed to perform gas metal arc welding (GMAW) (QCC) (MXWE_A2006-7)
- set up and adjust the equipment needed to weld with gas metal arc welding (GMAW) or metal inert gas (MIG) in the flat position (QCC) (MXWE_A2006-8)
- install filler wire for gas metal arc welding (QCC) (MXWE_A2006-9)
- explain types of metal transfer used in the gas metal arc welding process (QCC) (MXWE_A2006-10)
- identify common gas metal arc welding defects (QCC) (MXWE_A2006-11)
- determine the job requirements, characteristics, and advantages of gas tungsten arc welding (GTAW) (QCC) (MXWE_A2006-12)
- set up and adjust components of the gas tungsten arc welding system (QCC) (MXWE_A2006-13)
- identify gas tungsten arc welding defects and make adjustments (QCC) (MXWE_A2006-14)
- weld mild steel with the gas metal arc welding equipment (QCC) (MXWE_A2006-15)
- identify the need for and type of filler wire used in the gas tungsten arc welding process (QCC) (MXWE_A2006-16)
- weld aluminum with the gas tungsten arc welding equipment (QCC) (MXWE_A2006-17)
- weld with gas tungsten arc welding a tee weld in the horizontal position with 1/16 inch diameter filler rod (QCC) (MXWE_A2006-18)
- weld with shielded metal arc welding a vertical groove weld and also weld vertical up fillet weld (QCC) (MXWE_A2006-19)
- cut steel with an oxyacetylene torch (OFC) oxyacetylene fuel cutting (QCC) (MXWE_A2006-20)
- develop job entry skills for the welding trades (QCC) (MXWE_A2006-21)
- develop career orientation skills in the welding trades (QCC) (MXWE_A2006-22)
- develop and demonstrate leadership development skills (QCC) (MXWE_A2006-23)
- demonstrate safety skills in the welding lab (QCC) (MXWE_A2006-24)
- demonstrate employability skills appropriate to the area of study (QCC) (MXWE_A2006-25)
- demonstrate communication, mathematics, and science skills as applicable to the area of study (QCC) (MXWE_A2006-26)
- recognize and apply safety standards as applicable to the area of study (QCC) (MXWE_A2006-27)

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