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Career and Technical Education Department
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Career, Technical and Agricultural Education Staff

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The DeKalb County School District does not discriminate on the basis of race, sex, age, religion, national origin, or handicap in educational programs, activities, admissions to facilities, or in employment practices.
Introduction

DeKalb School’s Career Clusters allow students to choose an area of interest in high school from the 17 clusters listed below. Students take classes tailored to their cluster, which helps them navigate their way to greater success – no matter what they choose to do after high school graduation. Each cluster includes multiple career pathways. The aim of the program is to show students the relevance of what they’re learning in the classroom, whether they want to attend a two-year college, a four-year university or go straight into the world of work. Students will begin to learn about potential careers in elementary and middle school so that they are ready to choose a pathway once they reach high school.

1. Agriculture, Food and Natural Resources  
2. Architecture and Construction  
3. Arts, AV/Technology and Communications  
4. Business Management and Administration  
5. Education and Training  
6. Energy  
7. Finance  
8. Government and Public Administration  
9. Health Science  
10. Hospitality and Tourism Health Science  
11. Human Services  
12. Information Technology  
13. Law, Public Safety, Corrections and Security  
14. Manufacturing  
15. Marketing  
16. Science, Technology, Engineering, Mathematics (STEM)  
17. Transportation, Distribution and Logistics

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Overview

Career Clusters
Career Clusters are broad occupational groupings based on a set of common knowledge and skills required for a specific career. Career Clusters provide opportunities for all students regardless of their career goals and interests.

Career Pathways
Career Pathways are a sub-grouping of occupations and career specialties used as an organizing tool for curriculum design and instruction. Career pathways are grouped based on their requirements for a set of common knowledge and skills for career success.

Program of Study
A Program of Study is a sequence of instruction (based on recommended standards, and knowledge and skills) This sequence of instruction provides preparation for a career.

Individualized Graduation Plan
An IGP includes a program of study and learning that represents a mapped academic plan reflecting a student’s unique set of interests, needs, learning goals, and graduation requirements. It goes beyond the “four-year plan” by recording the student’s connections to the larger community including examples of community service and volunteerism; membership in community organizations, participation in leadership activities outside of school; involvement in job shadowing, mentorships, and/or apprenticeships; and the pursuit of skill development through hobbies, athletics, and fine arts.

Career Pathway Benefits
• Provide a framework for seamless education. They are the core of workforce and economic development in our state.
• Promote the connection between education and workforce/economic development
• Provide a seamless transition from high school to college
• Focus on high skill, high demand, and high wage careers
• Increase emphasis on attainment of a technical skill proficiency, degree/credential

Options for Students
DeKalb School’s comprehensive grades K-12 career development includes three levels:
1. Career Awareness in Grades K–5: grade-level specific career activities (5th grade portfolio)
2. Career Exploration in Grades 6–8: career-related assessments and inventories (individual graduation plan by the end of the 8th grade)
3. Career Management in Grades 9–12: ongoing review and advisement of each student’s individual graduation plan to ensure successful implementation.
Cluster Description
The Agriculture, Food, & Natural Resources Career Cluster includes the production, processing, marketing, financing, distribution, and development of agricultural commodities and resources. These commodities include food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Pathways
Forestry/Natural Resources Management
02.47100 Basic Ag Science
03.45100 Forest Science
03.41100 Natural Resources Management

Plant and Floral Design Systems
02.47100 Basic Ag Science
01.46100 General Horticulture
01.46600 Floral Design

Plant and Floriculture Systems
02.47100 Basic Ag Science
01.46100 General Horticulture
01.46200 Floriculture Production and Mgmt

Plant and Landscape Systems
02.47100 Basic Ag Science
01.46100 General Horticulture
01.47000 Nursery & Landscape

Horticulture and Forest Science
02.47100 Basic Ag Science
01.46100 General Horticulture
03.45100 Forest Science

Career and Technical Student Organization (CTSO)
FFA http://www.ffa.org
The FFA is a national organization dedicated to preparing members for leadership and careers in the science, business and technology of agriculture. Local, state and national activities and award programs provide opportunities to apply knowledge and skills acquired through agriculture education.
Forestry/Natural Resources Management

The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizes a “learning by doing” philosophy.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**02.47100 Basic Agriculture Science**  
Grades 9-11
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 9-10.

**03.45100 Forest Science**  
Grades 9–12
This course provides entry-level skills for employment in the forest industry and for further study. The course covers establishing forests by natural and artificial means, maintaining and surveying forests, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, keeping records, and figuring taxes. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**03.45200 Natural Resources Management**  
Grades 10-12
This course introduces conservation management and maintenance of natural resources and good stewardship of air, soil, water, land, fish, and wildlife resources for economic, recreation, and health purposes. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Forestry-Natural Resources Pathway/NOCTI
Plant and Floral Design Systems

The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizes a “learning by doing” philosophy.

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<td>Floral Design and Management</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

02.47100 Basic Agriculture Science Grades 9-11
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 9-10.

01.46100 General Horticulture and Plant Science Grades 9--12
This course is designed as an introduction for the Horticulture-Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

01.46600 Floral Design and Management Grades 10-12
This laboratory course is designed to prepare students to apply systematic business procedures and design principles in the operation of a retail or wholesale floral business. Students will learn about the cut flower industry, the history of floral design, identification of flowers and foliage, design shapes, mechanics of design, everlasting flowers, and use knowledge and skills to create custom design work for special occasions.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI- Plant Systems
Plant and Floriculture Systems

The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizing a “learning by doing” philosophy.

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*Levels 1, 2, and 3 are required for pathway completion.*

**Course Descriptions**

**02.47100 Basic Agriculture Science**, Grades 9-11
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 9-10.

**01.46100 General Horticulture and Plant Science**, Grades 9-12
This course is designed as an introduction for the Horticulture-Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**01.46200 Floriculture Production and Management**, Grades 10-12
This course is designed to introduce students to the principles and practices of floriculture production. Students will develop floriculture skills and the basic understanding necessary to be successful in entry-level positions in the floriculture industry. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI- Plant Systems
Plant and Landscape Systems

The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizes a "learning by doing" philosophy.

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<td>Level 3</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**02.47100 Basic Agriculture Science**
Grades 9-11
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 9-10.

**01.46100 General Horticulture and Plant Science**
Grades 9--12
This course is designed as an introduction for the Horticulture-Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**01.47000 Nursery and Landscape**
Grades 10-12
This course is designed to provide students with the basic skills and knowledge utilized by the green industry in nursery production and management and landscape design and management. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI- Plant Systems
Horticulture and Forest Science

The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizes a "learning by doing" philosophy.

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**Course Descriptions**

**02.47100 Basic Agriculture Science Grades 9-11**
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 9-10.

**01.46100 General Horticulture and Plant Science Grades 9--12**
This course is designed as an introduction for the Horticulture-Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**03.45100 Forest Science Grades 9--12**
This course provides entry-level skills for employment in the forest industry and for further study. The course covers establishing forests by natural and artificial means, maintaining and surveying forests, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, keeping records, and figuring taxes. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
NOCTI- Plant Systems
Georgia Performance Standards
Cluster Description
The Architecture and Construction Career Cluster includes careers in designing, planning, managing, and building structures.

Pathways
Architectural Drafting Pathway
48.54100 Introduction to Drafting and Design
48.54500 Architectural Drawing and Design I
48.54600 Architectural Drawing and Design II

Carpentry Pathway
46.54500 Industry Fundamentals and Occupational Safety
46.54600 Introduction to Construction
46.55000 Carpentry I

Electrical Pathway
46.54500 Industry Fundamentals and Occupational Safety
46.54600 Introduction to Construction
46.56000 Electrical I

Masonry Pathway
46.54500 Industry Fundamentals and Occupational Safety
46.54600 Introduction to Construction
46.57000 Masonry I

Plumbing Pathway
46.54500 Industry Fundamentals and Occupational Safety
46.54600 Introduction to Construction
46.58000 Plumbing I

Career and Technical Student Organization (CTSO)
SkillsUSA  http://www.skillsusa.org
SkillsUSA is national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.
Architectural Drafting Pathway

The Architecture and Construction pathways offer hands-on projects, lab experiences and challenging classroom curriculum that includes relevant math, communications, and technical courses that enable students to gain technical and academic skills that simulate the business or industry work environment for their area of interest, such as drafting, plumbing, carpentry, masonry or electrical. In addition to the classroom and laboratory experiences, students participate in SkillsUSA, a co-curricular student organization that promotes leadership skills as well as high standards of craft quality, scholarship, and safety.

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<td>Level 1</td>
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<td>48.54600</td>
<td>AC-ADDII</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

48.54100  Introduction to Drafting and Design  Grades 9-11
The Introduction to Drafting and Design course is the foundational course under the Architectural Drawing and Design pathway and prepares students for a pursuit of any career in the field of construction. The course provides the basic knowledge to function safely on or around a construction site and in industry in general. Students will have the option for an Industry Certification in the Construction Core. Pre-requisite for this course is advisor approval.

48.54500  Architectural Drawing and Design I  Grades 9--12
Architectural Drawing and Design I is the second course in the Architectural Drawing and Design pathway and introduces students to the basic terminology, concepts, and principles of architectural design. Emphasis is placed on house designs, floor plans, roof designs, elevations (interior and exterior), schedules, and foundations. The prerequisite for the course is Introduction to Drafting and Design.

48.54600  Architectural Drawing and Design II  Grades 10-12
Architectural Drawing and Design II is the third course in the Architectural Drawing and Design pathway and builds on the skills developed in Architectural Drawing and Design I. Emphasis is placed on the design process, site plans, electrical plans, plumbing plans, sections and details, project presentations, and a course portfolio. The prerequisite for this course is Introduction to Drafting and Design and Architectural Drawing and Design I.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
SkillsUSA Work Force Ready Exam in Architectural Drawing
Carpentry Pathway

The Architecture and Construction pathways offer hands-on projects, lab experiences and challenging classroom curriculum that includes relevant math, communications, and technical courses that enable students to gain technical and academic skills that simulate the business or industry work environment for their area of interest, such as drafting, plumbing, carpentry, masonry or electrical. In addition to the classroom and laboratory experiences, students participate in SkillsUSA, a co-curricular student organization that promotes leadership skills as well as high standards of craft quality, scholarship, and safety.

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Course Descriptions

**46.54500  Industry Fundamentals and Occupational Safety  Grades 9-11**
This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, and Masonry pathways to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general and will provide the trainee with the option for an Industry Certification in the Construction Core. Pre-requisite for this course is advisor approval.

**46.54600  Introduction to Construction  Grades 9--12**
This course introduces students to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

**46.55000  Carpentry I  Grades 10-12**
This course provides the student a solid foundation in carpentry skills and knowledge. This course provides an overview of the building materials used in the carpentry craft, as well as teaching techniques for reading and using blueprints and specifications related to the carpentry craft. The course provides specific knowledge and skills in site layout and floor and wall framing systems, and includes basic industry terminology for a carpentry craftsperson.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
SkillsUSA Work Force Ready Exam in Carpentry
Electrical Pathway

The Architecture and Construction pathways offer hands-on projects, lab experiences and challenging classroom curriculum that includes relevant math, communications, and technical courses that enable students to gain technical and academic skills that simulate the business or industry work environment for their area of interest, such as drafting, plumbing, carpentry, masonry or electrical. In addition to the classroom and laboratory experiences, students participate in SkillsUSA, a co-curricular student organization that promotes leadership skills as well as high standards of craft quality, scholarship, and safety.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**46.54500 Industry Fundamentals and Occupational Safety Grades 9-11**
This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, and Masonry pathways to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general and will provide the trainee with the option for an Industry Certification in the Construction Core. Pre-requisite for this course is advisor approval.

**46.54600 Introduction to Construction Grades 9--12**
This course introduces students to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

**46.56000 Electrical 1 Grades 10-12**
This course builds on the concepts of electrical safety introduced in Occupational Safety and provides knowledge and basic skills of the hardware and systems used by an electrician. The course incorporates general knowledge of the National Electrical Code and electrical systems, including series, parallel, and series-parallel circuits. In addition, students will be provided an introduction to the skills and knowledge of conduit bending and installation.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
Residential Wiring Skills Connect Assessment by SkillsUSA
The Architecture and Construction pathways offer hands-on projects, lab experiences and challenging classroom curriculum that includes relevant math, communications, and technical courses that enable students to gain technical and academic skills that simulate the business or industry work environment for their area of interest, such as drafting, plumbing, carpentry, masonry or electrical. In addition to the classroom and laboratory experiences, students participate in SkillsUSA, a co-curricular student organization that promotes leadership skills as well as high standards of craft quality, scholarship, and safety.

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Course Descriptions

**46.54500  Industry Fundamentals and Occupational Safety  Grades 9-11**
This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, and Masonry pathways to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general and will provide the trainee with the option for an Industry Certification in the Construction Core. Pre-requisite for this course is advisor approval.

**46.54600  Introduction to Construction  Grades 9-12**
This course introduces students to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

**46.57000  Masonry I  Grades 10-12**
This course provides knowledge and skills related to types and properties of mortar and concrete mixtures, as well as skills needed to operate hand tools, power tools, and equipment used in mixing mortar. Additional course components include knowledge and skills related to cutting, laying, and finishing of masonry units. The prerequisite for this course is Introduction to Construction.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Masonry Skills Connect Assessment by SkillsUSA
Plumbing Pathway

The Architecture and Construction pathways offer hands-on projects, lab experiences and challenging classroom curriculum that includes relevant math, communications, and technical courses that enable students to gain technical and academic skills that simulate the business or industry work environment for their area of interest, such as drafting, plumbing, carpentry, masonry or electrical. In addition to the classroom and laboratory experiences, students participate in SkillsUSA, a co-curricular student organization that promotes leadership skills as well as high standards of craft quality, scholarship, and safety.

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<thead>
<tr>
<th>Level</th>
<th>Course Name</th>
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<th>Course Abbreviation</th>
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<tr>
<td>Level 1</td>
<td>Industry Fundamentals and Occupational Safety</td>
<td>46.54500</td>
<td>AC-IFOS</td>
</tr>
<tr>
<td>Level 2</td>
<td>Introduction to Construction</td>
<td>46.54600</td>
<td>AC-IC</td>
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<tr>
<td>Level 3</td>
<td>Plumbing I</td>
<td>46.58000</td>
<td>AC-P1</td>
</tr>
</tbody>
</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**46.54500 Industry Fundamentals and Occupational Safety** Grades 9-11
This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, and Masonry pathways to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general and will provide the trainee with the option for an Industry Certification in the Construction Core. Pre-requisite for this course is advisor approval.

**46.54600 Introduction to Construction** Grades 9-12
This course introduces students to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

**46.58000 Plumbing 1** Grades 10-12
This course provides basic skills and knowledge needed to apply Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) safety concepts and practices relating to the plumbing trade. The student is introduced to the basic knowledge and application of plumbing codes, as well as the handling, estimating, and storing of materials used in the plumbing trade. The prerequisite for this course is Introduction to Construction.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

Plumbing Skills Connect Assessment by SkillsUSA
Georgia Performance Standards
**Cluster Description**
The Arts, A/V Technology, & Communications Career Cluster includes designing, producing, exhibiting, performing, writing, and publishing multimedia content.

**Pathways**
**Audio/Video Technology and Film Pathway**
10.51810 Audio Video Technology and Film I
10.51910 Audio Video Technology and Film II
10.52010 Audio Video Technology and Film III

**Graphics Communications Pathway**
48.56100 Introduction to Graphics and Design
48.56200 Graphic Design and Production
48.57000 Advanced Graphic Output Processes

**Graphics Design Pathway**
48.56100 Introduction to Graphics and Design
48.56200 Graphic Design and Production
48.52800 Advanced Graphic Design

**Career and Technical Student Organization (CTSO)**

SkillsUSA   http://www.skillsusa.org
SkillsUSA is national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.
Audio/Video Technology and Film Pathway

In the Audio/Video Technology and Film Pathway you learn studio and field production for video and television. Through hands-on experience with cutting edge digital equipment, students create video projects and edit in linear and non-linear suites. Students apply theoretical concepts while planning and designing programs, capturing, editing and post-producing shows in the studio and the field.

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<tr>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**10.51810 Audio Video Technology and Film I**
Grades 9-11
This course will serve as the foundational course in the Audio & Video Technology & Film pathway. The course prepares students for employment or entry into a postsecondary education program in the audio and video technology career field. Topics covered may include, but are not limited to: terminology, safety, basic equipment, script writing, production teams, production and programming, lighting, recording and editing, studio production, and professional ethics. All topics covered in Audio & Video Technology & Film I will be utilized in subsequent courses. The pre-requisite for this course is advisor approval.

**10.51910 Audio Video Technology and Film II**
Grades 9-12
This course includes planning, writing, directing and editing a production; field equipment functions; operational set-up and maintenance; advanced editing operations; studio productions; performance; audio/video control systems; production graphics; career opportunities; and professional ethics. The pre-requisite for this course is Audio Video Technology and Film I.

**10.52010 Audio Video Technology and Film III**
Grades 10-12
This course is designed to facilitate student-led projects under the guidance of the instructor. Students work cooperatively and independently in all phases of production. Skills USA, the Georgia Scholastic Press Association, and Student Television Network are examples of, but not limited to, appropriate organizations for providing leadership training and/or for reinforcing specific career and technical skills and may be considered an integral part of the instructional program. The pre-requisite for this course is Audio Video Technology and Film II.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
Television Video Production Skills Connect Assessment by SkillsUSA
Graphics Communications Pathway

Graphic Communications is defined as the processes and industries that create, develop, produce, and disseminate products utilizing or incorporating words or pictorial images to convey information, ideas, and feelings. Graphic Communications includes the family of market segments embracing the technologies of printing, publishing, packaging, electronic imaging, and their allied industries.

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<td>48.57000</td>
<td>AAVTC-AGOP</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

48.56100  Introduction to Graphics and Design  Grades 9-11
This course is designed as the foundational course for both the Graphics Production and Graphics Design pathways. The Graphics and Design course provides students with the processes involved in the technologies of printing, publishing, packaging, electronic imaging, and their allied industries. In addition, the Graphics and Design course offers a range of cognitive skills, aesthetics, and crafts that include typography, visual arts, and page layout. Pre-requisite for this course is adviser approval.

48.56200  Graphic Design and Production  Grades 9–12
This course builds on knowledge and skills learned in the Introduction to Graphics and Design course and focuses on procedures commonly used in the graphic communication and design industries. Students will gain more experience in creative problem solving and the practical implementation of those solutions across multiple areas of graphic design and graphic communications. The prerequisite for this course is Introduction to Graphics and Design.

48.57000  Advanced Graphic Output Processes  Grades 10-12
In this course students will gain more advanced levels of experience to complete the output processes of various projects in an increasingly independent manner. Students also learn to manage the output and completion process as a whole including customer relations management, printing, finishing, and binding. The prerequisite for this course is Graphic Design and Production.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

PrintEd
Graphic design is the process of communicating visually using typography and images to present information. Graphic design practice embraces a range of cognitive skills, aesthetics, and crafts, including typography, visual arts, and page layout. Like other forms of design, graphic design often refers to both the process (designing) by which the communication is created and the products (designs) which are generated.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**48.56100 Introduction to Graphics and Design Grades 9-11**
This course is designed as the foundational course for both the Graphics Production and Graphics Design pathways. The Graphics and Design course provides students with the processes involved in the technologies of printing, publishing, packaging, electronic imaging, and their allied industries. In addition, the Graphics and Design course offers a range of cognitive skills, aesthetics, and crafts that includes typography, visual arts, and page layout. Pre-requisite for this course is adviser approval.

**48.56200 Graphic Design and Production Grades 9–12**
This course builds on knowledge and skills learned in the Introduction to Graphics and Design course and focuses on procedures commonly used in the graphic communication and design industries. Students will gain more experience in creative problem solving and the practical implementation of those solutions across multiple areas of graphic design and graphic communications. The prerequisite for this course is Introduction to Graphics and Design.

**48.52800 Advanced Graphic Design Grades 10-12**
Students will continue to explore in an increasingly independent manner, the principles of design and layout procedures relating to the field of graphic design. Content will cover electronic systems and software programs used in graphic design, page composition, image conversion, and digital printing. Knowledge and skills in digital design and imaging will be enhanced through experiences that simulate the graphic design industry.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
Advertising Design Skills Connect Assessment (in collaboration with PrintED) - by SkillsUSA
Georgia Performance Standards
Cluster Description
The Business Management & Administration Career Cluster prepares students with computer skills for future college and career plans. Cluster skills mastered include planning, organizing, directing, and evaluating as well as owning and operating a successful business.

Pathways
Entrepreneurship
07.44130 Introduction to Business & Technology
06.41500 Legal Environment of Business
06.41600 Entrepreneurship

Business & Technology
07.44130 Introduction to Business & Technology
07.44100 Business & Technology
07.45100 Business Communications

Human Resources Management
07.44130 Introduction to Business & Technology
06.41500 Legal Environment of Business
06.41800 Human Resources Principles

Career and Technical Student Organization (CTSO)

FBLA http://fbla-pbl.org
Future Business Leaders of America-Phi Beta Lambda is a nonprofit education association of students preparing for careers in business and business-related fields. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs.
Entrepreneurship

This pathway is designed for those considering a career in business, especially small business. Courses provide students with the skills needed to develop and manage independent small businesses. Includes instruction in business administration; enterprise planning and entrepreneurship; start-up; small business operations and problems; personnel supervision; capitalization and investment; taxation; business law and regulations; e-commerce; home business operations; and applications to specific sectors, products, and services.

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<td>Introduction to Business &amp; Technology</td>
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<td>Legal Environment of Business</td>
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<td>BMA-LEB</td>
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<td>BMA-ENT</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**07.44130 Introduction to Business and Technology Grades 9-11**
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

**06.41500 Legal Environment of Business Grades 9--12**
This course addresses statutes and regulations affecting businesses, families, and individuals. Students will get an overview of business law while concentrating on the legal aspects of business ownership and management. Legal issues addressed include court procedures, contracts, torts, consumer law, employment law, environmental law, international law, ethics, and the role of the government in business. The prerequisite for this course is Introduction to Business and Technology.

**06.41600 Entrepreneurship Grades 10-12**
Entrepreneurship focuses on recognizing a business opportunity, starting a business, operating and maintaining a business. Integration of accounting, finance, marketing, business management, legal and economic environments will be developed throughout projects in this course. Working to develop a business plan that includes structuring the organization, financing the organization, and managing information, operations, marketing, and human resources will be a focus in the course. The prerequisite for this course is Legal Environment of Business.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI—General Management
The agricultural education pathway is built on the three core areas of classroom/laboratory instruction, supervised agricultural experience programs and FFA student organization activities/opportunities. Students enrolled in this pathway will receive instruction in and about establishing forests, maintaining and surveying forests, identifying and protecting trees, measuring, mapping, preparing for timber sales and harvest while utilizes a "learning by doing" philosophy.

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<tr>
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<td>Business Communications</td>
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**07.44130 Introduction to Business and Technology Grades 9-11**
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

**07.44100 Business & Technology Grades 9–12**
This course is designed to prepare students with the knowledge and skills to be an asset to the collaborative, global, and innovative business world of today and tomorrow. The ability to apply leadership skills to make informed business decisions will be a highlight of this course for students. Publishing industry appropriate documents to model effective communication and leadership will be demonstrated through project based learning. Students will use spreadsheet and database software to manage data while analyzing, organizing and sharing data through visually appealing presentation. The prerequisite for this course is Introduction to Business and Technology.

**07.45100 Business Communications Grades 10-12**
In this course students will create, edit, and publish professional-appearing business documents with clear and concise communication. Creative design, persuasive personal and professional communications will be applied through research, evaluation, validation, written, and oral communication. Leadership development and teamwork skills will be stressed as students work independently and collaboratively. Presentation skills will be developed and modeled for students master presentation software in this course. The prerequisite for this course is Business and Technology.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
Microsoft Office Specialist (Word, Excel, PowerPoint, Access)
Human Resource Management

Human resource management is a term used to describe a set of tasks aimed at effectively managing an organization’s employees (human resources). In this pathway student will learn about the business of managing people in an organization which includes compensation, benefits, training and development, staffing, strategic HR management and other functions. In today's competitive environment, human capital management is critically important to remain viable in the global marketplace. As a result, HR plays a pivotal role in the world—because people are truly the only thing that differentiates one business from another.

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<td>Level 3</td>
<td>Human Resources Principles</td>
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07.44130 Introduction to Business and Technology Grades 9-11
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today’s business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

06.41500 Legal Environment of Business Grades 9–12
This course addresses statutes and regulations affecting businesses, families, and individuals. Students will get an overview of business law while concentrating on the legal aspects of business ownership and management. Legal issues addressed include court procedures, contracts, torts, consumer law, employment law, environmental law, international law, ethics, and the role of the government in business. The prerequisite for this course is Introduction to Business and Technology. The prerequisite to this course is Introduction to Business and Technology.

06.41800 Human Resources Principles Grades 10-12
In this course students will analyze the primary functions of human resources management which include recruitment, selection, training, development, compensation, and evaluation. The course is designed to equip students with operational knowledge of hiring, managing, and firing employees. Throughout this course students will be introduced to the Human Resource Management role by following the life cycle of an employee from organizational entry to exit. The prerequisite to this course is Legal Environment of Business.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Professional in Human Resources (PHR®) Exam
Georgia Performance Standards
Cluster Description
The Education and Training Career Cluster includes planning, managing, and providing education and training services as well as related learning support services.

Pathways
Teaching as a Profession
13.01100 Examining the Teaching Profession
13.01200 Contemporary Issues in Education
13.01300 Teaching as a Profession Practicum

Early Childhood Care & Education
20.52810 Early Childhood Education I
20.42400 Early Childhood Education II
20.42500 Early Childhood Education III
20.42600 Early Childhood Education Practicum

Career and Technical Student Organization (CTSO)
FCCLA http://www.fcclainc.org
Family, Career and Community Leaders of America, Inc. (FCCLA) is a nonprofit national career and technical student organization for young men and women in family and consumer sciences education in public and private school through grade 12.
This pathway includes broad introductory coverage of teaching as a profession, public school organization, planning and delivery of instruction, creation and maintenance of learning environment, standards, teaching and learning in multicultural settings, mainstream education of students with exceptionalities, “at risk” students, family and community partnerships, school law, and educational philosophies.

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<td>Level 2</td>
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<td>Level 3</td>
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<td>13.01300</td>
<td>ET-TAPP</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**13.01100 Examining the Teaching Profession Grades 9-11**
This course prepares students for future positions in the field of education. Teaching as a Profession students study, apply, and practice the use of current technologies, effective teaching and learning strategies, the creation of an effective learning environment, the creation of instructional opportunities for diverse learners and students with special needs, and plan instruction based on knowledge of subject matter, students, community, and curriculum performance standards. Prerequisite for this course is adviser approval.

**13.01200 Contemporary Issues in Education Grades 9--12**
This course engages the students in observations, interactions, and analyses of critical and contemporary educational issues. The candidate will investigate issues influencing the social and political contexts of educational settings in Georgia and the United States and actively examines the teaching profession from multiple vantage points both within and outside of the school. The prerequisite for this course is Examining the Teaching Profession.

**13.01300 Teaching as a Profession Practicum Grades 10--12**
The practicum offers a candidate in the Teaching as a Profession career pathway a field experience under the direct supervision of a certified teacher (mentor teacher). The practicum stresses observing, analyzing and classifying activities of the mentor teacher and comparing personal traits with those of successful teachers. The candidate intern will develop a portfolio of their skills, plan and teach a lesson or lessons, understand and practice confidentiality as it pertains to the teaching profession, meet the needs of students with special needs, maintain the safety of the students, practice professionalism, and demonstrate ethical behavior. Prerequisite for this course is Contemporary Issues in Education.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Teaching as a Profession Assessment
Early Childhood Care & Education

Students in this pathway are introduced to teaching in diverse and inclusive environments, including homes, schools, and other community settings, which serve children from birth to age 8 and their families. Child-centered and culturally sensitive practices are emphasized throughout the pathway, focusing on the need for multiple methods of instruction to accommodate a broad range of learners.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**20.52810 Early Childhood Education I Grades 9-11**
The Early Childhood Education I course is the foundational course under the Early Childhood Care & Education pathway and prepares the student for employment in early childhood education and services. The course addresses the knowledge, skills, attitudes, and behaviors associated with supporting and promoting optimal growth and development of infants and children. The pre-requisite for this course is advisor approval.

**20.42400 Early Childhood Education II Grades 9–12**
Early Childhood Education II is the second course in the Early Childhood Care and Education pathway and further prepares the student for employment in early childhood care and education services. The course provides a history of education, licensing and accreditation requirements, and foundations of basic observation practices and applications. Early childhood care, education, and development issues are also addressed and include health, safety, and nutrition education; certification in CPR/First Aid/Fire Safety; information about child abuse and neglect; symptoms and prevention of major childhood illnesses and diseases; and prevention and control of communicable illnesses.

**20.42500 Early Childhood Education III Grades 10-12**
Early Childhood Education III is the third course in the Early Childhood Care and Education pathway and one option for program completers who may not have the opportunity of participating in the Early Childhood Education Internship. The course provides in-depth study of early brain development and its implications for early learning, appropriate technology integration, and developmentally appropriate parenting and child guidance trends. Also addressed are collaborative parent/teacher/child relationships and guidance, child directed play, the changing dynamics of family culture and diversity, the causes and effects of stress on young children, and infant nutrition.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Early Childhood Education and Care – Basic
Early Childhood Care & Education II

Students in this pathway are introduced to teaching in diverse and inclusive environments, including homes, schools, and other community settings, which serve children from birth to age 8 and their families. Child-centered and culturally sensitive practices are emphasized throughout the pathway, focusing on the need for multiple methods of instruction to accommodate a broad range of learners.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

20.52810 Early Childhood Education I Grades 9-11
The Early Childhood Education I course is the foundational course under the Early Childhood Care & Education pathway and prepares the student for employment in early childhood education and services. The course addresses the knowledge, skills, attitudes, and behaviors associated with supporting and promoting optimal growth and development of infants and children. The pre-requisite for this course is advisor approval.

20.42400 Early Childhood Education II Grades 9–12
Early Childhood Education II is the second course in the Early Childhood Care and Education pathway and further prepares the student for employment in early childhood care and education services. The course provides a history of education, licensing and accreditation requirements, and foundations of basic observation practices and applications. Early childhood care, education, and development issues are also addressed and include health, safety, and nutrition education; certification in CPR/First Aid/Fire Safety; information about child abuse and neglect; symptoms and prevention of major childhood illnesses and diseases; and prevention and control of communicable illnesses.

20.42600 Early Childhood Education Practicum Grades 10–12
The practicum offers a candidate in the Early Childhood Education career pathway a field experience under the direct supervision of a certified early childhood educator (mentor). This field experience may be used as partial requirements for the candidate to earn the nationally recognized CDA credential. The practicum stresses observing, analyzing, and classifying activities of the mentor and comparing personal traits with those of successful early childhood educators. The candidate intern will develop a portfolio of their skills, plan and teach a lesson or lessons, understand and practice confidentiality as it pertains to the teaching profession, meet the needs of students with special needs, maintain the safety of the students, practice professionalism, and demonstrate ethical behavior.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Early Childhood Education and Care – Basic
Georgia Performance Standards
Cluster Description
The Energy Career Cluster prepares individuals for careers in the designing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy.

Pathways
Energy Systems
49.53700 Foundations of Energy Technologies
21.45100 Energy and Power Technology
21.45700 Appropriate and Alternative Energy Technologies

Energy and Power: Generation, Transmission, and Distribution
49.53700 Foundations of Energy Technologies
49.53800 Energy and Power: Generation, Transmission, Distribution
49.53900 Energy Systems Applications

Career and Technical Student Organization (CTSO)
TSA http://www.tsaweb.org
Technology Student Association (TSA) is a national, non-profit organization for students with an interest in technology. TSA members learn problem-solving, decision-making, critical thinking and leadership skills as they relate to design, communications, power, energy, transportation, engineering, manufacturing, construction and biotechnology. TSA strives to meet the educational needs and challenges of all students in an increasingly and ever-changing technological world.
Energy Systems

This pathway will introduce students to energy systems technologies. Students will understand mechanical, electrical, fluid, and alternate systems. Students will also identify and understand energy resources. This pathway will cover the codes, regulations, and industry standards that are currently in place for sustainable energy buildings and Green Buildings. Evaluation of a building style and the energy efficient materials used in its construction will be included. Students will develop an awareness of the energy crisis and the use of alternative energy.

<table>
<thead>
<tr>
<th>Level</th>
<th>Course Name</th>
<th>Course Code</th>
<th>Course Abbreviation</th>
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<tr>
<td>Level 1</td>
<td>Foundations of Energy Technologies</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

49.53700 Foundations of Energy Technologies Grades 9-11
This introductory course is designed to allow students to develop a broad understanding of the energy industry including infrastructure, generation, transmission and distribution of nonrenewable, renewable, and inexhaustible energy sources. Energy sources will be researched to include the regional and global economic implications, environmental, and sustainability issues. Students will explore future trends of energy and power. Students will develop, through research, an alternative energy system that will demonstrate their understanding of a unique, as well as appropriate, approach to energy and power generation.

21.45100 Energy and Power Technology Grades 9–12
As the second course in the Energy Systems Pathway, this introductory course explores the relationship between force, work, energy, and power. Students study the characteristics, availability, conversion, control, transmission, and storage of energy and power. Students will explore and apply the principles of electrical and mechanical power systems. Students will research renewable, non-renewable resources and conservation efforts. Students will develop an awareness of the many careers that exist in energy and related technologies and their related safety regulations. Prerequisite for this course is satisfactory completion of Foundations of Engineering and Technology.

21.45700 Appropriate and Alternative Energy Technologies Grades 10–12
As the third course in the Energy Systems Pathway, students will develop an understanding of the differences between nonrenewable and renewable energy sources and how these energy sources affect their world. Alternative energy sources will be researched to include the regional implications and economic, environmental, and sustainability issues. Students will evaluate the positive and negative impacts of nuclear power and its relevancy to various situations in today’s society. Students will explore future trends of energy, power, and transportation. Students will develop, through research, an alternative energy system that will demonstrate their understanding of a unique, as well as appropriate, approach to energy generation. The prerequisite for this course is Energy and Power Technology.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

NOCTI Engineering Assessment
Energy and Power: Generation, Transmission, and Distribution

The Energy and Power: Generation, Transmission, and Distribution pathway allows students to learn the key concepts and methods of energy systems, applications and efficiency. Students will also explore how energy is converted into useful services and the role of increased efficiency in providing those services with less energy. The different forms of efficiency improvements and conservation are introduced, drawing upon examples in transportation, buildings, and industry. The practical implications of public policies, behavior, and economics are interspersed with technical and theoretical aspects. Key concepts include how to convert and design efficient energy systems.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

49.53700 Foundations of Energy Technologies Grades 9-11
This introductory course is designed to allow students to develop a broad understanding of the energy industry including infrastructure, generation, transmission and distribution of nonrenewable, renewable, and inexhaustible energy sources. Energy sources will be researched to include the regional and global economic implications, environmental, and sustainability issues. Students will explore future trends of energy and power. Students will develop, through research, an alternative energy system that will demonstrate their understanding of a unique, as well as appropriate, approach to energy and power generation.

49.53800 Energy and Power: Generation, Transmission, Distribution Grades 9–12
Energy and Power: Generation, Transmission, and Distribution is the second course in the Energy Systems pathway. In this course, students will continue to learn about energy and power industry fundamentals by furthering their knowledge regarding electric power generation, transmission and distribution. In addition, the students will gain knowledge about business models, regulations, and safety within the energy industry.

49.53900 Energy Systems Applications Grades 10-12
As the third course, Energy Systems Applications explores the relationship between force, work, energy, and power. Students study the characteristics, availability, conversion, control, transmission, and storage of energy and power, as well as examine and apply the principles of electrical, fluid, and mechanical power. Students research renewable, nonrenewable, and inexhaustible resources and conservation efforts. Using their course-acquired skills, students will further understand the many careers that exist in energy and related technologies.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Engineering Assessment
Georgia Performance Standards
Cluster Description
The Finance Career Cluster focuses on money management, including planning, investing, and spending. Students will gain career development skills for the finance world with opportunities that expand beyond basic business skills into financial literacy, banking, investing, insurance, and risk management.

Pathways
Advanced Accounting
07.44130 Introduction To Business & Technology
07.41100 Principles of Accounting I
07.41200 Principles of Accounting II

Business Accounting
07.44130 Introduction To Business & Technology
07.42600 Financial Literacy
07.41100 Principles of Accounting I

Financial Services
07.44130 Introduction to Business & Technology
07.42600 Financial Literacy
07.43100 Banking, Investing, and Insurance

Career and Technical Student Organization (CTSO):
FBLA http://fbla-pbl.org
Future Business Leaders of America-Phi Beta Lambda is a nonprofit education association of students preparing for careers in business and business-related fields. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs.
Advanced Accounting

This pathway exposes students to the profession of accounting and related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

07.44130 Introduction To Business & Technology Grades 9-11
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

07.41100 Principles of Accounting I Grades 9-12
Principles of Accounting I is a skill-level course that is of value to all students pursuing a strong background in business, marketing, and management. Using financial information, students will learn how to make decisions about planning, organizing, and allocating resources using accounting procedures. Performing accounting activities for sole proprietorships and corporations following Generally-Accepted Accounting Procedures are included in the course. Students analyze business transactions and financial statements, perform payroll, and evaluate the effects of transactions on the economic health of a business.

07.41200 Principles of Accounting II Grades 10-12
Building on the foundation knowledge acquired in Principles of Accounting I, students will extend their skills and knowledge in accounting. By performing accounting activities for various business entities following Generally-Accepted Accounting Procedures, students will apply their skills and knowledge in applicable format. Uncollectible accounts, plant assets, inventory, notes payable and receivable, prepaid and accrued expenses, and unearned and accrued revenues are analyzed and related adjustments are calculated. Students will apply managerial accounting techniques. Students enrolled in this course should have successfully completed Introduction to Business & Technology and Principles of Accounting I.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Accounting—Advanced
Business Accounting

This pathway exposes student to the profession of accounting and related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**07.44130 Introduction to Business & Technology**  Grades 9-11
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

**07.42600 Financial Literacy**  Grades 10-12
This course specifically designed for high school students to understand the importance of the financial world, including planning and managing money wisely. Areas of study taught through application in personal finance include sources of income, budgeting, banking, consumer credit, credit laws and rights, personal bankruptcy, insurance, spending, taxes, investment strategies, savings accounts, mutual funds and the stock market, buying a vehicle, and living independently. Based on the hands-on skills and knowledge applied in this course, students will develop financial goals, and create realistic and measurable objectives. Students enrolled in this course should have successfully completed Introduction to Business & Technology.

**07.41100 Principles of Accounting I**  Grades 9-12
Principles of Accounting 1 is a skill-level course that is of value to all students pursuing a strong background in business, marketing, and management. Using financial information, students will learn how to make decisions about planning, organizing, and allocating resources using accounting procedures. Performing accounting activities for sole proprietorships and corporations following Generally-Accepted Accounting Procedures are included in the course. Students analyze business transactions and financial statements, perform payroll, and evaluate the effects of transactions on the economic health of a business.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Accounting—Basic
Financial Services

This pathway prepares students to plan, manage, and analyze the financial and monetary aspects and performance of business enterprises, banking institutions, or other organizations. Includes instruction in financial instruments; capital planning; funds acquisition; asset and debt management; budgeting; financial analysis; and investments and portfolio management.

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<td>Banking, Investing, and Insurance</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

07.44130 Introduction to Business & Technology Grades 9-11
Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business.

07.42600 Financial Literacy Grades 10-12
This course specifically designed for high school students to understand the importance of the financial world, including planning and managing money wisely. Areas of study taught through application in personal finance include sources of income, budgeting, banking, consumer credit, credit laws and rights, personal bankruptcy, insurance, spending, taxes, investment strategies, savings accounts, mutual funds and the stock market, buying a vehicle, and living independently. Based on the hands-on skills and knowledge applied in this course, students will develop financial goals, and create realistic and measurable objectives. Students enrolled in this course should have successfully completed Introduction to Business & Technology.

07.43100 Banking, Investing, and Insurance Grades 9--12
Explore the financial world as students dive into the main areas of financial services, including banking, investing, and insurance. Basics of banking and credit include a brief history of money and banking, negotiable instruments, creation of credit, and the function of banks. Methods for measuring the financial performance of financial institutions are analyzed. Students will be introduced to a variety of investment options and learn to determine the appropriate options for an investment goal. By analyzing financial reports and employing other tools to predict growth rates and return on investment, students will develop strategies to produce financial growth strategies for a business.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Financial & Investment Planning
Georgia Performance Standards
**Cluster Description**
The Government & Public Administration Career Cluster includes the planning and performing of government management and administrative functions at local, state, and federal levels. Careers are available in national security, foreign service, revenue, and regulations. The goal of the Junior Reserve Officer Training Corps (JROTC) is to provide secondary school students the opportunity to become better informed, responsible citizens through a military environment. Sixty percent of the curriculum focuses on development of academic areas including United States military history, national security, meteorology, astronomy, aerospace vehicles and environment (aircraft, rocketry satellite, and spacecraft) Management, communications, survival, navigation, and physical fitness. Forty percent of class time is spent in developing leadership skills and military courtesies and customs.

**Click here to view the Government and Public Administration Performance Standards.**

**Pathways**

**JROTC - Air Force**
Aerospace Science Leadership 100
Aerospace Science Leadership 200
Aerospace Science: Cultural Studies
Aerospace Science: Leadership 300
Aerospace Science: Space Exploration
Aerospace Science: Leadership 400
Aerospace Science: Aviation History
Aerospace Science: Survival
Aerospace Science: Honors Ground School

**JROTC - Army**
28.03100  JROTC Army Leadership 1
28.03200  JROTC Army Leadership 2
28.03300  JROTC Army Leadership 3
28.03400  JROTC Army Leadership 4
28.03500  JROTC Army Leadership 5
28.03600  JROTC Army Leadership 6
28.03700  JROTC Army Leadership 7
28.03800  JROTC Army Leadership 8
Cluster Description
The Government & Public Administration Career Cluster includes the planning and performing of government management and administrative functions at local, state, and federal levels. Careers are available in national security, foreign service, revenue, and regulations. The goal of the Junior Reserve Officer Training Corps (JROTC) is to provide secondary school students the opportunity to become better informed, responsible citizens through a military environment. Sixty percent of the curriculum focuses on development of academic areas including United States military history, national security, meteorology, astronomy, aerospace vehicles and environment (aircraft, rocketry satellite, and spacecraft) Management, communications, survival, navigation, and physical fitness. Forty percent of class time is spent in developing leadership skills and military courtesies and customs. The program also provides college scholarship opportunities and Military Academy appointments for qualified individuals.

Additional Pathways
JROTC Marines
28.04100 MCJROTC Leadership Education I
28.04200 MCJROTC Leadership Education II
28.04300 MCJROTC Leadership Education III
28.04400 MCJROTC Leadership Education IV
28.04500 MCJROTC Leadership Education V
28.04600 MCJROTC Leadership Education VI
28.04700 MCJROTC Leadership Education VII
28.04800 MCJROTC Leadership Education VIII

JROTC - Navy
28.02100 Naval Science I Cadet Field Manual
28.02200 Naval Science I Introduction to NJROTC
28.02300 Naval Science II Maritime History
28.02400 Naval Science II Nautical Science
28.02500 Naval Science III Naval Knowledge
28.02600 Naval Science III Naval Orientation and Skills
28.02700 Naval Science IV Naval Leadership and Ethics
28.02800 Naval Science IV Effective Communications
JROTC - Air Force

The AFJROTC program is a 4-year program that teaches students Aerospace Science, leadership, and citizenship skills. Each year is divided into two categories: academics and leadership. Academic studies include aviation history, science of flight, astronomy and private pilot training. Leadership studies include Air Force customs and courtesies, cadet corps activities, study habits, time management, communication skills and leadership and management studies. All students are expected to wear the uniform (issued free) once a week. Students are expected to participate in field training activities and community/school service projects.

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<tr>
<td>Level 9</td>
<td>Aerospace Science: Honors Ground School</td>
<td>28.01900</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**28.01100 Aerospace Science Leadership 100**
The aviation history course provides students a background of the development of flight from early myths to the present as part of an historical overview of American warfare. Students will focus on aviation issues, objectives, strategy, technology, scientific advances, forces, milestones, and assessments. Students examine major figures in aviation history while investigating the heritage of flight, the development of air power through the use of scientific knowledge, the historic role of airpower during wartime, aerospace aviation technological advances, and contemporary aviation.

**28.01200 Aerospace Science Leadership 200**
The second year is a science course designed to acquaint the student with the aerospace environment, the human requirements of flight, principles of aircraft flight, and principles of navigation. The course begins with a discussion of the atmosphere and weather. After developing an understanding of the environment, how that environment affects flight is introduced. Discussions include the forces of lift, drag, thrust, and weight. Students also learn basic navigation including map reading, course plotting, and the effects of wind. The portion on the Human Requirements of Flight is a survey course on human physiology. Discussed here are the human circulatory system, the effects of acceleration and deceleration, and protective equipment. Basic concepts of aircraft flight, high school math, physics, and science are brought to life as students study The Science of Flight.
Aerospace Science: Cultural Studies
Cultural Studies is a multidisciplinary course that introduces students to various regions of the world from a geographic, historical and cultural perspective. The course provides increased international awareness and insight into foreign affairs that permits a more educated understanding of other cultures and enhanced knowledge of America's interests and role in the world. Geopolitical issues such as terrorism, economics, politics, military issues, religion, environmental concerns, human rights, disease, over population, literacy, the migration of peoples and other cultural issues will be examined. The regional areas included in this course are Europe, the Middle East, South Asia, East Asia, Africa, and Latin America.

Aerospace Science: Leadership 300
Explorations: An Introduction to Astronomy guides students through the history of astronomy starting with the Chinese and ending with today's scientific discoveries. Students learn about the scientific reasons for the composition of celestial objects in the Milky Way using the laws of physics. They review the discoveries various astronomers and scientists have made, concluding with recent efforts to learn more about objects in our universe. Basic concepts of space, high school math, and science are brought to life as students study this introduction to astronomy.

Aerospace Science: Space Exploration
Aerospace Science: The Exploration of Space guides students through an all new world of satellites, orbits, space environments and travel to other planets. Students gain great insights into how and why we go to so much trouble to put complicated satellites into orbit. The discoveries and sacrifices of many space pioneers are highlighted in this course. Basic concepts of space flight, high school math, physics, and science are brought to life as students study space exploration.

Aerospace Science: Leadership 400
Leadership, Life Skills and Career Opportunities discusses principles of management. It includes definitions and histories of the discipline, conflict management, negotiation, and mentoring. It covers management techniques including principles and functions of management; management decisions involving conflict management, personal coping mechanisms, skills, roles, performance of management, and delegation; management functions of problem solving, decision making, negotiation, and mentoring, and managing one's self and others by managing self-development, time, and information.

Aerospace Science: Aviation History
This course studies aviation history, focusing on the development of flight throughout the centuries. It starts with ancient civilizations, then progresses through time to modern day. The emphasis is on civilian and military contributions to aviation; the development, modernization, and transformation of the Air Force; and a brief astronomical and space exploration history. The course includes concise overviews of the principles of flight to include basic aeronautics, aircraft motion and control, flight power, and rockets.

Aerospace Science: Survival
Survival introduces students to the physical and mental needs individuals must satisfy during varied survival situation. Students learn about survival preparedness, conditions affection survival, individual survivor needs, psychological aspects of survival, and the will to survive. They also learn required personal protection measures, where to find necessities required to maintain life, and orientation and traveling techniques to use during a survival situation. Students will learn what to do to maintain life in a survival situation—whether that situation is caused by a natural or manmade disaster. They learn to quickly assess their environment, determine immediate and long term actions for survival, and scientifically pursue survival in an unfamiliar environment.

Aerospace Science: Honors Ground School
Aviation Honors Ground School is an advanced, more in depth study of previous aerospace topics. The course is the foundation for students interested in receiving a private pilot’s license. Upon successful completion of this course, the student will be prepared to take the Federal Aviation Administration (FAA) Private Pilot Written Exam.
The mission of the United States Army Junior Reserve Officer Training Corps (JROTC) Program is to motivate young people to be better citizens. The program is offered as an academic elective and the grade received is included in the student's overall grade point average. Program objectives are to: provide and encourage citizenship; promote high school completion; develop leadership potential; strengthen self-esteem; improve wellness and physical fitness; provide an incentive to live drug-free; and enhance life skills.

Major subject areas in the JROTC curriculum are: Leadership and Patriotism (decision making, problem-solving, teamwork, moral responsibility, respect for constituted authority, personal and group success), Communication (communicate and listen effectively, improve verbal and written skills, interview and presentation methods), Citizenship and History (ethical values, rights and responsibilities, role of military in a democracy, current events, importance of citizenship in American History), Life Management Skills (self-reliance, goal setting, time management, financial management, stress reduction, increase self-confidence, overcome fear of failure, career options and opportunities), Wellness and Physical Fitness (first aid training, good health and appearance, drug prevention, importance of diet and exercise). No military obligation is incurred by participation in the program, though all students are expected to wear the uniform (issued free) once a week. Students are expected to participate in field training activities and community/school service projects. Successful graduates of this program can earn scholarships to a college or university. Entry-level active military pay is increased if a student has had at least two years of high school ROTC.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

28.03100  JROTC Army Leadership 1  
Junior Reserve Officer Training Corps (JROTC) is a leadership education program. This program will help students build a strong knowledge base of self-discovery and leadership skills applicable to many leadership and managerial situations. Mastery of these standards through project-based learning, service learning and leadership development activities will prepare students for 21st Century leadership responsibilities. This laboratory course is designed to introduce students to the history, customs, traditions and purpose of the Army JROTC program. It teaches students strategies to maximize their potential for success through learning and self-management. Basic leadership skills to include leadership principles, values and attributes and communications skills are integrated throughout the course.
28.03200 JROTC Army Leadership 2
This laboratory course is designed to build on the self-discovery skills sets taught in JROTC 1. As self-directed learners, students study the fundamentals citizenship skills, the foundation of the American political system and our Constitution. Personal responsibility and wellness is reinforced by diet, nutrition and physical fitness activities. Drug and alcohol awareness and prevention are reinforced. Students are placed in leadership roles that enable them to demonstrate an understanding of basic leadership principles, values and attributes.

28.03300 JROTC Army Leadership 3
Junior Reserve Officer Training Corps (JROTC) is a leadership education program. This program will help students build a strong knowledge base of self-discovery and leadership skills applicable to many leadership and managerial situations. Mastery of these standards through project-based learning, service learning and leadership development activities will prepare students for 21st Century leadership responsibilities. Students develop an in-depth understanding of the branches of military service. Intermediate leadership skills to include leadership principles, values and attributes and communications skills are integrated throughout the course. Financial planning skills are studied through the National Endowment for Financial Education. Fundamental teaching skills are introduced.

28.03400 JROTC Army Leadership 4
This laboratory course is designed build on the leadership skills developed in JROTC 3. Students develop an in-depth understanding of the branches of military service. Intermediate leadership skills to include leadership principles, values and attributes and communications skills are integrated throughout the course. Financial planning skills are studied through the National Endowment for Financial Education. Fundamental teaching skills are introduced.

28.03500 JROTC Army Leadership 5
This laboratory course allows students to investigate the interrelationships of the different branches of the service while it continues to build student leadership development and decision making skills. Goal setting, leadership supervision and meetings incorporated into project based learning and service learning opportunities. Geography, map reading and the practical application of land navigation and orienteering are introduced.

28.03600 JROTC Army Leadership 6
This laboratory course expands on the skills taught in JROTC 5. It focuses on creating a positive leadership situation, team development, project management and the importance of mentoring as a leader or as a follower. Students are given the opportunity to demonstrate leadership potential in an assigned command or staff position within the cadet battalion organizational structure. Interactions between groups of people and how they affect the area’s cultural, economic, and political characteristics are included.

28.03700 JROTC Army Leadership 7
This laboratory course expands on the skills taught in JROTC 6. It focuses on creating a positive leadership situation, team development, project management and the importance of mentoring as a leader or as a follower. Interactions between groups of people and how they affect the area’s cultural, economic, and political characteristics are included. Students are given the opportunity to demonstrate leadership potential in an assigned command or staff position within the cadet battalion organizational structure.

28.03800 JROTC Army Leadership 8
This laboratory course expands on the skills taught in JROTC 7 and reinforces previous leadership experiences. It allows students to continue to build their leadership, management, decision making and negotiating skills by serving in a variety of staff or leadership positions. Students create a career portfolio to plan for college or work. Students are expected to take leadership roles in the battalion and participate in community service or service learning projects based on their level of leadership development.
JROTC Marines

Marine Corps JROTC (MCJROTC) Leadership Education develops good citizenship, self-confidence and self-discipline. Leadership Education classes introduce cadets to the elements of Leadership, Military Customs, Drill and ceremonies, Uniform Inspections, Physical Fitness Training, Marksmanship, and Marine Corps history. Cadets are required to participate in civic service, and wear a uniform at least once weekly.

MCJROTC prepares high school students for responsible leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. As a cadet gains experience and knowledge, he or she will be given active, hands-on leadership responsibilities with the JROTC Program.

Benefits of the Marine Corps Junior ROTC Program include improved self-esteem, increased time management skills, development of leadership skills, increased knowledge and appreciation for the military. No military obligation is incurred by participation in the program, though all students are expected to wear the uniform (issued free) once a week. Students are expected to participate in field training activities and community/school service projects. Successful graduates of this program can earn scholarships to a college or university. Entry-level active military pay is increased if a student has had at least two years of high school ROTC.

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<thead>
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<th>Level</th>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

28.04100  MCJROTC Leadership Education I
This is the initial course of Marine Corps JROTC. It includes program orientation, classroom instruction, and practical application of instructed skills. The course lays the foundations for subsequent Leadership Education courses by teaching the basics of leadership, citizenship, personal growth, appearance and responsibility, general Marine Corps knowledge, drill, and physical training. Emphasis is on introduction to leadership, citizenship, physical training and drill. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum.
28.04200  MCJROTC Leadership Education II
This is the second course of Marine Corps JROTC. It includes classroom instruction and practical application of the tasks instructed. Completion of the LE1 course is prerequisite. The course builds on the foundations attained in LE1 (leadership, citizenship, personal growth and responsibility, and general military subjects) with more emphasis in the area of General Marine Corps subjects. Career exploration, civilian marksmanship, and first aid are introduced. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum. In this course, novice leaders begin to develop their relationships in personal and practical situations.

28.04300  MCJROTC Leadership Education III
This is the third course of Marine Corps JROTC. It includes classroom instruction and practical application of instructed skills. The course builds on the foundations developed in the initial courses and begins to develop more advanced leadership skills. Leadership Education courses at this level provide elevated instruction in the basics of leadership, citizenship, personal growth, appearance and responsibility, and additional instruction and practical application general military subjects. An introduction to career awareness is also introduced. Emphasis is on development of leadership skills, citizenship, physical training and drill. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum.

28.04400  MCJROTC Leadership Education IV
This is the fourth course of Marine Corps JROTC. The course builds on the foundations developed in level 3 and continues to introduce advanced leadership instruction with emphasis on motivation and discipline. Leadership Education courses at this level provide elevated instruction in leadership, citizenship, personal growth, appearance and responsibility, career awareness, and general military subjects. Basic instruction on military law and land navigation are also introduced. Expanded instruction on rifle safety and marksmanship techniques build on basic instruction at level 2. Physical fitness is enhanced to include planning and supervision. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum.

28.04500  MCJROTC Leadership Education V
This is the fifth course of Marine Corps JROTC. It includes classroom instruction and practical application of instructed tasks. Completion of the LEI through LEIV course is prerequisite. The course builds, refines and introduces cause and effect relationships dealing with the foundations attained in previous leadership classes (leadership, citizenship, personal growth and responsibility, and general military subjects), with increased emphasis in the area of general Marine Corps subjects and leadership instruction. Career exploration, financial management and responsibility, and relationships with other military services are introduced. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum.

28.04600  MCJROTC Leadership Education VI
This is the sixth course of Marine Corps JROTC. It includes classroom instruction and practical application of instructed tasks. Completion of the LEI through LEV course is a prerequisite. Sequential instruction in the course includes additional study in General Military Subjects. Additional topics covered are leading close order drill activities and marksmanship competition. School and community service activities are also emphasized. Marine Corps participation in World War Two is reviewed and advanced compass and land navigation techniques are introduced. Additional instruction in the Uniform Code of Military Justice is also provided. Minimum performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum. The performance standards of this course are based on the performance standards identified in the course for Marine Corps JROTC.
28.04700    MCJROTC Leadership Education VII
This is the seventh course of Marine Corps JROTC. It includes classroom instruction and practical application of more advanced tasks included in the training cadets and managing assets. The course emphasizes the application of the skills acquired in the first six Leadership Education courses and provides the cadet with practical experience in leadership experiences. Performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum. Successful completion of at least three units of credit in the Marine Corps JROTC program qualify the student for advanced placement in a college ROTC program or accelerated promotion in the military services.

28.04800    MCJROTC Leadership Education VIII
This is the eighth course of Marine Corps JROTC. It includes classroom instruction and practical application of advanced tasks for cadets who have successfully completed the LE VII course. The course emphasizes the application of the skills acquired in the first seven Leadership Education courses and provides the cadet with practical experience in leadership and management experiences. Performance requirements for the course are based on successful completion of competencies according to the national Marine Corps JROTC curriculum. Successful completion of at least three units of credit in the Marine Corps JROTC program qualify the student for advanced placement in a college ROTC program or accelerated promotion in the military services.
The Navy JROTC (NJROTC) curriculum emphasizes citizenship and leadership development, as well as maritime heritage, the significance of sea power, and naval topics such as the fundamentals of naval operations, seamanship, navigation and meteorology. Classroom instruction is augmented throughout the year by community service activities, drill competition, field meets, visits to naval activities, marksmanship training, and other military training.

Students will:
- Develop an appreciation of the ethical values and principles that underlie good citizenship which include integrity, responsibility and respect.
- Expand the ability to think logically and to communicate effectively both orally and in writing.
- Develop a better understanding of "patriotism" and what it means to be an American.
- Become more informed about the importance of first aid, physical conditioning, proper diet and nutrition.
- Engage in activities that foster pride, self-respect, confidence, self-discipline and the desire to do one's best.

No military obligation is incurred by participation in the program, though all students are expected to wear the uniform (issued free) once a week. Students are expected to participate in field training activities and community/school service projects. Successful graduates of this program can earn scholarships to a college or university. Entry-level active military pay is increased if a student has had at least two years of high school ROTC.

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<td>Level 1</td>
<td>Naval Science I Cadet Field Manual</td>
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<td>Level 2</td>
<td>Naval Science I Introduction to NJROTC</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

28.02100  Naval Science I Cadet Field Manual
The purpose of this course is to combine all information on military drill and ceremonies, uniform regulations, physical fitness, orienteering, principles of health, first aid, survival, leadership, and communications. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128. The performance standards in this course are based on the performance standards identified in the curriculum for the United States Navy Junior Reserve Officer Training Corps. Successful completion of three courses of credit will qualify the student for advanced placement in a college ROTC program or accelerated promotion in the military service.

28.02200  Naval Science I Introduction to NJROTC
The purpose of this course is to help students understand the missions, goals, and opportunities available as members of the NJROTC program. This course will also introduce students to the basic principles of leadership, which combined with
the many opportunities for practical experience in the NJROTC program will prepare them for leadership roles in school and upon graduation. Students will gain an understanding of our nation, our values, traditions, heritage, respect for our laws, as well as becoming involved, responsible citizens. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02300  Naval Science II Maritime History**
The purpose of this course is to build on the general introduction provided in Naval Science I, to further develop the traits of citizenship and leadership in students, introduce cadets to the maritime history of the world and the United States from the American Revolution through the present time. The material includes Bosnia, the demise of the Soviet Union, and the September 11, 2001 terrorists’ attack upon the United States. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02400  Naval Science II Nautical Science**
The purpose of this course is to introduce the various nautical sciences through classroom work and some laboratory time. The development of core skills that students should master is integrated throughout the course and includes geography, oceanography, astronomy, physical science, meteorology, and weather. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02500  Naval Science III Naval Knowledge**
The purpose of this course is to further the foundation in citizenship and leadership established in Naval Science One and Two and to expound upon the virtues of the United States citizenship with knowledge of uses of the world’s waterways through the viewpoint of National power and International law. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02600  Naval Science III Naval Orientation and Skills**
The purpose of this course is to further the foundation in citizenship and leadership established in Naval Science One and Two and to provide classroom and practical application in Naval and Ship Organization. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02700  Naval Science IV Naval Leadership and Ethics**
The purpose of this course is to take a more in-depth look at what leadership is and to learn how to maximize leadership abilities. More importantly, this course will assist the student in adding the polish necessary to be a truly effective leader in the NJROTC unit, school, community, and in life. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.

**28.02800  Naval Science IV Effective Communications**
The purpose of this course is to teach the students the techniques of effective communication, which is one of the most important skills that a good leader must develop in order to be successful. Minimum performance requirements of this course are in accordance with current Chief of Naval Education Training Instruction, NAVEDTRA 37128.
Georgia Performance Standards
Cluster Description
The Health Science Career Cluster includes planning, managing, and providing services in therapeutics, diagnostics, health informatics, support areas, and biotechnology research and development.

**Click here to view the Health Science Performance Standards.

Pathways

**Therapeutic Services / Allied Health and Medicine**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.43700 Allied Health and Medicine

**Diagnostics / Phlebotomy**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.57400 Phlebotomy

**Therapeutic Services / Sports Medicine**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.44600 Sports Medicine

**Diagnostics / Clinical Lab**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.57600 Clinical Lab I
- 25.57700 Clinical Lab II

**Therapeutic Services / Dental Science**
- 25.52100 Introduction to Healthcare Science
- 25.48800 Essentials of Dental Science
- 25.48900 Dental Science II

**Therapeutic Services / Patient Care**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.43600 Patient Care Fundamentals

**Health Informatics / Health Information Management / Medical Office**
- 25.52100 Introduction to Healthcare Science
- 25.44000 Essentials of Healthcare
- 25.49700 Health Information Management / Medical Office

HOSA  http://www.hosa.org
HOSA is a national student organization endorsed by the U.S. Department of Education and the Health Science Technology Education Division of ACTE. HOSA’s two-fold mission is to promote career opportunities in the health care industry and to enhance the delivery of quality health care to all people. HOSA's goal is to encourage all health occupations instructors and students to join and be actively involved in the HSTE-HOSA Partnership.
Students wishing to pursue a career in the area of Therapeutic Services will receive initial exposure to the fundamental principles, practices, and essential skills used Allied Health and Medicine. This pathway includes both classroom instruction and hands-on laboratory experiences in the development of skills required Allied Health and Medicine. Areas of study include career planning, legal and professional ethics, medical terminology, documentation, communication skills, human relations, medical asepsis/infection control, vital signs, cardiopulmonary resuscitation, and first aid.

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<td>Level 3</td>
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<td>25.43700</td>
<td>HS-AHM</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**25.52100 Introduction to Healthcare Science Grades 9-11**
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

**25.44000 Essentials of Healthcare Grades 9--12**
The Essentials of Healthcare is a medical-focused anatomy course addressing the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system.

**25.43700 Allied Health and Medicine Grades 10-12**
This course is designed to offer students (preferably upper classmen - juniors or seniors) the opportunity to become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of various allied health opportunities. Students focusing on a career path in the healthcare field may apply classroom/lab knowledge and skills in the clinical setting as they participate in direct or simulated client care.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
National Center for Competency Testing Certified Medical Office Assistant (NCMOA), National Health Association Certified Medial Administrative Assistant (CMAA), NCHSE Precision Exam
Therapeutic Services/Sports Medicine

The Sports Medicine pathway will help students develop skills that will give them a competitive edge in the fields of physical therapy or sports medicine. This program covers medical terminology, nutrition, kinesiology, gait training, therapeutic exercise, pharmacology, and modality and treatment techniques in physical medicine training.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

25.52100  Introduction to Healthcare Science  Grades 9-11
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

25.44000  Essentials of Healthcare  Grades 9--12
The Essentials of Healthcare is a medical-focused anatomy course addressing the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system.

25.44600  Sports Medicine  Grades 10-12
The course is appropriate for students who wish to pursue a career in healthcare with a focus on the musculoskeletal system, injury assessment, injury prevention, or rehabilitation including careers in Sports Medicine and Rehabilitative Services. This course will enable students to receive initial exposure to therapeutic services skills and attitudes applicable to the healthcare industry. The concepts of anatomy and physiology, assessment, preventative and rehabilitative care are introduced. Fundamental healthcare skills development is initiated, including medical terminology, kinesiology, patient assessment, record keeping, and basic life support.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

Precision Exercise Science / Sports Medicine Assessment (701)
Therapeutic Services/Dental Science

This pathway is designed for students wishing to pursue a career in the area of Dental Science. Students will receive initial exposure to dental health science technical skills and attitudes applicable to dental health occupations.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

25.52100 Introduction to Healthcare Science Grades 9-11
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

25.48800 Essentials of Dental Science Grades 9--12
In this course students will receive initial exposure to dental health science technical skills applicable to all dental health occupations. This course provides an overall framework of basic skills utilized in the dental field. Students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies such as the Occupational Safety and Health Administration (OSHA), Center for Disease Control (CDC) and the Georgia Board of Dentistry. The prerequisite for this course is Introduction to Healthcare Science Technology.

25.48900 Dental Science II Grades 10-12
This course is designed to offer student an in-depth study and practical application of dental charting, office procedures, chair-side assisting, anatomy and physiology, and tooth morphology. Academics and other related science are integrated throughout the course. The prerequisite for this course include Introduction to Healthcare Science and Essentials of Dental Science.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Precision Dental Assisting I and II
Diagnostics/Clinical Lab

Students wishing to pursue a career in the area of Diagnostics/Clinical Lab will receive initial exposure to the fundamental principles, practices, and essential skills used in diagnostic services. This pathway includes both classroom instruction and hands-on laboratory experiences in the development of skills required in Diagnostics/Clinical Lab. Areas of study include career planning, legal and professional ethics, microbiology, analytical chemistry and quality control procedures.

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Course Descriptions

**25.52100 Introduction to Healthcare Science Grades 9—11**
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

**25.44000 Essentials of Healthcare Grades 9—12**
The Essentials of Healthcare is a medical-focused anatomy course addressing the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system.

**25.57600 Clinical Lab I Grades 10—12**
The goal of this course is to provide fundamental clinical laboratory assistant skills and knowledge that includes the use of laboratory equipment, safety in the lab, quality control and quality assurance, chemistry, and microbiology. Students will have the opportunity to explore careers in the clinical lab industry and the education required at each level. The prerequisites for this course include Introduction to Healthcare Science and Essentials of Healthcare.

**25.57700 Clinical Lab II Grades 10—12**
The goal of this course is to provide fundamental clinical laboratory-assistant skills and knowledge to include the use of laboratory equipment, safety in the lab, quality control and assurance, hematology, urinalysis, serology/immunology, immunohematology, and knowledge of phlebotomy procedures. Students will have the opportunity to explore careers in the clinical lab industry and the education required at each level. The prerequisites for this course include Introduction to Healthcare Science, Essentials of Healthcare, and Clinical Lab I.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

Precision National Health Science Assessment
Health Informatics/Health Information Management/Medical Office

In this pathway medicolegal issues surrounding the management, storage, retrieval, and release of medical records are examined including new legal issues surrounding current electronic and imaging technology developments and trends in medical records management.

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Course Descriptions

25.52100 Introduction to Healthcare Science Grades 9-11
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

25.44000 Essentials of Healthcare Grades 9–12
The Essentials of Healthcare is a medical-focused anatomy course addressing the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system.

25.49700 Health Information Management / Medical Office Grades 10-12
This course will orient the student to health information management and working in a medical office. Topics include introducing students to skills and knowledge utilized in a medical office, the structure of healthcare in the United States, healthcare providers, and the structure and function of professional organizations. The course provides students with medical office computer and software skills that include hardware and software components of computers for medical record applications; database software and information management; specialized information management systems in healthcare; methods of controlling confidentiality and patient rights; and accuracy and security of health information data in computer systems. Prerequisites for this course are Introduction to Healthcare and Essentials of Healthcare.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Precision National Health Science Assessment, NHA Certified Medical Administrative Assistant (CMAA)
Therapeutic Services/Patient Care

In this pathway medicolegal issues surrounding the management, storage, retrieval, and release of medical records are examined including new legal issues surrounding current electronic and imaging technology developments and trends in medical records management.

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<th>Level</th>
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<th>Course Abbreviation</th>
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<tr>
<td>Level 1</td>
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<td>Level 2</td>
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<td>25.43600</td>
<td>HS-PCF</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

25.52100 Introduction to Healthcare Science  Grades 9-11
Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. The concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today’s healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid.

25.44000 Essentials of Healthcare  Grades 9-12
The Essentials of Healthcare is a medical-focused anatomy course addressing the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system.

25.43600 Patient Care Fundamentals  Grades 10-12
This course is designed to provide students interested in the careers that involve patient care with entry level skills most commonly associated with the career Nursing Assistant. The students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies such as the Occupational Health and Safety Administration (OSHA), Center for Disease Control (CDC), and the Department of Health and Human Services (HHS) with a specific focus on the Omnibus Budget Reconciliation Act of 1987 (OBRA) and the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Certified Nursing Assistant or (Aide) (CNA) through an approved Nurse Aide Training Program (NATP)
Georgia Performance Standards
Cluster Description
The Hospitality & Tourism Career Cluster encompasses the management, marketing, and operations of restaurants, and other food services, lodging, attractions, recreation events, and travel related services.

**Click here to view the Hospitality and Tourism Performance Standards.**

Pathways
Culinary Arts
20.53100 Introduction to Culinary Arts
20.53210 Culinary Arts I
20.53310 Culinary Arts II

Career and Technical Student Organization (CTSO)

FCCLA http://www.fcclainc.org
Family, Career and Community Leaders of America, Inc. (FCCLA) is a nonprofit national career and technical student organization for young men and women in family and consumer sciences education in public and private school through grade 12.

Hospitality, Recreation and Tourism
08.47400 Marketing Principles
08.45300 Hospitality, Recreation and Tourism Essentials
08.45400 Hospitality, Recreation and Tourism Management

Sports & Entertainment Marketing
08.47400 Marketing Principles
08.47800 Introduction to Sports & Entertainment Marketing
08.48500 Advanced Sports & Entertainment Marketing

Career and Technical Student Organization (CTSO)

DECA http://www.deca.org
Distributive Education Club of America is a student-centered, educational/professional organization with a program of leadership and career development designed specifically for students enrolled in marketing education. Marketing education prepares students for rewarding careers in marketing, management and entrepreneurship. DECA enhances that education by providing marketing-related activities based directly on classroom study.
Culinary Arts

The Culinary Arts pathway creates an awareness of opportunities within the vast areas of the Food Service Industry. This pathway incorporates developments in the areas of institutional food, fine dining and basic baking principals. Pathway completers will have a strong foundation in the basics of food preparation, safety, nutrition, and restaurant operating procedures.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

20.53100  Introduction to Culinary Arts  Grades 9—11
Introduction to Culinary Arts is the foundational course designed to introduce students to fundamental food preparation terms, concepts, and methods in Culinary Arts where laboratory practice will parallel class work. Fundamental techniques, skills, and terminology are covered and mastered with an emphasis on basic kitchen and dining room safety, sanitation, equipment maintenance and operation procedures. The course also provides an overview of the professionalism in the culinary industry and career opportunities leading into a career pathway to Culinary Arts.

20.53210  Culinary Arts I  Grades 9—12
As the second course in the Culinary Arts Career Pathway, the prerequisite for this course is Introduction to Culinary Arts. Culinary Arts I is designed to create a complete foundation and understanding of Culinary Arts leading to postsecondary education or a food-service career. This fundamentals course begins to involve in-depth knowledge and hands-on skill mastery of culinary arts.

20.53310  Culinary Arts II  Grades 10—12
As the third course in the Culinary Arts Pathway, the prerequisite for this course is Culinary Arts I. Culinary Arts II is an advanced and rigorous in-depth course designed for the student who is continuing in the Culinary Arts Pathway and wishes to continue their education at the postsecondary level or enter the food-service industry as a proficient and well-rounded individual. Strong importance is given to refining hands-on production of the classic fundamentals in the commercial kitchen.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Culinary Arts Cook Level 2
Hospitality, Recreation and Tourism

This pathway prepares students for a career in Hospitality, Recreation and Tourism. This pathway will explore the tourism AND lodging industry and the role that marketing plays in each. Other topics explored include convention and meeting planning, human relations, management structures, legal and liability issues and human resource functions.

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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

08.47400  Marketing Principles  Grades 9-11
Marketing Principles is the foundational course for the Marketing and Management, Fashion Merchandising and Buying, and Marketing Communications and Promotion Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of Employability, Foundational and Business Administration skills, Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, Strategic Management, and Global Marketing strategies.

08.45300  Hospitality, Recreation and Tourism Essentials  Grades 9–12
The second course in the Hospitality, Recreation and Tourism Pathway educates students on the basics of marketing and business in relation to the hospitality, recreation, and tourism industry in the U.S. and abroad. Students will study destination geography, world economies, and historical timelines related to major segments of the hospitality industry. Students will determine how the lodging industry uses marketing to achieve goals. The vital roles of group, convention and meeting planning, human relations, communications and ethics will be discussed along with the recreation industry segment. The prerequisite for this course is Marketing Principles.

08.45400  Hospitality, Recreation and Tourism Management  Grades 10-12
The third course in the Hospitality, Recreation and Tourism (HRT) Pathway will ensure that students develop a leadership perspective about social, environmental, economic and consumer factors impacting the HRT industry. Students will analyze operations, control systems, management structures, service levels, cost effective operations and related technology. Students will demonstrate skills in handling legal and liability issues and human resources functions. Throughout the course, students will develop an innate understanding that exemplary customer service skills define success in the industry. The prerequisite for this course is Hospitality, Recreation & Tourism Essentials.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

NOCTI Travel & Tourism
Sports & Entertainment Marketing

This pathway prepares students for versatile careers in sports and event marketing. Leading marketing organizations today are creating and managing their communications in an integrated manner, with coordination in terms of messages, positioning, and timing, all developed in support of overall organizational objectives. This pathway will help the student prepare for a key role in such organizations.

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Course Descriptions

08.47400 Marketing Principles Grades 9-11
Marketing Principles is the foundational course for the Marketing and Management, Fashion Merchandising and Buying, and Marketing Communications and Promotion Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of Employability, Foundational and Business Administration skills, Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, Strategic Management, and Global Marketing strategies.

08.47800 Introduction to Sports & Entertainment Marketing Grades 9–12
This course introduces the student to the major segments of the Sports and Entertainment Industry and the social and economic impact it has on the local, state, national, and global economies. The products and services offered to consumers and the impact of marketing on these products and services are examined.

08.48500 Advanced Sports & Entertainment Marketing Grades 10-12
This course provides students opportunities to develop managerial and analytical skills and deepen their knowledge in sports/entertainment marketing. Topical units include: Marketing-Information Management, Selling, Publicity/Public Relations, Sales Promotion, Management of Promotion, Product Mix, Pricing, Positioning, and Marketing Planning.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
A*S*K Institute Fundamental Marketing Concepts
Georgia Performance Standards
Cluster Description
The Human Services Career Cluster prepares individuals for employment activities related to family and human needs such as nutrition and food science, counseling and mental health services, family and community services, personal care, and consumer services.

Pathways

Nutrition & Food Science
- 20.41610 Food, Nutrition & Wellness
- 20.41400 Food for Life
- 20.41810 Food Science

Interior, Fashion and Textiles
- 20.44100 Foundations of Interior Design
- 20.44500 Fundamentals of Fashion
- 20.44700 Textile Science

Career and Technical Student Organization (CTSO)

FCCLA  http://www.fcclainc.org
Family, Career and Community Leaders of America, Inc. (FCCLA) is a nonprofit national career and technical student organization for young men and women in family and consumer sciences education in public and private school through grade 12.

Additional Pathways

Personal Care Services—Cosmetology
- 12.54400 Introduction to Personal Care Services
- 12.41000 Cosmetology Services 2
- 12.41100 Cosmetology Services 3

Personal Care Services—Esthetics
- 12.54400 Introduction to Personal Care Services
- 12.43000 Esthetics Services 2
- 12.43100 Esthetics Services 3

Personal Care Services—Barbering
- 12.54400 Introduction to Personal Care Services
- 12.42000 Barbering 2
- 12.42100 Barbering 3

Personal Care Services—Nails
- 12.54400 Introduction to Personal Care Services
- 12.47000 Nail Care Services 2
- 12.47100 Nail Care Services 3

Career and Technical Student Organization (CTSO)

SkillsUSA  http://www.skillsusa.org
SkillsUSA is a national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.
Nutrition & Food Science

This pathway includes broad introductory coverage the individual's involvement in nutrition and food, factors involved in consumer food choices, in food selection, in food preparation, career opportunities in nutrition and food occupations, and commercial food preparation.

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<td>Level 3</td>
<td>Food Science</td>
<td>20.41810</td>
<td>HUM-FS</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**20.41610 Food, Nutrition & Wellness Grades 9-11**
Food, Nutrition and Wellness is the foundational course in the nutrition and food science pathway. The focus of the course is centered on healthy food and lifestyle choices. Students will investigate the interrelationship of food, nutrition and wellness to promote good health.

**20.41400 Food for Life Grades 9—12**
Food for Life is an advanced course in food and nutrition that addresses the variation in nutritional needs at specific stages of the human life cycle: lactation, infancy, childhood, adolescence, and adulthood including elderly. The most common nutritional concerns, their relationship to food choices and health status and strategies to enhance well-being at each stage of the lifecycle are emphasized. This course provides knowledge for real life and offers students a pathway into dietetics, consumer foods, and nutrition science careers with additional education at the post-secondary level.

**20.41810 Food Science Grades 10-12**
Food science integrates many branches of science and relies on the application of the rapid advances in technology to expand and improve the food supply. Students will evaluate the effects of processing, preparation, and storage on the quality, safety, wholesomeness, and nutritive value of foods. Building on information learned in Nutrition and Wellness and Chemistry, this course illustrates scientific principles in an applied context, exposing students to the wonders of the scientific world. Related careers will be explored.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
NRAEF – ServSafe
Interior, Fashion and Textiles

The Interior Design pathway is designed to expose students to a variety of opportunities in the field of both residential and non-residential interior design. The focus of the pathway is technical knowledge, professional practices, and aesthetic principles. Curriculum content includes residential and non-residential interior design, architectural drafting, computer-aided design, and universal design. Also included are basic design, history of interiors and furnishings, color theory, products, business practices, and graphic presentations.

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<td>Level 3</td>
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<td>20.44700</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**20.44100  Foundations of Interior Design  Grades 9-11**
This course introduces the student to the basic fundamentals of design and the interior design profession. The skills taught throughout the course will allow the student to investigate and explore the various careers within the aspects of interior design. Students will gain knowledge of the history of interior furnishings.

**20.44500  Fundamentals of Fashion  Grades 9–12**
The Fundamentals of Fashion course introduces the students to the fascinating world of how textiles are woven into the fabric of everyday life. This course is designed to advance student skills in the selection, purchase, design, care, and construction of textile products. The course emphasizes critical-thinking skills needed for making wise consumer choices and career decisions. Contextual learning experiences further develop critical-thinking skills needed for success in the professional environment and merchandising. Integration of Family Career and Community Leaders of America (FCCLA) greatly enhances this curriculum.

**20.44700  Textile Science  Grades 10-12**
The Textile Science course introduces students to the fascinating world of fabrics, fibers, dyes and fabric construction of the textile industry. Textiles for apparel, interior furnishings, and industrial applications are investigated. The course introduces students to testing methods, labeling laws, trends, applications, and color forecasting. Various career paths will be researched to determine educational levels, salary expectations, and growing industry demands.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
NOCTI – Interior Decorating & Design
Personal Care Services—Cosmetology

This pathway introduces the cosmetology profession. Instruction is provided on the various methods of disinfection, sanitation, and safety used in the cosmetology industry. This pathway introduces various types of scalp treatments, hair and scalp structures, and hair disorders. Training is provided in a lab or classroom setting. Instruction is provided on the laws, rules and regulations and how they govern the cosmetology industry.

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<td>12.41100</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

12.54400 Introduction to Personal Care Services  Grades 9-11
This course introduces both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Areas addressed in this course include: state rules and regulations, professional image, bacteriology, decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology. Pre-requisite for this course is advisor approval.

12.41000 Cosmetology Services II  Grades 9–12
This course is designed to enhance the understanding of anatomy of the skin and hair relating to the Cosmetology Industry. Students will master shampooing, permanent waving, hair cutting, basic skin care, and make-up application while maintaining safety and sanitation in the workplace set forth by OSHA standards. The prerequisite for this course is Introduction to Personal Care Services.

12.41100 Cosmetology Services III  Grades 10-12
This course will cover haircutting, hair color, and relaxers. Both theory and practical work will be implemented for students to have basic entry level skills in the field of cosmetology. Safety and infection control will be applied throughout this course. Professional work ethics, communication skills, critical thinking skills, soft skills and professional image will be utilized during this course.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
SkillsUSA Connect Cosmetology Exam
Personal Care Services—Barbering

This pathway introduces the Barbering profession. Instruction is provided on the various methods of disinfection, sanitation, and safety used in the barbering industry. This pathway introduces individualized and precise designing, cutting, and shaping of the hair, to include mustache and beard designs, facials and scalp treatment. Training is provided in a lab or classroom setting. Instruction is provided on the laws, rules and regulations and how they govern the industry.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**12.54400  Introduction to Personal Care Services  Grades 9-11**
This course introduces both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Areas addressed in this course include: state rules and regulations, professional image, bacteriology, decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology. Prerequisite for this course is advisor approval.

**12.42000  Barbering II  Grades 9--12**
This course is designed as an introductory level course for the Barbering Pathway and presents intermediate skills and knowledge related to barbering and scientific and mathematical corollaries. Clinical activities are included in this phase of study. Clinicals included in this course involve: individualized and precise designing, cutting, and shaping of the hair. The pre-requisite for this course is Introduction to Personal Care Services.

**12.42100  Barbering III  Grades 10-12**
This course will provide higher level skills that students can transfer to post-secondary barber schools. The knowledge and skills gained through this course will assist students in the analysis and performance of professional services such as haircutting and styling, mustache and beard design, facials, shaves and scalp treatments. The pre-requisite for this course is Introduction to Personal Care Services and Barbering II.
This pathway introduces the Esthetics profession. Instruction is provided on the various methods of disinfection, sanitation, and safety used in the barbering industry. This pathway introduces individualized and precise designing, cutting, and shaping of the hair, to include mustache and beard designs, facials and scalp treatment. Training is provided in a lab or classroom setting. Instruction is provided on the laws, rules and regulations and how they govern the industry.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**12.54400 Introduction to Personal Care Services**  
Grades 9-11  
This course introduces both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Areas addressed in this course include: state rules and regulations, professional image, bacteriology, decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology. Pre-requisite for this course is advisor approval.

**12.43000 Esthetics Services II**  
Grades 9--12  
The primary purpose of this course is to prepare the student to enter the field of esthetics, skin care and make-up. Esthetics is a study of the artistic and scientific principles of esthetics, in theory, concept and application. The course covers basic knowledge and techniques in developing skills in facials, massage, hair removal and make-up. Students will receive a basic understanding of science, business management and state law, as it relates to esthetics.

**12.43100 Esthetics Services III**  
Grades 10-12  
This course will focus on the advanced skills required for employment within esthetics area. Areas of study include cosmetology law and rules; spa therapies; chemical peels; exfoliates, exfoliation techniques; microdermabrasion equipment; advanced esthetics and esthetics chemistry.
Personal Care Services—Nails

This pathway introduces the Barbering profession. Instruction is provided on the various methods of disinfection, sanitation, and safety used in the barbering industry. This pathway introduces individualized and precise designing, cutting, and shaping of the hair, to include mustache and beard designs, facials and scalp treatment. Training is provided in a lab or classroom setting. Instruction is provided on the laws, rules and regulations and how they govern the industry.

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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**12.54400 Introduction to Personal Care Services**  
Grades 9-11  
This course introduces both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Areas addressed in this course include: state rules and regulations, professional image, bacteriology, decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology. Prerequisite for this course is advisor approval.

**12.47000 Nail Care Services II**  
Grades 9-12  
This course provides training in manicuring, pedicuring and advanced nail techniques. Topics include: implements, products and supplies, diseases and disorders, advanced manicure techniques, pedicure techniques, nail product and general safety precautions and practices and advanced nail techniques (acrylics, wraps, tips and gel).

**12.47100 Nail Care Services III**  
Grades 10-12  
This course is designed to provide advanced training for employment in nail care careers. Academic knowledge and skills related to cosmetology are reviewed. Instruction includes advanced training in disinfection and sanitation processes and nail care.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

SkillsUSA Nail Care Skill Connect Assessment
Georgia Performance Standards
Cluster Description
The rapidly changing digital world of the Information Technology Career Cluster engages students in hands-on learning to prepare for careers that create, use, modify, and engage technology skills. Graphics, multimedia animation, web design, game and application development, networking, and computer repair are all possibilities.

Pathways
Computer Science
11.41500 Introduction to Digital Technology
11.47100 Computer Science Principles
11.01600 AP Computer Science

Information Support & Services
11.41500 Introduction to Digital Technology
11.41400 Information Technology Essentials
11.42000 Information Technology Support

Networking
11.41500 Introduction to Digital Technology
11.46100 Networking Fundamentals
11.46200 Network Systems and Support

Programming
11.41500 Introduction to Digital Technology
11.47100 Computer Science Principles
11.47200 Programming, Apps, Games, and Society

Web & Digital Design
11.41500 Introduction to Digital Technology
11.45100 Digital Design
11.45200 Web Design

Career and Technical Student Organization (CTSO):
FBLA http://fbla-pbl.org

Future Business Leaders of America-Phi Beta Lambda is a nonprofit education association of students preparing for careers in business and business-related fields. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs.
Computer Science

This pathway focuses on the general writing and implementation of generic and customized programs to drive operating systems and prepares students to apply the methods and procedures of software design and programming to software installation and maintenance. Includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.

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<tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>Level 2</td>
<td>Computer Science Principles</td>
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<td>Level 3</td>
<td>AP Computer Science</td>
<td>11.01600</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

11.41500 Introduction to Digital Technology Grades 9-11
This course is the foundational course for Web & Digital Design, Programming, Advanced Programming, Information Support & Services and Network Systems pathways. This course is designed for students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support and networks are all covered.

11.47100 Computer Science Principles Grades 9–12
Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. This course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating. Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

11.01600 AP Computer Science Grades 10-12
This course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
Microsoft Technology Associate (MTA): HTML5 Application Developer Fundamentals
Information Support & Services

Students in this course develop the skills necessary for troubleshooting computer and peripherals and performing preventive maintenance. Additionally, students will install, build, upgrade, repair, configure, troubleshoot, and perform preventative maintenance on computer hardware, operating systems, laptops and portable devices.

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<tr>
<td>Level 2</td>
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<td>Level 3</td>
<td>Information Technology Support</td>
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<td>IT-ITS</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

11.41500  Introduction to Digital Technology  Grades 9-11
This course is the foundational course for Web & Digital Design, Programming, Advanced Programming, Information Support & Services and Network Systems pathways. This course is designed for students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support and networks are all covered.

11.41400  Information Technology Essentials  Grades 9--12
Students taking this course will develop a skill set to solve computer problems, perform preventive maintenance, and explain functions of purposes of computer elements. Existing in a world full of computer technology, students will gain practical experience in assembling a computer system, installing an operating system, troubleshooting computers and peripherals, and using system tools and diagnostic software.

11.42000  Information Technology Support  Grades 10-12
Students will apply Information Technology Essentials skills to diagnose and correct computer problems. By building knowledge and skill, students will install, build, upgrade, repair, configure, troubleshoot, and perform preventative maintenance on computer hardware, operating systems, laptops and portable devices. Practical and hands-on experience of troubleshooting and maintenance will allow students to demonstrate mastery of skills. Information Technology Support is the third course in the Information Support and Services pathway in the Information Technology cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology and Information Technology Essentials.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Information Support and Services
Networking

Students in this course develop the skills necessary for the planning, installation, and management of networks that enable computers to communicate both locally and globally. It includes networking essentials, network architectures, network operating systems, wide-area networks, and network management.

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<tr>
<td>Level 2</td>
<td>Networking Fundamentals</td>
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<td>Level 3</td>
<td>Network Systems and Support</td>
<td>11.46200</td>
<td>IT-NSS</td>
</tr>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**11.41500  Introduction to Digital Technology  Grades 9-11**
This course is the foundational course for Web & Digital Design, Programming, Advanced Programming, Information Support & Services and Network Systems pathways. This course is designed for students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support and networks are all covered.

**11.46100  Networking Fundamentals  Grades 9–12**
This course is designed to provide students with the background necessary to understand the local area networking information on workstations and networking. Students will learn the processes involved in designing, implementing, upgrading, managing, and otherwise working with networks and network technologies. Networking Fundamentals is the second course in the Networking pathway in the Information Technology cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

**11.46200  Network Systems and Support  Grades 10-12**
Students will apply a variety of fundamental skills utilized in entry-level computer network systems administration positions. Exposure to various aspects of network hardware and software maintenance and monitoring, configuring and supporting a local area network (LAN) and a wide area network (WAN), Internet systems and segments of network systems will allow students to develop a strong knowledge base for networking systems and support. Students will be involved in designing, implementing, upgrading, managing, and working with networks and network technologies.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Network Systems Assessment
Programming

This pathway focuses on the general writing and implementation of generic and customized programs to drive operating systems and prepares students to apply the methods and procedures of software design and programming to software installation and maintenance. Includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.

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<td>Level 2</td>
<td>Computer Science Principles</td>
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<td>IT-CS</td>
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<td>Level 3</td>
<td>Programming, Apps, Games, and Society</td>
<td>11.47200</td>
<td>IT-PGAS</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

11.41500 Introduction to Digital Technology Grades 9-11
This course is the foundational course for Web & Digital Design, Programming, Advanced Programming, Information Support & Services and Network Systems pathways. This course is designed for students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support and networks are all covered.

11.47100 Computer Science Principles Grades 9-12
Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. This course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating. Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

11.47200 Programming, Apps, Games, and Society Grades 10-12
The course is designed for students to strategize, design, and develop games and mobile and desktop applications that can be produced in the real world. Students will learn about life-cycles of project development and use models to develop applications. Attention will be placed on how user interfaces affect the usability and effectiveness of a game or an application. Programming constructs will be employed which will allow students’ applications to interact with “real world,” stimuli. The course exposes students to privacy, legality, and security considerations with regards to the software industry.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Microsoft Technology Associate (MTA): Gaming Development Fundamentals
Web & Digital Design

This pathway exposes students to the skills needed to develop and maintain web servers and the hosted web pages at one or a group of web sites, and to function as designated webmasters. Includes instruction in computer systems and networks; web page design and editing; information resources management; web policy and procedures; Internet applications of information systems security; user interfacing and usability research; and relevant management and communications skills.

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<td>Digital Design</td>
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<td>Level 3</td>
<td>Web Design</td>
<td>11.45200</td>
<td>IT-FWD</td>
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Course Descriptions

**11.41500 Introduction to Digital Technology Grades 9-11**
This course is the foundational course for Web & Digital Design, Programming, Advanced Programming, Information Support & Services and Network Systems pathways. This course is designed for students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support and networks are all covered.

**11.45100 Digital Design Grades 9--12**
Using web design as the platform for product design and presentation, students will create and learn digital media applications using elements of text, graphics, animation, sound, video and digital imaging for various format. The digital media and interactive media projects developed and published showcase the student skills and ability. Emphasis will be placed on effective use of tools for interactive multimedia production including storyboarding, visual development, project management, digital citizenship, and web processes. Students will create and design web sites that incorporate digital media elements to enhance content of web site.

**11.45200 Web Design Grades 10-12**
This course will equip students with the ability to plan, design, and create a web site. Students will move past learning how to write code and progress to designing a professional looking web site using graphical authoring tools that contains multimedia elements. Working individually and in teams, students will learn to work with web page layout and graphical elements to create a professional looking web site.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
Adobe Certified Associate (ACA-Dreamweaver)
Georgia Performance Standards
Cluster Description
The Law, Public Safety, Corrections, & Security Career Cluster prepares individuals for employment relating to emergency and fire services, legal services, protective services, and homeland security.

Pathways
Law Enforcement Services/Forensic Science
43.45000 Introduction to Law, Public Safety, Corrections and Security
43.45100 Criminal Justice Essentials
43.45200 Forensic Science and Criminal Investigations

Law Enforcement Services/Criminal Investigations
43.45000 Introduction to Law, Public Safety, Corrections and Security
43.45100 Criminal Justice Essentials
43.45300 Criminal Investigations

Corrections Services
43.45000 Introduction to Law, Public Safety, Corrections and Security
43.45100 Criminal Justice Essentials
43.45700 Applications of Corrections

Security and Protective Services
43.45000 Introduction to Law, Public Safety, Corrections and Security
43.45100 Criminal Justice Essentials
43.45800 Security and Protective Services

Career and Technical Student Organization (CTSO)
SkillsUSA  http://www.skillsusa.org
SkillsUSA is national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.
Law Enforcement Services/Forensic Science

This pathway includes, but is not limited to, introduction to the criminal justice system, police ethics and constitutional law, patrol procedures, traffic control procedures, defensive tactics and physical proficiency skills, interpersonal and communication skills, investigation procedures, court systems and trial procedures, correctional system, introduction to forensic science, crime prevention, property control, and employability skills.

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<td>Level 2</td>
<td>Criminal Justice Essentials</td>
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<td>LPSCS-CJE</td>
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<td>Level 3</td>
<td>Forensic Science and Criminal Investigations</td>
<td>43.45200</td>
<td>LPSCS-FSCI</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**43.45000 Intro to Law, Public Safety, Corrections and Security**  
Grades 9-11  
This course provides students with career-focused educational opportunities in various Intro to Law, Public Safety, Corrections and Security fields. It examines the basic concepts of law related to citizens’ rights and the responsibilities and students will receive instruction in critical skill areas including: communicating with diverse groups, conflict resolution, report writing, terrorism, civil and criminal law.

**43.45100 Criminal Justice Essentials**  
Grades 9--12  
Criminal Justice Essentials provides an overview of the criminal justice system. Starting with historical perspectives of the origin of the system, the course reviews the overall structure. Students will become immersed in criminal and constitutional law and will review basic law enforcement skills. The course ends with a mock trial to provide participants with a first-hand experience of the criminal justice system.

**43.45200 Forensic Science and Criminal Investigations**  
Grades 10-12  
Forensic Science and Criminal Investigations is a course designed to contextualize scientific principles within the career studies of students interested in criminal justice. The course will utilize scientific equipment; therefore, instructors should have access to a science lab if their Career and Technical Education lab is not equipped. Students will study the forensic application of principles of chemistry, biology, physics and other disciplines. Students will utilize chromatography, electrophoresis, microscopic observation, and other scientific techniques in their studies. Students will also learn some investigative techniques and crime scene investigation skills through the lens of the scientific method. The prerequisites for this course are Introduction to Law, Public Safety, Corrections and Security and Criminal Justice Essentials.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**  
SkillsUSA Criminal Justice/CSI Skill Connect Assessment
Law Enforcement Services/Criminal Investigations

This pathway includes, but is not limited to, introduction to the criminal justice system, police ethics and constitutional law, patrol procedures, traffic control procedures, defensive tactics and physical proficiency skills, interpersonal and communication skills, investigation procedures, court systems and trial procedures, correctional system, introduction to forensic science, crime prevention, property control, and employability skills.

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<td>LPSCS-CJE</td>
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<tr>
<td>Level 3</td>
<td>Criminal Investigations</td>
<td>43.45300</td>
<td>LPSCS-CI</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

43.45000 Intro to Law, Public Safety, Corrections and Security Grades 9-11
This course provides students with career-focused educational opportunities in various Intro to Law, Public Safety, Corrections and Security fields. It examines the basic concepts of law related to citizens' rights and the responsibilities and students will receive instruction in critical skill areas including: communicating with diverse groups, conflict resolution, report writing, terrorism, civil and criminal law.

43.45100 Criminal Justice Essentials Grades 9--12
Criminal Justice Essentials provides an overview of the criminal justice system. Starting with historical perspectives of the origin of the system, the course reviews the overall structure. Students will become immersed in criminal and constitutional law and will review basic law enforcement skills. The course ends with a mock trial to provide participants with a first-hand experience of the criminal justice system.

43.45300 Criminal Investigations Grades 10-12
This course is designed to provide students with an opportunity to explore the basic processes and principles of a criminal investigation. Students will learn the legal responsibilities and challenges of the patrol officer, investigator, and crime scene technician at a crime scene. Students will learn the importance of preserving and documenting the crime scene along with the identification, collection, and processing of evidence and the contribution to the criminal investigation. The prerequisites for this course are Introduction to Law, Public Safety, Corrections and Security, and Criminal Justice Essentials.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
SkillsUSA Criminal Justice/CSI Skill Connect Assessment
Corrections Services

This pathway includes, but is not limited to, introduction to the criminal justice system, police ethics and constitutional law, patrol procedures, traffic control procedures, defensive tactics and physical proficiency skills, interpersonal and communication skills, investigation procedures, court systems and trial procedures, correctional system, introduction to forensic science, crime prevention, property control, and employability skills.

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<td>Applications of Corrections</td>
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Course Descriptions

43.45000 Intro to Law, Public Safety, Corrections and Security Grades 9-11
This course provides students with career-focused educational opportunities in various Intro to Law, Public Safety, Corrections and Security fields. It examines the basic concepts of law related to citizens’ rights and the responsibilities and students will receive instruction in critical skill areas including: communicating with diverse groups, conflict resolution, report writing, terrorism, civil and criminal law.

43.45100 Criminal Justice Essentials Grades 9–12
Criminal Justice Essentials provides an overview of the criminal justice system. Starting with historical perspectives of the origin of the system, the course reviews the overall structure. Students will become immersed in criminal and constitutional law and will review basic law enforcement skills. The course ends with a mock trial to provide participants with a first-hand experience of the criminal justice system.

43.45700 Applications of Corrections Grades 10-12
This course provides an analysis of all phases of the American Correctional System and practices, including the history, procedures and objectives. Topics include the history and evolution of correctional facilities; legal and administrative problems; institutional facilities and procedures; probation, parole and pre-release programs; alternative sentencing; rehabilitation; effects and costs of recidivism; community involvement; and officer safety; and staffing. The prerequisites for this course are Introduction to Law, Public Safety, Corrections and Security and Criminal Justice Essentials.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
SkillsUSA Criminal Justice/CSI Skill Connect Assessment
Security and Protective Services

This pathway includes, but is not limited to, introduction to the criminal justice system, police ethics and constitutional law, patrol procedures, traffic control procedures, defensive tactics and physical proficiency skills, interpersonal and communication skills, investigation procedures, court systems and trial procedures, correctional system, introduction to forensic science, crime prevention, property control, and employability skills.

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<td>Level 3</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**43.45000 Intro to Law, Public Safety, Corrections and Security**  
Grades 9-11  
This course provides students with career-focused educational opportunities in various Intro to Law, Public Safety, Corrections and Security fields. It examines the basic concepts of law related to citizens’ rights and the responsibilities and students will receive instruction in critical skill areas including: communicating with diverse groups, conflict resolution, report writing, terrorism, civil and criminal law.

**43.45100 Criminal Justice Essentials**  
Grades 9-12  
Criminal Justice Essentials provides an overview of the criminal justice system. Starting with historical perspectives of the origin of the system, the course reviews the overall structure. Students will become immersed in criminal and constitutional law and will review basic law enforcement skills. The course ends with a mock trial to provide participants with a first-hand experience of the criminal justice system.

**43.45800 Security and Protective Services**  
Grades 10-12  
This course provides an analysis of the various careers in Security and Protective Services, including the history, procedures and objectives. Topics include: history and evolution of private security and private security services; regulatory and organizational guidelines; the impact of federal, state and local laws on security and protective services; public relations; strategies; supervision and management; intelligence analysis; and staffing. Prerequisites for this course include Introduction to Law, Public Safety, Corrections and Security, and Criminal Justice Essential.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

SkillsUSA Criminal Justice/CSI Skill Connect Assessment
Georgia Performance Standards
**Cluster Description**
The Manufacturing Career Cluster includes the processing of materials into intermediate or final products and related professional and technical support activities, such as production control, maintenance, and process engineering.

**Pathways**
Manufacturing
21.44100 Foundations of Manufacturing and Materials Science
21.44500 Robotics and Automated Systems
21.44400 Production Enterprises

Mechatronics
21.46200 Introduction to Mechatronics — DC Theory, Pneumatic Systems, and Programmable Logic Controllers
21.46300 AC Theory, Electric Motors, and Hydraulic Systems
21.46400 Semiconductors, Mechanical Systems, and Pump and Piping Systems

**Career and Technical Student Organization (CTSO)**

Technology Student Association (TSA) is a national, non-profit organization for students with an interest in technology. TSA members learn problem-solving, decision-making, critical thinking and leadership skills as they relate to design, communications, power, energy, transportation, engineering, manufacturing, construction and biotechnology. TSA strives to meet the educational needs and challenges of all students in an increasingly and ever-changing technological world.
This pathway provides students with an introduction to manufacturing technology and its relationship with society, individuals, and the environment. This pathway also includes a study of the various managed activities which are used to develop, produce, use, and assess production technology. Research and development, production, and marketing techniques are reviewed. In addition, students learn about a wide variety of production techniques. Fabrication and assembly steps are highlighted. Assuring product quality is also explored.

**Course Descriptions**

21.44100  **Foundations of Manufacturing and Materials Science**  Grades 9-11
Foundations of Manufacturing and Materials Science is the introductory course for the Manufacturing career pathway. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.

Upon completing this course, students will be able to apply their knowledge of computer aided design (CAD), computer numerical control (CNC), robotics, computer assisted manufacturing (CAM), programmable logic controllers, automated guided vehicles (AGV), and computer integrated manufacturing (CIM).

21.44400  **Production Enterprises**  Grades 10-12
The purpose of this course is to give students an understanding of how to design and implement a production system. Students learn how businesses engage in the production of products beginning with pre-production activities and continuing through post-production activities. Additionally, students will learn about the historical and societal impact of production. Students will also develop an understanding of careers available in manufacturing and the skills and education required for those careers.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Manufacturing Technology
This pathway provides students with an introduction to manufacturing technology and its relationship with society, individuals, and the environment. This pathway also includes a study of the various managed activities which are used to develop, produce, use, and assess production technology. Research and development, production, and marketing techniques are reviewed. In addition, students learn about a wide variety of production techniques. Fabrication and assembly steps are highlighted. Assuring product quality is also explored.

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<td>Introduction to Mechatronics – DC Theory, Pneumatic Systems, and Programmable Logic Controllers</td>
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<td>MANF-IMDCTPSPLC</td>
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<tr>
<td>Level 2</td>
<td>AC Theory, Electric Motors, and Hydraulic Systems</td>
<td>21.46300</td>
<td>MANF-ACTEMHS</td>
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<tr>
<td>Level 3</td>
<td>Semiconductors, Mechanical Systems, and Pump and Piping Systems</td>
<td>21.46400</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**21.46200 Introduction to Mechatronics – DC Theory, Pneumatic Systems and Programmable Logic Controllers**

Grades 9-11

By completing this course, students will be introduced to direct current concepts and applications, pneumatic system fundamentals, and programmable logic controllers (PLCs). Topics include, but are not limited to, electrical laws and principles, magnetism, series, parallel, and simple combination DC circuits, pneumatic system principles and components, and PLC installation and programming. Theory and practical application concepts are discussed and illustrated through labs. Furthermore, this course introduces students to the operational theory, systems terminology, installation, and programming procedures for PLCs. Emphasis is placed on PLC programming, connections, installation, and start-up procedures. Other topics include timers and counters, relay logic instructions, and hardware and software applications.

**21.46300 AC Theory, Electric Motors, and Hydraulic Systems**

Grades 9–12

This course further expands the student’s knowledge and understanding of Mechatronics through introducing students to: alternating current theory and applications of varying sine wave voltages and current, inductance and capacitance, motor theory and operating principles, control devices, symbols and schematic diagrams, preventative maintenance and troubleshooting, and hydraulic system principles and components. Theory and practical application concepts are discussed and illustrated through labs.

**21.46400 Semiconductors, Mechanical Systems and Pump and Piping Systems**

Grades 10-12

By completing this course, students will be introduced to electronics theory, mechanical systems, and pump and piping systems. Topics include, but are not limited to, diodes and amplifiers, semiconductor fundamentals, mechanical drives, measurement processes and techniques, maintenance tools, manufacturing processes, bearing design and application, and pump and piping systems. Theory and practical application concepts are discussed and illustrated through labs.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI Mechatronics Level 1
Georgia Performance Standards
Cluster Description
Marketing is the process of anticipating, managing, and satisfying consumers' demand for products, services, and ideas. The Marketing Career Cluster generates the strategy that underlies advertising and promotional techniques, business communication, and business development.

Pathways
Fashion, Merchandising and Retail Management
08.47400 Marketing Principles
08.42100 Fashion, Merchandising and Retailing Essentials
08.42200 Advanced Fashion, Merchandising and Retailing

Marketing Communications and Promotions
08.47400 Marketing Principles
08.45100 Promotion and Professional Sales
08.45200 Marketing Communications Essentials

Marketing and Management
08.47400 Marketing Principles
08.44100 Marketing and Entrepreneurship
08.44200 Marketing Management

Career and Technical Student Organization (CTSO)
DECA http://www.deca.org
Distributive Education Club of America is a student-centered, educational/professional organization with a program of leadership and career development designed specifically for students enrolled in marketing education. Marketing education prepares students for rewarding careers in marketing, management and entrepreneurship. DECA enhances that education by providing marketing-related activities based directly on classroom study.
Fashion, Merchandising and Retail Management

In this pathway students will develop basic business skills with a focus in Fashion Merchandising and Retail Management. The curriculum will focus on marketing, management, and general merchandising. Students will hone their skills in the area of display and effective visual merchandising, retail buying, retail management, and merchandising and planning.

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<thead>
<tr>
<th>Level</th>
<th>Course Name</th>
<th>Course Code</th>
<th>Course Abbreviation</th>
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<tbody>
<tr>
<td>Level 1</td>
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<td>Level 2</td>
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<td>Advanced Fashion, Merchandising and Retailing</td>
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<td>MKT-AFMR</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**08.47400   Marketing Principles   Grades 9-11**
Marketing Principles is the foundational course for the Marketing and Management, Fashion Merchandising and Buying, and Marketing Communications and Promotion Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of Employability, Foundational and Business Administration skills, Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, Strategic Management, and Global Marketing strategies.

**08.42100   Fashion, Merchandising and Retailing Essentials   Grades 9–12**
Fashion, Merchandising and Retailing Essentials is the second course in the Fashion, Merchandising and Retail Management Pathway. This course introduces students to the retail industry including the fundamentals of fashion marketing, key marketing concepts essential to every business, types of businesses involved in the industry, and an array of career opportunities. Students will develop skills in such areas as fashion economics, marketing segmentation and target marketing, product selection and buying, and inventory systems.

**08.42200   Advanced Fashion, Merchandising and Retailing   Grades 10-12**
Advanced Fashion, Merchandising and Retailing is the third course in the Fashion, Merchandising and Retail Management Career Pathway and focuses on the application of knowledge and the performance of key skills required in a retail environment. Students will develop skills necessary for managing the following elements: pricing, visual merchandising, advertising, special promotions, professional sales, and customer service.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

NOCTI-ASK Institute Fundamental Marketing Concepts
Marketing Communications and Promotions

This pathway focuses on the decisions facing marketing managers as they attempt to harmonize the objectives and resources of the organization with the needs and opportunities in the marketplace.

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<tr>
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<td>Level 2</td>
<td>Promotion and Professional Sales</td>
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<td>MKT-PPS</td>
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<td>Level 3</td>
<td>Marketing Communications Essentials</td>
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<td>MKT-MCE</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**08.47400  Marketing Principles  Grades 9-11**  
Marketing Principles is the foundational course for the Marketing and Management, Fashion Merchandising and Buying, and Marketing Communications and Promotion Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of employability, foundational and business administration skills, economics, entrepreneurship, financial analysis, human resources management, information management, marketing, operations, professional development, strategic management, and global marketing strategies.

**08.45100  Promotion and Professional Sales  Grades 9–12**  
Promotion and Professional Sales is the second course in the Marketing Communications and Promotions pathway. This course focuses on the performance of key responsibilities required in a retail environment. Students develop skills in pricing, visual merchandising, advertising, special promotions, professional sales, and customer service.

**08.45200  Marketing Communications Essentials  Grades 10-12**  
Marketing Communications Essentials is the third course in the Marketing Communications and Promotion Career Pathway. This course focuses on the communication aspects of the business in relation to customer/consumer relationships. Students develop knowledge and skills in advertising, direct marketing, public relations, sales promotions, and digital marketing communications. Students learn how communications affects budget considerations, marketing information decision-making and all future business opportunities.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

NOCTI-ASK Institute Fundamental Marketing Concepts
Marketing and Management

This pathway focuses on the decisions facing marketing managers as they attempt to harmonize the objectives and resources of the organization with the needs and opportunities in the marketplace.

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<td>Marketing Principles</td>
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<td>Level 2</td>
<td>Marketing and Entrepreneurship</td>
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<td>Level 3</td>
<td>Marketing Management</td>
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<td>MKT-MM</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

08.47400  Marketing Principles  Grades 9–11
Marketing Principles is the foundational course for the Marketing and Management, Fashion Merchandising and Buying, and Marketing Communications and Promotion Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of Employability, Foundational and Business Administration skills, Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, Strategic Management, and Global Marketing strategies.

08.44100  Marketing and Entrepreneurship  Grades 9–12
Marketing and Entrepreneurship is the second course in the Marketing and Management Career Pathway. Marketing and Entrepreneurship begins an in-depth and detailed study of marketing while also focusing on management with specific emphasis on small business ownership. This course builds on the theories learned in Marketing Principles by providing practical application scenarios which test these theories. In addition, Marketing and Entrepreneurship focuses on the role of the supervisor and examines the qualities needed to be successful.

08.44200  Marketing Management  Grades 10–12
Marketing Management is the third course in the Marketing and Management pathway. Students assume a managerial perspective by applying economic principles in marketing, analyzing operation’s needs, examining channel management and financial alternatives, managing marketing information, pricing products and services, developing product/service planning strategies, promoting products and services, purchasing, and professional sales. This course also includes global marketing where students analyze marketing strategies employed in the United States versus those employed in other countries.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

NOCTI-ASK Institute Fundamental Marketing Concepts
Georgia Performance Standards
Cluster Description
The Science, Technology, Engineering, Mathematics Career Cluster means planning, managing, and providing scientific research and professional and technical services.

**Click here to view the Science, Technology, Engineering and Mathematics Performance Standards.

Pathways
Engineering and Technology
21.42500 Foundations of Engineering and Technology
21.47100 Engineering Concepts
21.47200 Engineering Applications

Engineering Drafting and Design
48.54100 Introduction to Drafting and Design
48.54200 Survey of Engineering Graphics
48.54300 3D Modeling and Analysis

Electronics Pathway
21.45200 Foundations of Electronics
21.45300 Advanced AC and DC Circuits
21.45400 Digital Electronics

Career and Technical Student Organization (CTSO)

TSA  http://www.tsaweb.org
Technology Student Association (TSA) is a national, non-profit organization for students with an interest in technology. TSA members learn problem-solving, decision-making, critical thinking and leadership skills as they relate to design, communications, power, energy, transportation, engineering, manufacturing, construction and biotechnology. TSA strives to meet the educational needs and challenges of all students in an increasingly and ever-changing technological world.
Engineering and Technology

This pathway is a sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering. This pathway will introduce students to the field of engineering technology. Students will solve problems using common engineering practices. Students will be acquainted with the major fields of engineering and with the diverse functions engineers and technologists perform. Students will be familiar with the paths and certifications that can lead to careers in engineering and engineering technology. Students will understand and demonstrate communication skills necessary in the field of engineering. They will employ an individual and team approach while solving engineering problems.

*Levels 1, 2, and 3 are required for pathway completion.

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<th>Level</th>
<th>Course Name</th>
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<td>Level 1</td>
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<td>Level 2</td>
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<td>Level 3</td>
<td>Engineering Applications</td>
<td>21.47200</td>
<td>STEM-EA</td>
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</table>

**Course Descriptions**

21.42500  Foundations of Engineering and Technology  Grades 9-11
The Foundations of Engineering and Technology is the introductory course for the Engineering and Technology Education pathways. This STEM driven course provides the students with an overview of engineering and technology including the different methods used in the engineering design process developing fundamental technology and engineering literacy. Students will demonstrate the skills and knowledge they have learned through various project based activities while using an engineering design process to successfully master the “E” in STEM.

21.47100  Engineering Concepts  Grades 9-12
Engineering Concepts is the second course in the Engineering and Technology Pathway. Students will learn to design technical solutions to engineering problems using a whole systems approach to engineering design. Students will demonstrate the application of mathematical tools, teamwork, and communications skills in solving various design challenges, while maintaining a safe work environment. The prerequisite for this course is Foundations of Engineering and Technology.

21.47200  Engineering Applications  Grades 10-12
Engineering Applications is the third course in the Engineering and Technology Pathway. Students will apply their knowledge of Science, Technology, Engineering, and Math (STEM) to develop solutions to technological problems. Solutions will be developed using a combination of engineering software and prototype production processes. Students will use market research, cost benefit analysis, and an understanding of the design cycle to create and present design, marketing, and business plans for their solutions. A capstone project will allow students to demonstrate their depth of knowledge of the engineering design process and prepare them for future opportunities in the field of engineering. The prerequisite for this course is Engineering Concepts.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Engineering Assessment
Drafting and design is the process of turning ideas of how things should be constructed into technical drawings. These drawings are based on sketches and calculations made by engineers, surveyors, architects and/or scientists. The drawings provide visual guidelines such as dimensions, materials to be used, and procedures to be followed to build everything from manufactured products such as spacecraft, automobiles, and industrial machinery to structures such as homes, office buildings, and oil and gas pipelines.

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<tbody>
<tr>
<td>Level 1</td>
<td>Introduction to Drafting and Design</td>
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<td>AC-IDD</td>
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<td>Level 2</td>
<td>Survey of Engineering Graphics</td>
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<td>AC-SEG</td>
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<td>Level 3</td>
<td>3D Modeling and Analysis</td>
<td>48.54300</td>
<td>AC-3DMA</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**48.54100 Introduction to Drafting and Design** Grades 9-11
Introduction to Drafting and Design is the foundational course for the Architectural Drafting and Design pathway. Emphasis is placed on safety, geometric construction, fundamentals of computer-aided drafting, and multi-view drawings. Students learn drafting techniques through the study of geometric construction at which time they are introduced to computer-aided drafting and design. The standards are aligned with the national standards of the American Design Drafting Association (ADDA).

**48.54200 Survey of Engineering Graphics** Grades 9--12
Survey of Engineering Graphics is the second course in the Engineering Drafting and Design Career Pathway. The course is designed to build student skills and knowledge in the field of engineering graphics/technical drafting. The course focus includes employability skills, career opportunities, applied math, working drawings that include sectional, auxiliary, detail and pictorial views, and pattern developments. In addition, elements in applied mathematics are integrated throughout the course. The prerequisite for this course is Introduction to Drafting & Design.

**48.54300 3D Modeling and Analysis** Grades 10-12
Three-Dimensional (3D) Modeling and Analysis is a one-credit course that completes the pathway in Engineering Drafting and Design. Reverse engineering strategies are recommended for third level working drawings. Computer-aided design (CAD) is recommended for use extensively with each standard in the course. Focus is on employability strategies, career studies, applied math, fasteners, working drawings, and assembly drawings.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
NOCTI Engineering Assessment
Electronics Pathway

This pathway covers electronic practices and fundamentals, roles of electronics in communications and industry, and career development. Topics include safety, tools, direct current, schematics, measuring electricity, Ohm's/Watt's/Kirchoff's Laws, power, and circuits. Leadership skills, science, thinking skills, and principles of technology are reinforced. This pathway also covers advanced electronic practices and principles, special equipment and materials, and employment opportunities. Safety, mathematics, reading, problem solving, tools, and using test equipment are reinforced.

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<td>Level 1</td>
<td>Foundations of Electronics</td>
<td>21.45200</td>
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<tr>
<td>Level 2</td>
<td>Advanced AC and DC Circuits</td>
<td>21.45300</td>
<td>STEM-AACDCC</td>
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<td>Level 3</td>
<td>Digital Electronics</td>
<td>21.45400</td>
<td>STEM-DE</td>
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*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

21.45200  Foundations of Electronics  Grades 9-11
This foundational course is designed for students who are interested in careers related to the design, production, analysis, repair, and operation of devices that use electronics. Students will study and apply using project based learning activities the fundamentals of electricity and electronic systems including the theory and operation of how the basic components function, how a variety circuits are connected, and how to design these circuits.

21.45300  Advanced AC and DC Circuits  Grades 9--12
As the second course in the Electronics Pathway, this course is designed for students interested in careers related to the design, production, analysis, repair, and operation of devices that use electronics. The course is designed around major individual and class projects that promote critical thinking, real world problem solving, and abstract reasoning that encourage the student to become an investigative lifelong learner. Students will create artifacts that demonstrate application of competencies in technical, academic, cognitive, and personal skills through daily work, team work, and homework, formative and informative assessments. The prerequisite for this course is Foundations of Electronics.

21.45400  Digital Electronics  Grades 10-12
As the third course in the Electronics pathway, the Digital Electronics course provides students with opportunities to apply prior learning in electronics to the digital world in which they live. Students use applications of mathematics and science to predict the success of an engineered solution and complete hands-on activities with tools, materials, and processes as they develop functional devices and working prototypes aided by computer simulations.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:
NOCTI Engineering Assessment
Georgia Performance Standards
Cluster Description
The Transportation, Distribution & Logistics Career Cluster encompasses planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, and also includes other related professional and technical support services.

Pathways
Automobile Maintenance and Light Repair
47.53110 Basic Maintenance and Light Repair
47.53210 Maintenance and Light Repair 2
47.53310 Maintenance and Light Repair 3

Automotive Service Technology Pathway
47.43400 Automobile Service Technology 4
47.43500 Automobile Service Technology 5
47.43600 Automobile Service Technology 6

Master Automobile Service Technology Pathway
47.43700 Master Automobile Service Technology 7
47.43800 Master Automobile Service Technology 8
47.43900 Automobile Service Technology Internship

Painting & Refinishing Pathway
47.56500 Intro to Collision Repair
47.56600 Painting & Refinishing I
47.56700 Painting & Refinishing II

Non-Structural Analysis and Damage Repair Pathway
47.56500 Intro to Collision Repair
47.56800 Non Structural Analysis & Damage Repair I
47.56900 Non Structural Analysis & Damage Repair II
Automobile Maintenance and Light Repair

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

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<tr>
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<td>Level 2</td>
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<td>47.53310</td>
<td>TDL-MLR3</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

47.53110 Basic Maintenance and Light Repair Grades 9-11
This course is designed as the foundational course for the Automobile Maintenance and Light Repair pathway. Students in this course will learn the basic skills needed to gain employment as a maintenance and light repair technician. Students will be exposed to courses in automotive preventative maintenance and servicing and replacing brakes, and steering and suspension components. In addition, student will learn how to do general electrical system diagnosis, learn electrical theory, perform basic tests and determine necessary action. In addition, students will learn how to evacuate and recharge air-conditioning systems using the proper refrigerant.

47.53210 Maintenance and Light Repair 2 Grades 9–12
Students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air conditioning systems using the proper refrigerant.

47.53310 Maintenance and Light Repair 3 Grades 10-12
Building on the knowledge and skills gained in the prerequisite course, students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air conditioning systems using the proper refrigerant.

End of Pathway Assessment and/or Pathway Credentialing Opportunity:

ASE Student Certification
Automotive Service Technology Pathway

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

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<td>Level 2</td>
<td>Automobile Service Technology 5</td>
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<td>Level 3</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**47.43400 Automobile Service Technology 4**
Grades 9-11
Building on the knowledge and skills gained in the prerequisite course, students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air conditioning systems using the proper refrigerant.

**47.43500 Automobile Service Technology 5**
Grades 9-12
Building on the knowledge and skills gained in the prerequisite course, students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air conditioning systems using the proper refrigerant.

**47.43600 Automobile Service Technology 6**
Grades 10-12
Building on the knowledge and skills gained in the prerequisite course, students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air conditioning systems using the proper refrigerant.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
ASE Student Certification
Master Automobile Service Technology Pathway

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

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<td>Level 2</td>
<td>Master Automobile Service Technology 8</td>
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<td>Level 3</td>
<td>Automobile Service Technology Internship</td>
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*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

47.43700 Master Automobile Service Technology 7 Grades 9-11
Students in this course will learn the basic skills needed to gain employment as a maintenance and light repair technician. This course will expose students to automotive preventative maintenance and servicing and replacing brakes. In addition, students will learn about steering and suspension components and general electrical system diagnosis, as well as learning electrical theory, performing basic tests, and determining necessary action.

47.43800 Master Automobile Service Technology 8 Grades 9-12
Students in this course will learn the basic skills needed to gain employment as a maintenance and light repair technician. This course will expose students to automotive preventative maintenance and servicing and replacing brakes. In addition, students will learn about steering and suspension components and general electrical system diagnosis, as well as learning electrical theory, performing basic tests, and determining necessary action.

47.43900 Automobile Service Technology Internship Grades 10-12
The Automobile Service Technology Internship is an elective course for all Automobile Service Technology pathways. Students have the opportunity to practice finished work and develop problem solving skills. Students practice adaptability to job equipment and technology and exhibit progressive productivity and acceptable job performance.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

ASE Student Certification
Painting & Refinishing Pathway

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

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<td>Level 1</td>
<td>Intro to Collision Repair</td>
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<td>TDL-ICR</td>
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<td>Level 2</td>
<td>Painting &amp; Refinishing I</td>
<td>47.56600</td>
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<tr>
<td>Level 3</td>
<td>Painting &amp; Refinishing II</td>
<td>47.56700</td>
<td>TDL-PR2</td>
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</table>

*Levels 1, 2, and 3 are required for pathway completion.

**Course Descriptions**

**47.56500  Intro to Collision Repair  Grades 9-11**
Introduction to Collision Repair is the prerequisite course in all of the collision repair pathways. Employment opportunities in the collision repair field will be explored in this course. Students will be exposed to all areas of collision repair and automotive refinishing, such as safety, refinishing, metal repair, plastic repair, automotive construction, and estimate reading and writing. Basic skills in all of the above mentioned areas will be taught.

**47.56600  Painting & Refinishing I  Grades 9–12**
Painting and Refinishing I is the first course in the painting and refinishing strand of collision repair and will provide students with automotive-refinishing skills and knowledge to assist in obtaining a career in the automotive refinishing industry. The student will learn theory, as well as hands-on application in a project-based setting. The prerequisite for this course is Introduction to Collision Repair.

**47.56700  Painting & Refinishing II  Grades 10-12**
Painting and Refinishing II is the second course in the painting and refinishing strand of the Collision Repair Pathway and will provide students with skills and knowledge to assist in obtaining a career in the automotive refinishing industry. The student will learn theory, as well as hands-on application in a project-based setting. The prerequisite for this course is Painting and Refinishing I.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**

ASE Student Certification
Non-Structural Analysis and Damage Repair Pathway

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

<table>
<thead>
<tr>
<th>Level</th>
<th>Course Name</th>
<th>Course Code</th>
<th>Course Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Intro to Collision Repair</td>
<td>47.56500</td>
<td>TDL-ICR</td>
</tr>
<tr>
<td>Level 2</td>
<td>Non Structural Analysis &amp; Damage Repair I</td>
<td>47.56800</td>
<td>TDL-NSADR1-1</td>
</tr>
<tr>
<td>Level 3</td>
<td>Non Structural Analysis &amp; Damage Repair II</td>
<td>47.56900</td>
<td>TDL-NSADR2</td>
</tr>
</tbody>
</table>

*Levels 1, 2, and 3 are required for pathway completion.

Course Descriptions

**47.56500  Intro to Collision Repair  Grades 9-11**
Introduction to Collision Repair is the prerequisite course in all of the collision repair pathways. Employment opportunities in the collision repair field will be explored in this course. Students will be exposed to all areas of collision repair and automotive refinish, such as safety, refinishing, metal repair, plastic repair, automotive construction, and estimate reading and writing. Basic skills in all of the above mentioned areas will be taught.

**47.56800  Non Structural Analysis & Damage Repair I  Grades 9--12**
Non Structural Analysis and Damage Repair I is the second of three courses in the Non Structural Analysis and Damage Repair pathway that will teach students the skills and knowledge that can lead to a career in the automotive body repair industry. Damage Analysis, Estimating, and Customer Service (DAECS) provides students with special knowledge needed to assess collision damage, estimate repair costs, and work with vehicle owners.

**47.56900  Non Structural Analysis & Damage Repair II  Grades 10-12**
Non Structural Analysis and Damage Repair II is the third of three courses in the Non Structural Analysis and Damage Repair pathway that will teach students the skills and knowledge that can lead to a career in the automotive body repair industry. Damage Analysis, Estimating, and Customer Service (DAECS) provides students with special knowledge needed to assess collision damage, estimate repair costs, and work with vehicle owners.

**End of Pathway Assessment and/or Pathway Credentialing Opportunity:**
ASE Student Certification
Georgia Performance Standards
Work-Based Learning Programs are structured educational experiences that integrate classroom learning (school-based) with productive, structured work experiences (work-based), related to a student’s career goal.

Key Components:
- School-based learning
- Work-based learning
- Connecting activities
- Work-Based Learning
- Provides paid or unpaid work experience
- Promotes a partnership between education and industry
- Integrates academic and technical instruction

Work-Based Learning provides an opportunity for juniors and seniors to start preparing for a career while still in high school. Individual programs of study in the freshman and sophomore years prepare students for a successful work-based learning experience.

Through Work-Based Learning, students are able to earn wages while learning from skilled professionals, increase career options and future employability, strengthen academic skills, experience the connection between education and real-life work skills, earn post-secondary credit while in high school and experience potential careers in the workplace.

Work-Based Learning enables employers to play an active role in shaping the quality of their future workforce. Through Work-Based Learning, employers are able to increase skill levels of potential workers, work with educators to develop curriculum based on industry standards, recruit and screen potential employers, reduce turnover of entry-level employees through the hiring of Work-Based Learning graduates and improve competitiveness in the international marketplace.
Designed to meet the needs of young adolescents (ages 10-15), middle schools bridge the gap between elementary and high school by providing students with an opportunity to learn in a safe, nurturing, and positive environment. The following middle school CTAE courses are offered in DeKalb County Schools:

**Middle School Business and Computer Science**

- 07.08300 Business and Computer Science (Grade 6)
- 07.08400 Business and Computer Science (Grade 7)
- 07.08500 Business and Computer Science (Grade 8)

**Click here to view the Business and Computer Science Middle School Performance Standards.**

*The goal of these courses is to provide all middle school students with an introduction to the principles of computer science, basic keyboarding skills, Internet safety and usage, and computer applications. Students will explore how personality traits and personal values align with career choices and will develop a career plan. Personal, professional, and ethical standards of behavior for the workplace will be examined and reinforced in the classroom. Development of leadership skills through participation in the career and technical student organization, FBLA, will provide students the opportunity to explore possible career pathways.*

**Middle School Career Development**

- 32.02100 Career Awareness Grade 6
- 32.02200 Career Discovery Grade 7
- 32.02300 Career Management Grade 8

**Click here to view the Career Development Middle School Performance Standards.**

*The goal of these courses is to promote essential knowledge, skills and attitudes students need to make key decisions about career options, high school curricular offerings relating to a pathway of their choice, as well as, postsecondary and workforce opportunities. Instructional focus will address interpersonal skills, management skills, employability skills, self-awareness, educational and career planning. Students will increase awareness of resources available to support educational and career planning.*
Middle School Engineering and Technology
21.02100 Exploring Engineering and Technology Grade 6
21.02200 Invention and Innovation Grade 7
21.02300 Technological Systems Grade 8

**Click here to view the Engineering and Technology Middle School Performance Standards.**

*The goal of these courses is to provide all students with an introduction to the principles of Engineering & Technology and its place in the modern world. Students will be introduced to the world of invention and innovation along with the Engineering Design Process. They will examine the impacts of invention and innovation on society and solve problems through research, design, and experimentation in one or more of the areas of Engineering and Technology. Students will utilize the universal systems model including input, process, output and feedback to examine various systems. Development of leadership skills through participation in the career and technical student organization, TSA, will provide students the opportunity to explore possible career pathways.*

Middle School Family and Consumer Science
20.01100 Family and Consumer Science (Grade 6)
20.01200 Family and Consumer Science (Grade 7)
20.01300 Family and Consumer Science (Grade 8)

**Click here to view the Family and Consumer Science Middle School Performance Standards.**

*The goal of these courses is to provide all students with an introduction to the Family and Consumer Sciences Career Pathways. The FACS career pathways are Nutrition and Food Science, Consumer Services, Interior and Fashion Design, and Family, Community, and Global Leadership. Education career pathways are Early Childhood Education and Teaching as a Profession and Culinary Arts is also a career pathway. Students acquire fundamental knowledge and skills necessary for success in any of the career pathways. Exposure to career possibilities in each area will allow students to successfully integrate their own interests into a career plan. Development of leadership skills through participation in the career and technical student organization, FCCLA, will provide students the opportunity to explore possible career pathways.*
Middle School Career Technical & Agricultural Education Georgia Performance Standards
### CAREER & TECHNICAL STUDENT ORGANIZATIONS

<table>
<thead>
<tr>
<th>Organization</th>
<th>Website</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECA</td>
<td><a href="http://www.deca.org">http://www.deca.org</a></td>
<td>Distributive Education Club of America is a student-centered, educational/professional organization with a program of leadership and career development designed specifically for students enrolled in marketing education. Marketing education prepares students for rewarding careers in marketing, management and entrepreneurship. DECA enhances that education by providing marketing-related activities based directly on classroom study.</td>
</tr>
<tr>
<td>FBLA</td>
<td><a href="http://fbla-pbl.org">http://fbla-pbl.org</a></td>
<td>Future Business Leaders of America-Phi Beta Lambda is a nonprofit education association of students preparing for careers in business and business-related fields. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs.</td>
</tr>
<tr>
<td>FCCLA</td>
<td><a href="http://www.fcclainc.org">http://www.fcclainc.org</a></td>
<td>Family, Career and Community Leaders of America, Inc. (FCCLA) is a nonprofit national career and technical student organization for young men and women in family and consumer sciences education in public and private school through grade 12.</td>
</tr>
<tr>
<td>FFA</td>
<td><a href="http://www.ffa.org">http://www.ffa.org</a></td>
<td>The FFA is a national organization dedicated to preparing members for leadership and careers in the science, business and technology of agriculture. Local, state and national activities and award programs provide opportunities to apply knowledge and skills acquired through agriculture education.</td>
</tr>
<tr>
<td>HOSA</td>
<td><a href="http://www.hosa.org">http://www.hosa.org</a></td>
<td>HOSA is a national student organization endorsed by the U.S. Department of Education and the Health Science Technology Education Division of ACTE. HOSA's two-fold mission is to promote career opportunities in the health care industry and to enhance the delivery of quality health care to all people. HOSA's goal is to encourage all health occupations instructors and students to join and be actively involved in the HSTE-HOSA Partnership.</td>
</tr>
<tr>
<td>SkillsUSA</td>
<td><a href="http://www.skillsusa.org">http://www.skillsusa.org</a></td>
<td>SkillsUSA is national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.</td>
</tr>
<tr>
<td>TSA</td>
<td><a href="http://www.tsaweb.org">http://www.tsaweb.org</a></td>
<td>Technology Student Association (TSA) is a national, non-profit organization for students with an interest in technology. TSA members learn problem-solving, decision-making, critical thinking and leadership skills as they relate to design, communications, power, energy, transportation, engineering, manufacturing, construction and biotechnology. TSA strives to meet the educational needs and challenges of all students in an increasingly and ever-changing technological world.</td>
</tr>
<tr>
<td>CTI</td>
<td><a href="http://www.garvi.org">http://www.garvi.org</a></td>
<td>Career and Technical Instruction (CTI) provides students with disabilities the opportunity to successfully participate in career technology education programs. CTI also ensures delivery of appropriate services and accommodations for students that participate in career technology education programs.</td>
</tr>
</tbody>
</table>
**PERSONAL PLANNING GUIDE**

**My Career Goals**

After high school I plan to: ______________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

<table>
<thead>
<tr>
<th>Year 9</th>
<th>List Course Here</th>
<th>Year 10</th>
<th>List Course Here</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
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<tr>
<td>English</td>
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</tr>
<tr>
<td>Science</td>
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<td>Social Studies</td>
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<td>Career Tech. Pathway</td>
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<td>Career Tech. Pathway</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>Elective</td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td>Other</td>
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<table>
<thead>
<tr>
<th>Year 11</th>
<th>List Course Here</th>
<th>Year 12</th>
<th>List Course Here</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
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<td>Math</td>
<td></td>
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<tr>
<td>English</td>
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<tr>
<td>Science</td>
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</tr>
<tr>
<td>Other</td>
<td>Other</td>
<td>Other</td>
<td>Other</td>
</tr>
</tbody>
</table>

- 1 unit of Health and Physical Education required for all students
- The 4th science unit may be used to meet both the science and elective requirements
- A total of 3 units required from: Career Technical & Agricultural Education and/or Foreign Language and/or Fine Arts for all students (students planning to enter or transfer into a University System of Georgia institution or other post-secondary institution must take two units of the same foreign language).

**Post-Secondary Plans**

**Year 13 (1st year out of high school)** __________________________________________________________
________________________________________________________________________________________

**Year 14 (2nd year out of high school)** ______________________________________________________
________________________________________________________________________________________

**Year 15 (3rd year out of high school)** ______________________________________________________
________________________________________________________________________________________

**Year 16 (4th year out of high school)** ______________________________________________________
________________________________________________________________________________________
DeKalb County School District Board of Education

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DeKalb County School District
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Stone Mountain, GA  30083