

Georgia Department of Education Career Pathway Descriptions

Agriculture, Food & Natural Resources Cluster

The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Agribusiness Systems Pathway

The Agribusiness Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Agricultural Chemical Dealer, Agricultural Products Buyer –Distributor, Bank/Loan Office, Entrepreneur, Feed-Supply Store Manager, Field Representatives for Bank, Insurance Company or Government Program, Sales Manager, Salesperson, Agricultural Commodity Broker, Agricultural Economist, Agricultural Lender, Banker/Loan Officer, Farm Investment Manager and Produce Commission Manager. A wide range of knowledge and skills can be acquired from a plan of study in this pathway, such as competence in the application of principles and practices of agribusiness management and leadership, building a strong knowledge base of the agribusiness industry related to the study of agribusiness types, business management, financial analysis, communications, agricultural law, leadership and teamwork, ethics, and agricultural economics. This pathway culminates with an opportunity for students to take the Agribusiness end of pathway assessment from OK Career Tech Testing.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – Ag Management & Leadership

Proposed Course 3 – Marketing Agricultural Products & Services

Animal Systems Pathway

The Animal Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Animal Caretaker, Poultry Manager, Aquaculturalist, Artificial Insemination Technician, Dairy Producer, Equine Manager, Livestock Inspector, Livestock Producer, Veterinary Assistant, Animal Nutritionist, Livestock Geneticist, Meat Science Researcher, Physiologist, Wildlife Biologist, USDA Inspector, and Veterinarian. A wide range of knowledge and skills can be acquired from a plan of study in this pathway, such as scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. Additionally, scientific principles applied to the animal industry; animal reproduction, production technology, processing, and distribution of agricultural animal products. This pathway culminates with an opportunity for students to take the NOCTI Animal Systems end of pathway exam.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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

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leadership programs and activities. This course is the prerequisite for all AFNR pathways and is intended for students in grades 8-10.

Proposed Course 2 – Animal Science and Biotechnology

Proposed Course 3 – Agricultural Animal Production and Management

Environmental Systems Pathway

The Environmental Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Environmental Compliance - Assurance Manager, Environmental Sampling and Analysis Scientist/Technician, Hazardous Materials Handler, Hazardous Materials Technician, Health and Safety Sanitarian, Pollution Prevention and Control Technician, Recycler, Solid Waste Technician, Chemical Engineer, Environmental Engineer, Pollution Prevention and Control Manager, Solid Waste Manager, Toxicologist, Water Environment Manager or Water Quality Manager. The vast array of skills associated with this pathway includes but are not limited to demonstrating: safety practices related to environmental science; developing record keeping skills and computer skills relevant to environmental science; describing the relationships among humans, agriculture and the environment, explaining how agriculture affects ecosystems; identifying the types and proper management of agricultural waste products; describing the use of agricultural chemicals and their effects on the environment; management practices used in agriculture to protect soil and water resources and also management practices used in agriculture to protect air quality. An end of pathway assessment has not been identified for this particular pathway.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – Environmental Science and Stewardship

Proposed Course 3 – Sustainable Agriculture Practices

Food Products and Processing Systems Pathway

The Food Products and Processing Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Food and Drug Inspector, Food Meal Supervisor, Food Processor, Meat Cutter-Meat Grader, Meat Processor, Produce Buyer, Bacteriologist, Biochemist-Nutritionist, Bioengineer, Dietician, Food and Fiber Engineer, Food Scientist, Meat Science Researcher, Microbiologist, or Quality Control Specialist. The possible knowledge and skills in this pathway could include any of the following: demonstrate safety practices related to food science, identify the importance of consumer education in food science and safety, explain the process involved in safe food preparation, characterize harmful and beneficial microbes in food products and processing, illustrate how the food industry utilizes biotechnology in the safe, efficient and economical production of food products, compare risks in life with risks associated with food additives and processing, identify the dangers of chemicals in our food supply, describe the local, state and federal regulations that affect the food products and processing industry, describe the effect that production and processing techniques

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have on food safety, explain the proper handling of food and food products to insure a safe, economical and nutritious food supply, and identify the nutritional value of various food products and their relative effects on health just to name a few. An end of pathway assessment has not been identified for this particular pathway.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – Agriculture Food Products & Processing

Proposed Course 3 – Ag Meat & Dairy Product Processing

Forestry / Natural Resources Systems Pathway

The Forestry / Natural Resources Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Career Cluster. Career opportunities in this pathway may include: Commercial Fisherman, Fisheries Technician, Forest Technician, Geology Technician, Log Grader, Logger, Park Manager, Pulp and Paper Manager, Range Technician, Water Monitoring Technician, Wildlife Manager, Ecologist, Fish and Game Officer, Geologist, Hydrologist, and Mining Engineer. Courses in this pathway provides entry-level skills for employment in the forest industry and for further study; covers establishing forests by natural and artificial means, maintaining and surveying forest, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, and keeping records. This pathway culminates with an opportunity for students to take the NOCTI Forestry and Natural Resources end of pathway exam.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – Forest Science

Proposed Course 3 – Wildlife Management

Plant Systems Pathway

The Plant Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Career Cluster. Career opportunities in this pathway may include: Biotechnology Lab Technician, Golf Course Manager, Green House Manager, Tree Surgeon, Bioinformatics Specialist, Botanist, Plant Breeder and Geneticist, Plant Pathologist, or Soil and Water Specialist just to name a few. Upon completion of the Plant System pathway courses the student will be able to: give a basic understanding of olericulture, arboriculture, pomology, agronomy,

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floriculture, nursery-landscape, landscape design, floral design, greenhouse and turf production and management; demonstrate a basic understanding of the educational requirements and skills needed for workers in various plant science careers; describe the processes of photosynthesis and factors that affect photosynthesis in plants; Set up a maintenance calendar using the manufacturer's service recommendations; identify common insects, weeds, diseases and physiological disorders; Demonstrate fertilizer application methods; name the nutrients needed for plant growth and describe the components and functions of a good growing media, among other necessary skills. This pathway culminates with an opportunity for students to take the NOCTI Plant Systems end of pathway exam.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – General Horticulture & Plant Science

Proposed Course 3 – Nursery and Landscape

Power Structures and Technical Systems Pathway

The Power Structures and Technical_Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Career Cluster. Career opportunities in this pathway may include: Database Administrator, Electronic Systems Technician, Equipment/Parts Manager, GPS Technician, Heavy Equipment Maintenance Technician, Information Lab Specialist, Machine Operator, Machinist, Recycling Technician, Remote Sensing Specialist, Welder, Agricultural Applications Software Developer/Programmer, and Agricultural Engineer. Some of the great skills and knowledge gained by students in this pathway are experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, wood working, electrical wiring, maintenance of agricultural machinery, equipment and tractors. This pathway culminates with an opportunity for students to take the NOCTI Agricultural Mechanics or SkillsUSA Engineering end of pathway assessment.

Course 1 – Basic Agriculture Science 02.47100

Course Description: 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 8-10.

Proposed Course 2 – Agricultural Mechanics I

Proposed Course 3 – Agricultural Mechanics II

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Architecture & Construction Cluster

Careers in designing, planning, managing, building and maintaining the built environment.

Architectural Drawing and Design Pathway

The Architectural Drawing and Design pathway is one of ten pathways in the Architecture and Construction Cluster. Completion of this pathway will prepare students for employment in a variety of industries that use drafting and design. Emphasis is placed on geometric construction, working drawings and the fundamentals of computer-aided drafting. Students learn drafting techniques through the study of geometric construction at which time they are introduced to computer-aided drafting and design. Standards in this course are aligned with the national standards of the American Design Drafting Association (ADDA). This pathway culminates with an opportunity for students to take the Drafter Certification Examination from the ADDA or the SkillsUSA Work Force Ready exam in Architectural Drawing or the NOCTI Work Ready Assessment.

Course 1 – Introduction to Drafting and Design 48.54100

Course Description: 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).

Proposed Course 2 – Architectural Drawing and Design I

Proposed Course 3 – Architectural Drawing and Design II

Carpentry Pathway

The Carpentry pathway is one of ten pathways in the Architecture and Construction Cluster. The Carpentry pathway is designed to provide students with practical information regarding safety, advanced power tools and stationary machinery related to the construction industry. Students are instructed in all areas of safety including ladders, scaffolding, trenching and the use of safety harnesses. Students are introduced to the State of Georgia Building Codes and knowledge needed to lay rafters, stairs and walls, and how to properly frame doors and windows. This pathway culminates with an opportunity for students in an NCCER Industry Certified program to earn credentials or take the SkillsUSA Work Force Ready exam in Carpentry.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Construction

Proposed Course 3 – Carpentry

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Electrical Pathway

The Electrical pathway is one of ten pathways in the Architecture and Construction Cluster. The Electrical pathway provides a program through which students learn the theoretical information regarding various conductors and properties, types of insulation, termination principles, and Ohm's Law calculations. Students will identify types of wire and cable and selection of electrical boxes and fittings. They will demonstrate the ability to use the National Electrical Code (NEC) and other applicable building codes and standards as well as apply code-related requirements using entry-level skills. This pathway culminates with an opportunity for students in an NCCER Industry Certified program to earn industry credentials.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Construction

Proposed Course 3 – Electrical

Masonry Pathway

The Masonry pathway is one of ten pathways in the Architecture and Construction Cluster. The Masonry pathway provides students an opportunity to demonstrate theoretical competency in general estimating of masonry materials, concrete footings, paving applications, masonry steps, flue chimney building codes, and various concrete applications. Students will demonstrate the installation of pavers, masonry steps and concrete flatwork. Students will demonstrate competency in building codes, arch and fireplace construction, fireplace history and the function of a fireplace. This pathway culminates with an opportunity for students in an NCCER Industry Certified program to earn industry credentials.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Construction

Proposed Course 3 – Masonry

Plumbing Pathway

The Plumbing pathway is one of ten pathways in the Architecture and Construction Cluster. The Plumbing pathway is designed to provide students with information regarding safety, beginning with Material Safety Data Sheets (MSDS) electrical safety, and the safe use of power and hand tools. Students will examine the installation of drains, waste and venting, the use of copper tubing and steel piping and the installation of hangers and supports. Pipe sizing, residential fixtures and appliances, and the proper use of fittings are also covered. Students will be able to install residential plumbing fixtures, thread pipe and explain basic drain cleaning. This pathway culminates with an

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opportunity for students in an NCCER Industry Certified program to earn industry credentials.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Construction

Proposed Course 3 – Plumbing

Metals Pathway

The Metals Technology pathway is one of ten pathways in the Architecture and Construction Cluster. The Metals Technology pathway is designed to prepare a student with foundational knowledge and skills for a career in one of three possible crafts. Once they have completed the foundational and introductory levels they are then given the option to “major” in at least one of three craft areas. These areas are Machining Operations, Welding, or Sheet Metal. This pathway culminates with the opportunity for students to take the end of pathway assessment offered by SkillsUSA Work Force Ready exam or earn credentials from, the National Center for Construction Education and Research (NCCER).

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Metals

Proposed Course 3 – Welding

Machining Operations Pathway

The Machining pathway is one of ten pathways in the Architecture and Construction Cluster. The Machining pathway will provide opportunities for students to acquire introductory skills on the lathe and milling machine, equipment used in the trade, attributes of successful machinists, industry credentialing, and career opportunities. Topics include safety, measuring instruments, blueprint reading, and maintenance. Practical experience will be gained in the proper use and maintenance of hand tools, pedestal grinder, drill press, and band saws. Other topics the students will explore are job planning and management, quality control, and machinery maintenance. Performance standards for this pathway are based on the National Institute for Metalworking Skills (NIMS) national standards for the topics of lathe and milling machine. This pathway culminates with the opportunity for students to take the end of pathway assessment offered by SkillsUSA Work Force Ready exam or earn credentials from the National Center for Construction Education and Research (NCCER).

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Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air_Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Metals

Proposed Course 3 – Machining Operations

Welding Pathway

The Welding pathway is one of ten pathways in the Architecture and Construction Cluster. The Welding pathway is designed to provide all students with the basic knowledge and safe operating skills needed to demonstrate proper set of equipment in oxyfuel and shielded metal arc welding (SMAW). In the oxy-fuel area of study students will create accurate cuts and perform washing and gouging procedures. Students will learn to critique their work pieces by checking welding codes, identifying imperfections, common test methods, and evaluate setups to determine proper setup of work and equipment. In SMAW students will learn and model proper safety and learn to make judgment calls in selection of electrodes and metal preparation to create beads and fillet welds using various rods. Minimum performance requirements for this pathway are based on successful student completion according to the American Welding Society (AWS) and the National Center for Construction Education and Research Center (NCCER) Occupation Standards. This pathway culminates with an opportunity for students who successfully complete the course in accordance with NCCER standards to be eligible for registration with the NCCER National Craft Worker Registry.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Metals

Proposed Course 3 – Welding

Sheet Metal Pathway

The Sheet Metal pathway is one of ten pathways in the Architecture and Construction Cluster. The Sheet metal pathway is designed to allow students to master basic sheet metal techniques. This pathway includes the development of skills in basic trade math. Students will identify, rate, select, and use steel and other metals to develop and fabricate basic sheet metal projects. Students will learn basic parallel line development and skills using fasteners, hangers, and other support systems. Minimum performance requirements for this course are based on successful student completion according to the National Center for Construction Education and Research Center (NCCER) Occupation Standards. This pathway culminates with an opportunity for students who successfully complete the course in accordance with NCCER standards to be eligible for registration with the NCCER National Craft Worker Registry.

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Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical 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.

Proposed Course 2 – Introduction to Metals

Proposed Course 3 – Sheet Metal

HVACR Pathway

The Heating, Ventilation, Air Conditioning and Refrigeration pathway is one of ten pathways in the Architecture and Construction Cluster. All students will understand occupational safety and proper operation of tools and machinery. The trainee is provided with a solid foundation in HVACR skills and knowledge and the concepts involved with conditioning air within a given space. Students will learn about hardware and systems used by HVACR technicians and the basic skills needed to install them. Students will understand refrigeration and heating processes including the electronic circuitry. Students will receive an introduction to the skills and knowledge of conduit bending and installation. This pathway culminates with an opportunity for students to earn a Level One Industry Certification.

Course 1 – Industry Fundamentals and Occupational Safety 46.54500

Course Description: This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical pathways 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.

Proposed Course 2 – Introduction to Mechanical Systems

Proposed Course 3 – HVACR

Arts, A/V Technology & Communications Cluster

Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

Audio-Video Technology and Film Pathway

The Audio-Video Technology and Film pathway is one of three pathways in the Arts, Audio-Video Technology and Communications Cluster. Completion of this pathway prepares the student for employment in the Audio-Video Communications industry. An individual may design, manufacture, operate and/or repair audiovisual equipment. Students will be involved in the presentation of sound, video and data in a variety of venues. Students may gather information and prepare broadcasts or be involved in the set up and operations of equipment used to record and transmit programs and/or motion pictures. Students may provide sound mixing and/or video editing services. The

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Audio-Video Technology and Film industry is growing rapidly in the state of Georgia. This pathway culminates with an opportunity for students to take the SkillsUSA Television Video Production end of pathway assessment.

Course 1 – Audio & Video Technology & Film I 10.51810

Course Description: 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. Skills USA, the Georgia Scholastic Press Association, Technology Student Association (TSA) 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. All material covered in Audio & Video Technology & Film I will be utilized in subsequent courses.

Proposed Course 2 – Audio & Video Technology & Film II

Proposed Course 3 – Audio & Video Technology & Film III

Graphic Production Pathway

The Graphic Production pathway is one of three pathways in the Arts, Audio-Video Technology and Communications Cluster. Graphic Production includes the processes and industries that create, develop, produce, and distribute products that incorporate words and/or pictorial images to convey information, ideas, and feelings. Graphic Production includes the market segments embracing the technologies of the many facets of printing, publishing, packaging, electronic imaging, and their allied industries. This pathway culminates with the opportunity for students to take the end of pathway assessment provided by SkillsUSA Work Force Ready or earn industry credentials through PrintEd.

Proposed Course 1 - Introduction to Graphics and Design 48.56100

Course Description: 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.

Proposed Course 2 – Graphics Design & Production

Proposed Course 3 – Graphic Output Processes

Graphic Design Pathway

The Graphic Design pathway is one of three pathways in the Arts, Audio-Video Technology and Communications Cluster. Graphic Design is the process of communicating visually using typography and/or images to convey information. Graphic Design embraces a range of cognitive skills, creative problem solving skills, aesthetics, and crafts, including typography, visual arts, illustration, photography, and layout. This pathway culminates with the opportunity for students to take the end of pathway assessment provided by SkillsUSA Work Force Ready or earn industry credentials through PrintEd.

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Proposed Course 1 – Introduction to Graphics and Design 48.56100

Course Description: 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.

Proposed Course 2 – Graphics Design & Production

Proposed Course 3 – Advanced Graphic Design

Business Management & Administration Cluster

Careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

Administrative Support Pathway

The Administrative Support pathway is one of three pathways in the Business Management & Administration Cluster. This cluster prepares students for careers in planning, organizing, directing and evaluating business functions that are essential to efficient and productive business operations. Careers in Administrative Support facilitate business operations through a variety of information and communication management, data processing and collection, and project tracking. A focus of the course will be on careers that plan, organize, direct, and evaluate all or part of a business organization through the allocation and use of financial, human, and material resources. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this pathway. Emphasis is placed on developing proficient fundamental computer skills required for all careers. This pathway culminates with an opportunity for students to take the Microsoft Office Specialist Exam as the end of pathway assessment.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high

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school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Business Communication and Procedures

Proposed Course 3 – Advanced Computer Applications

Small Business Development Pathway

The Small Business Development pathway is one of three pathways in the Business Management & Administration Cluster. This cluster prepares students for careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Careers in the Small Business Development pathway prepares students to align business goals focusing on planning, organizing, coordinating, and controlling the resources needed to produce and provide a business's goods and/or services that lead to owning and operating a small business. Learning essentials for working in a business environment, managing a business, and owning a business are elements of this pathway. This pathway culminates with an opportunity for students to take the Fundamental Business Concepts or Entrepreneurship and Management Exam as the end of pathway assessment.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Business Communication and Procedures

Proposed Course 3 – Entrepreneurship

Human Resources Management Pathway

The Human Resources Management pathway is one of three pathways in the Business Management & Administration Cluster. This cluster prepares students for careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Careers in Human Resources Management focuses on the staffing activities that involve planning, recruitment, selection, orientation, training,

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performance appraisal, compensation, and safety of employees. Maintaining, monitoring, controlling and planning the use of financial resources to ensure a business's financial well-being are also covered in this pathway. Knowledge of business law is covered extensively in this pathway as all students eventually assume roles as citizens, workers, and consumers in their communities and in society at large. A basic knowledge of the legal system and how business law impacts commerce in this country and abroad are covered in this pathway to prepare students for careers in human resources. The management of functions related to human resources is absolutely critical to today's business success. This pathway culminates with an opportunity for students to take credentialing offered by the Society for Human Resource Management or the NOCTI Human Resource Management Certification as the end of pathway assessment.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Business Law

Proposed Course 3 – Human Resources Principles

Education & Training Cluster

Planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services.

Early Childhood Care & Education Pathway

The Early Childhood Care & Education pathway is one of two pathways in the Education and Training Cluster. The focus of this cluster is planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services. There are two pathway options available depending on the availability of internship experiences in the school system. The first option focuses on early childhood care and education for any student looking for employment in early childhood education and services. Students learn appropriate practices for working with young children, as the

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grow physically, cognitively, and emotionally. Many of the high schools have an onsite preschool lab where students can apply the skills and knowledge they are learning to real world settings as the third course in the pathway sequence. The second pathway option where internship experiences are not an option allows students to take a Curriculum & Instruction course as the third course in the pathway. This pathway culminates with an opportunity for students to take the MAVCC, AAFCS, NOCTI end of pathway assessment or to take the CDA Council end of pathway assessment and to potentially earn a Child Development Associate certificate.

Course 1- Early Childhood Education I: 20.52810

Course Description: 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.

Proposed Course 2 - Early Childhood Education II

Proposed Course 3a – Curriculum & Instruction

Proposed Course 3b – Early Childhood Education Internship

Teaching as a Profession Pathway

The Teaching as a Profession pathway is one of two pathways in the Education and Training Cluster. The Teaching as a Profession pathway enables students to follow their dreams of one day becoming a teacher themselves. Students examine the teaching profession, study contemporary issues in education, and end the pathway with an internship with a teacher mentor. Teaching as a Profession is a pathway that is articulated with the University System of Georgia. This pathway culminates with an opportunity for students to take the NOCTI Teaching as a Profession end of pathway assessment.

Course 1 – Examining the Teaching Profession 13.01100

Course Description: The Examining the Teaching Profession is the foundational course under the Teaching as a Profession pathway and 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.

Proposed Course 2 – Contemporary Issues in Education

Proposed Course 3 – Teaching as a Profession Internship

Energy Cluster

Educational programs in the Energy Cluster prepare students for careers in planning, managing and providing support and technical services related to the generation, transmission and distribution of various types of energy along with the engineering design, construction, maintenance and repair of these systems.

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Energy and Power: Generation, Transmission, and Distribution Pathway

The Energy and Power: Generation, Transmission, and Distribution Pathway is a pathway within the Energy Career Cluster. Developed with the GEICC Consortium and the GaDOE this 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. This pathway will introduce students to energy and power 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. This pathway culminates with an opportunity for students to take the NOCTI Engineering or SkillsUSA Engineering end of pathway assessment.

Course 1 - Foundations of Engineering and Technology 49.53700

Course Description: 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.

Proposed Course 2 – Energy and Power Technology

Proposed Course 3 – Appropriate and Alternative Energy Technologies

Finance Cluster

Planning and related services for financial and investment planning, banking, insurance, and business financial management.

Advanced Accounting Pathway

The Advanced Accounting pathway is one of four pathways in the Finance Cluster. This cluster involves planning services for financial and investment planning, banking, insurance, and business financial management. The Finance Cluster includes those career opportunities that relate to making strategic decisions to report, obtain, save, protect and grow the financial assets of businesses and individuals. Individuals working in finance must have strong computation, analytical and interpersonal skills. Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision-making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information. Accounting is the language of business and an integral aspect of all business activities. Mastery of fundamental accounting concepts, skills, and competencies is essential to making informed business decisions. Regardless of students' chosen course of study or career path, accounting prepares students to be educated business professionals and informed consumers. The business finance function in a company is to manage policy

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and strategy for (and the implementation of) capital structure, budgeting, acquisition and investment, financial modeling and planning, funding, dividends, and taxation. Completing this pathway will reflect the importance of being able to understand, interpret, and use accounting information to make financial decisions. This pathway culminates with an opportunity for students to take the QuickBooks Certification or Business Financial Management as the end of pathway assessment.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Accounting 1

Proposed Course 3 – Accounting 2

Business Accounting Pathway

The Business Accounting pathway is one of four pathways in the Finance Cluster. This cluster involves planning services for financial and investment planning, banking, insurance, and business financial management. The Finance Cluster includes those career opportunities that relate to making strategic decisions to report, obtain, save, protect and grow the financial assets of businesses and individuals. Individuals working in finance must have strong computation, analytical and interpersonal skills. Accounting is the language of business and an integral aspect of all business activities. Inclusion of financial literacy in this pathway is essential due to the growing emphasis on the need for students to learn how to navigate the financial decisions they must make and how to make informed decisions related to managing finances and budgeting, saving and investing, living independently, earning and reporting income, buying goods and services, using credit, banking, and protecting against risk. The business finance function in a company is to manage policy and strategy for (and the implementation of) capital structure, budgeting, acquisition and investment, financial modeling and planning, funding, dividends, and taxation. Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision-making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information. This pathway culminates with

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an opportunity for students to earn industry recognized credentials in areas such as a Certified Bookkeeper Professional.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Financial Literacy

Proposed Course 3 – Accounting 1

Banking Pathway

The Banking pathway is one of four pathways in the Finance Cluster. This cluster involves planning services for financial and investment planning, banking, insurance, and business financial management. The Finance Cluster includes those career opportunities that relate to making strategic decisions to report, obtain, save, protect and grow the financial assets of businesses and individuals. Individuals working in finance must have strong computation, analytical and interpersonal skills. Banking, overseeing investments, managing insurance, and financial planning are all part of the Finance Career Cluster. Careers in this cluster help businesses and individuals deal with their money, invest in their future, and protect their property. Involvement with assisting people in securing loans, working with the stock or commodities markets, or counseling them on using credit are all optional career areas linked with this career cluster. Careers in the Banking pathway are primarily concerned with accepting deposits, lending funds, and extending credit, banking services include cash management, short-term investments, mortgages and other loans, credit cards, and bill payment. Banking services are delivered via a number of different institutions, from commercial banks (the largest group) and other traditional means (savings and loans associations, credit unions, and local banks) to newer ventures through insurance companies, brokerage houses, and the internet. Understanding of financial instruments, capital planning, funds acquisition, asset and debt management, budgeting, financial analysis, and investments and portfolio management are all covered in this cluster. This pathway culminates with an opportunity for students to take the Financial & Investment Planning offered by NOCTI, Certified Bank Teller or Certified Financial Planner as the end of pathway assessment.

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Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Financial Literacy

Proposed Course 3 – Banking & Investing

Insurance Pathway

The Insurance pathway is one of four pathways in the Finance Cluster. This cluster involves planning services for financial and investment planning, banking, insurance, and business financial management. The Finance Cluster includes those career opportunities that relate to making strategic decisions to report, obtain, save, protect and grow the financial assets of businesses and individuals. Individuals working in finance must have strong computation, analytical and interpersonal skills. Career opportunities are available in every sector of the economy and require specific skills in organization, time management, customer service and communication related to insurance and risk management. The insurance industry, which exists to protect individuals and businesses from financial losses, delivers services that transfer risk from an individual or business to an insurance company and delivers “products” that transfer risk from an individual or business to an insurance company. Sample career opportunities in Insurance include insurance agent, insurance broker, claim adjuster, compliance specialist, special investigator, underwriter, benefits consultant, producer, loss control manager, product manager, branch manager and financial planner. This pathway culminates with an opportunity for students to take the Financial & Investment Planning, American Institute for Chartered Property Casualty Underwriter (AICPCU), and the Insurance Institute of America (IIA) certification as the end of pathway assessment.

Course 1 – Introduction to Business & Technology 07.44130

Course Description: Introduction to Business & Technology is designed for high school students as a gateway to the career pathways above, and 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

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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. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification.

Proposed Course 2 – Financial Literacy

Proposed Course 3 – Insurance & Risk Management

Government & Public Administration Cluster

Planning and executing government functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

Public Management and Administration Pathway

The Public Management and Administration pathway is one of five pathways in the Government and Public Administration Cluster. Some of the jobs or career opportunities that would be available for people who completed pathways and training in this specific pathway include city manager, city council, county clerk, court administrator or clerk, executive director, officer or associate for a foundation, charitable foundation officer, industrial foundation, chamber of commerce, general service, office management, analysis officer, and program administration officer. Students develop general and basic business skills such as computer use, software knowledge, creating and writing business documents. Students also develop oral and written communication skills, business employability skills and learn about the differing roles of government. Currently, we do not have an end of pathway assessment that has been assigned or developed for this pathway.

Course 1 – Introduction to Government and Public Administration 29.41000

Course Description: This is the foundational course for the Public Management and Administration Pathway and introduces students to the introductory knowledge and technical skills of working in public service and serving the general public in a government or public administration career. Topics will include identifying personal strengths and weaknesses and include oral and written communication skills, critical thinking for problem solving, developing leadership and teamwork skills, employability skills, and technical skills for this career cluster.

Proposed Course 2 – Government & Public Administration Fundamentals

Proposed Course 3 – Government and Public Administration Applications

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OR

Proposed Course 3 – Government and Public Administration Internship

Health Science Cluster

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Diagnostic Services – Phlebotomy Pathway

The Diagnostic Services – Phlebotomy pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Diagnostics pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover: anatomy and physiology of each body system, and the medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Diagnostic Services pathway use tests and evaluations that aid in the detection, diagnosis and treatment of diseases, injuries or other physical conditions. The third course in this Diagnostic pathway will cover the skills and knowledge in infection control, safety, and techniques used in phlebotomy. This pathway culminates with an opportunity for students to take a Phlebotomy end of pathway assessment from the National Healthcareer Association or National Center for Competency Testing and potentially earn the Phlebotomy credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Phlebotomy

Diagnostic Services – Medical Lab Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Diagnostics pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover: anatomy and physiology of each body system, and the medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Diagnostic Services pathway use tests and evaluations that aid in the detection, diagnosis and treatment of diseases, injuries or other physical conditions. The third course in this Diagnostic pathway will cover the skills and knowledge related to the various areas in the lab, the tests performed, and techniques and procedures utilized. This pathway culminates with an opportunity for students

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to take the Medical Lab end of pathway assessment from the National Healthcareer Association or National Center for Competency Testing and potentially earn the Medical Lab Assistant credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Clinical lab Technology

Diagnostic Services – Non-invasive Technology in Healthcare Pathway

The Diagnostic Services – Non-invasive Technology in Healthcare pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Diagnostics pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover: anatomy and physiology of each body system, and the medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Diagnostic Services pathway use tests and evaluations that aid in the detection, diagnosis and treatment of diseases, injuries or other physical conditions. The third course in this Non-invasive Diagnostic pathway will address procedures used in various non-invasive procedures including EKG. This pathway culminates with an opportunity for students to take the EKG (or other) end of pathway assessment from the National Healthcareer Association or National Center for Competency Testing and potentially earn the EKG credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Non-invasive Diagnostic Technology in Healthcare

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Health Informatics Pathway

The Health Informatics pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Health Informatics pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, as well as medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. In the third course, students will be exposed to medical office skills and knowledge related to the business side of healthcare and medical information as it relates to patients. They will learn about medical insurance and coding. Careers in the Health Informatics pathway include many different levels of health care related employment. This pathway includes health care administrators who manage health care agencies, as well as those individuals who are responsible for managing all of the patient data and information, financial information, and computer applications related to healthcare processes and procedures. This pathway culminates with an opportunity for students to take the Medical Office Assistant end of pathway assessment from the National Healthcareer Association or National Center for Competency Testing and potentially earn the Medical Office Assistant credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Applications of Health Informatics

Health Informatics – Health IT Pathway

The Diagnostic Services – Non-invasive Technology in Healthcare pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Health Informatics/Health IT pathway will be exposed to necessary skills and knowledge useful in any area in Healthcare. The second course is more specific to essential knowledge and skills in Health IT. The third course will be specific to the clinician/provider side of Health IT including: electronic medical records, the Health Information Exchange, telemedicine, the use of mobile apps and kiosks in healthcare, as well as other aspects of technology being utilized in healthcare. The Health IT industry is a new and rapidly growing field that needs employees with knowledge and skills in both Healthcare and Information Technology (IT). Georgia, especially the metro Atlanta area is the nation's leader in Health IT, with over 250 companies in this area alone. Careers in Health IT design, develop, and deliver state-of-the-art systems for capturing, managing and processing diagnostic images and clinical/administrative information for healthcare facilities. Beyond an introduction of medical terminology, Health IT interfaces with clinical, reference, epidemiological, financial, and demographic data and is responsible for the collection, storage, use, and transmission of this information. Maintenance of health records in hospitals, clinics, health departments, insurance companies, governmental agencies, and other settings is highly technical to ensure that gathered information is accurate and recorded properly for patient care. The Health IT field is becoming increasingly vital in the medical field as transition to electronic information management as the world becomes more

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and more technologically dependent. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Health IT

Proposed Course 3 – Applications of Health IT/Healthcare

Support Services Pathway

The Support Services pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Support Services pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, including medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Support Services pathway provide a therapeutic environment for the delivery of health care. Support Services offers a full range of career opportunities from entry level to management, including technical and professional careers. The third course in this pathway will introduce students to skills and knowledge in areas such as central supply, patient transport, and diet and nutrition services. Options for the end of pathway assessment for this pathway are still being explored, but could potentially include Patient Transport or Central Sterile Supply with the potential to earn a Patient Transport credential or a Central Supply credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Essentials of Healthcare Support Services

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Biotechnology Research and Development Pathway

The Biotechnology Research and Development is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Support Services pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, applications in biotechnology and the third course qualify for 4th science credit at the four-year university level. Careers in the Biotechnology Research and Development pathway involve bioscience research and development as it applies to human health. These scientists may study diseases to discover new treatments or invent medical devices used to directly assist patients or to improve the accuracy of diagnostic tests. Georgia has a growing biotech industry with many new companies calling our state home. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Introduction to Biotechnology

Proposed Course 3 -Applications of Biotechnology

Therapeutic Services – Nursing Pathway

The Therapeutic Services – Nursing pathway is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services - Nursing pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; and may provide care, treatment, counseling and health education information. There are many ways to advance in the nursing field including: licensed practical nurse, registered nurse, clinical nurse specialist, nurse practitioner nurse anesthetist, and nurse midwife. Many nursing schools now require a student to have their CNA prior to applying for the program, so the certified nursing assistant credential is a good starting point for not only nursing, but other medical careers. The third course in this pathway includes patient care skills including vital signs, personal care; patient transfer (must adhere to the guidelines of the GA Medical Care Foundation). This pathway culminates with an opportunity for students to take the certified nursing assistant (CNA) end of pathway assessment from the GA Medical Care Foundation and potentially earn the certified nursing assistant (CNA) credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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

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responsibilities of today's healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Nursing Essentials

Therapeutic Services – Public Health Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services – Public Health pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; to provide care, treatment, counseling and health education information. The third course in this pathway will focus on Public Health, including the various different areas of concentration such as maternal child or epidemiology. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Applications of Public Health

Therapeutic Services – Dental Services Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Therapeutic Services - Dental pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. The third course is designed to provide an overall framework of basic skills utilized in the dental health occupations. The course content includes in-depth study and practical applications of: office procedures, patient management, dental charting, chair side assisting, dental terminology, and pathology, as well as practical applications of oral health and nutrition,

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pharmacology and anesthesia, radiology, laboratory procedures, and other specialty areas in dentistry. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Introduction to Dental Science

Therapeutic Services – Pharmacy Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Therapeutic Services – Pharmacy pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. The third course will involve pharmacy calculations and pharmacy operations. Healthcare workers in the field of pharmacy such as pharmacy technicians and pharmacists continue to be a need across the nation, but pharmacy skills are also needed by other healthcare professions such as nursing, physician assistants, and physicians. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Pharmacy Operations Fundamentals

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Therapeutic Services – Emergency Medical Responder Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science course, students in the Therapeutic Services – Emergency Medical Responder pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. Every year, fires and other emergencies take Thousands of lives and destroy property worth billions of dollars. Firefighters and emergency services Workers help protect the public against these dangers by rapidly responding to a variety of emergencies. Frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. Many local emergency departments require their employees to be cross-trained. This pathway culminates with an opportunity for students to take the Emergency Medical Responder end of pathway assessment from the National Registry of Emergency Medical Technicians (NREMT) and potentially earn the EMR credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Emergency Medical Responder

Therapeutic Services – Emergency Management and 911 Dispatch Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services – Emergency Management and 911 Dispatch pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. Emergency management coordinates the efforts of all public safety personnel in a particular county, district or community. The emergency dispatch or 911 centers may not only coordinate the response of medical services, but may also dispatch fire and law enforcement units as well. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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,

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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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Emergency Management and 911 Dispatch

Therapeutic Services - Physical Medicine – Personal Trainer Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services – Physical Medicine pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. The third course is geared towards students interested in physical or occupational therapy type careers and focuses on kinesiology and skills used in a personal trainer or PT aide role. This pathway culminates with an opportunity for students to take the Personal Trainer or Physical Therapy Assistant end of pathway assessment from the National Academy of Sports Medicine (NASM) and potentially earn the Personal Trainer or Physical Therapy Assistant credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Principles of Physical Medicine

Therapeutic Services – Physical Medicine - Sports Medicine Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services – sports medicine pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused

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primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. The third course is geared towards students interested in a career in sports medicine and focuses on injury prevention and skills used in an athletic trainer aide role. This pathway culminates with an opportunity for students to take the sports medicine end of pathway assessment from the National Academy of Sports Medicine (NASM) and potentially earn the sports medicine aide credential.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Principles of Sports Medicine

Therapeutic Services – Allied Health Pathway

The Diagnostic Services – Medical Lab is one of 16 pathways in the Health Science Cluster. After completing an Introduction to Healthcare Science, students in the Therapeutic Services – allied health pathway will be exposed to necessary skills and knowledge useful in any area in healthcare. The second course in this pathway, Essentials of Healthcare will cover anatomy and physiology of each body system, medical terminology, diseases and disorders, diagnosis and treatment and skills related to each system. Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information. According to <http://explorehealthcareers.org> the term **Allied Health** (or Health-Related Professions, at some institutions) is used to identify a cluster of health professions, encompassing as many as 200 health careers (see list below). There are 5 million allied health care providers in the U.S., who work in more than 80 different professions and represent approximately 60% of all health care providers -- but this is just a drop in the bucket in terms of how many allied health care workers are needed to meet current and future healthcare needs in America. The third course of this pathway allows students to gain knowledge and experience some basic skills in a variety of these occupations, and then have a more focused experience on the area they are most interested in. Completion of this focused experience (through a variety of means – ex. Internship, computer program in combination with skills practice) could lead to a variety of different credentialing opportunities and credentials, ex. Patient Care Technician. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: 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

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responsibilities of today's healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Healthcare

Proposed Course 3 – Allied Health and Medicine

Hospitality & Tourism

Preparing individuals for employment in career pathways that relate to families and human needs such as restaurant and food/beverage services, lodging, travel and tourism, recreation, amusement and attractions.

Culinary Arts Pathway

Culinary Arts is one of three pathways in the Hospitality and Tourism Cluster. Hospitality jobs are abundant in Georgia. A growing pathway in Georgia's high schools is culinary arts. Students have the opportunity to learn a variety of skills to work in the restaurant and food industry from knife skills, cooking techniques, menu planning, food purchasing and costing, food safety and sanitation to garde manager. Many of these schools have their own school based catering companies affording students an opportunity for real world experiences. This pathway culminates with an opportunity for students to take the MAVCC Culinary end of pathway assessment or the NOCTI American Culinary Federation end of pathway assessment and to potentially earn a junior culinary certificate.

Proposed Course 1 – Introduction to Culinary Arts 20.53100

Course Description: 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.

Proposed Course 2 – Culinary Arts I

Proposed Course 3 – Culinary Arts II

Hospitality, Recreation and Tourism Pathway

Hospitality, Recreation and Tourism is one of three pathways in the Hospitality and Tourism Cluster. Travel and tourism is one of the largest and fastest-growing industries in the world. In addition to basic knowledge and skills in management and entrepreneurship, professional sales and marketing, buying and merchandising, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing, students in Georgia's Hospitality & Tourism Pathway will obtain specific knowledge and skills in the areas of restaurant and food/beverage services, lodging, travel, tourism, amusements and attractions. This pathway culminates with an opportunity for students to take the MBA Research "A*S*K Marketing Concepts" end of pathway assessment or the NOCTI "Marketing Education Manager Trainee" end of pathway assessment. Students may earn a credentialing certificate.

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Course 1 – Marketing Principles 08.47400

Course Description: Marketing Principles is the foundational course for the Hospitality, Recreation & Tourism (HRT) and Sports & Entertainment Marketing Pathways. This course 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 as well as Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, and Strategic Management. Students are introduced to global marketing. Instructional projects with real businesses, work-based learning activities including School-Based Enterprises, and DECA’s application experiences should be incorporated in this course.

Proposed Course 2 – Hospitality, Recreation & Tourism (HRT) Essentials

Proposed Course 3 – Hospitality, Recreation & Tourism (HRT) Management

Sports and Entertainment Marketing Pathway

Sports and Entertainment Marketing is one of three pathways in the Hospitality and Tourism Cluster. Entertainment is related to film and TV, music, gaming, digital media and sports marketing are huge in Georgia. In addition to basic knowledge and skills in management and entrepreneurship, professional sales and marketing, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing, students in Georgia’s Sports and Entertainment Pathway will apply their knowledge and skills to this industry in order to master the industry’s terminology, market arenas and venues, obtain sponsorships, maintain solid media relations, coordinate and manage campaigns and events, etc. This pathway culminates with an opportunity for students to take the MBA Research “A*S*K Marketing Concepts” end of pathway assessment or the NOCTI “Marketing Education Manager Trainee” end of pathway assessment. Students may earn a credentialing certificate.

Course 1 – Marketing Principles 08.47400

Course Description: 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 as well as Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, and Strategic Management. Students are introduced to global marketing. Instructional projects with real businesses, work-based learning activities including School-Based Enterprises, and DECA’s application experiences should be incorporated in this course.

Proposed Course 2 – Introduction to Sports & Entertainment Marketing

Proposed Course 3 – Advanced Sports & Entertainment Marketing

Human Services Cluster

Preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

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Food and Nutrition Pathway

The Food and Nutrition pathway is one of seven pathways in the Human Services Cluster. Students have opportunities to learn knowledge and skills on food choices for optimal health for a lifetime. Science is integrated in this pathway creating the potential for the final two courses to earn a fourth science credit. Students discuss the basic chemistry concepts of food science and evaluate the effects of processing, preparation, and storage on the quality, safety, wholesomeness and nutritive value of foods. Students may look for a career as a food scientist, nutritional consultant, in quality control, test kitchens and food preparation facilities. This pathway culminates with an opportunity for students to take the AAFCS Nutrition end of pathway assessment or the National Restaurant Association's end of pathway assessment and to potentially earn a ServSafe certificate.

Course 1 – Food, Nutrition & Wellness 20.41610

Course Description: 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.

Proposed Course 2 – Food for Life

Proposed Course 3 – Food Science

Consumer Services Pathway

The Consumer Services pathway is one of seven pathways in the Human Services Cluster. Students will determine how a constantly changing economy affects consumer choices; how to analyze products for varying quality, as well as constructing an individualized or family financial plan. Many career opportunities will be introduced to students in this pathway, from customer service representative, consumer advocate, certified financial planner to financial advisor. This pathway culminates with an opportunity for students to take a MAVCC, NOCTI or WISE Financial Literacy end of pathway assessment.

Course 1 – Introduction to Consumer Relations 20.44000

Course Description: The Human Services Cluster consists of career pathways which provide a variety of services to consumers. One of the most important aspects is the ability to provide positive consumer interactions. Students will learn effective interpersonal skills to build and maintain consumer relations. Emphasis is placed on examining policies and procedures, communication skills, and consumer interactions. Students will be afforded the opportunity to not only understand the concepts, but also apply their knowledge and skills in project based activities.

Proposed Course 2 – Consumer Issues

Proposed Course 3 – Consumer Economics

Fashion and Textiles Pathway

The Fashion and Textiles pathway is one of seven pathways in the Human Services Cluster. This pathway can lead students to a career in retail, fashion merchandising, furnishings and interiors or textile science. Students begin this pathway with customer service skills, consumer behavior, color, elements of design, textiles and their properties, and merchandising math to include cost of goods sold, gross margin, markup, mark down, percent change, etc. This pathway culminates with an opportunity for students to take the National Retail Federation or NOCTI Retail Merchandising end of pathway assessment and to potentially earn an industry certificate.

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Proposed Course 1 – Introduction to Consumer Relations 20.44000

Course Description: The Human Services Cluster consists of career pathways which provide a variety of services to consumers. One of the most important aspects is the ability to provide positive consumer interactions. Students will learn effective interpersonal skills to build and maintain consumer relations. Emphasis is placed on examining policies and procedures, communication skills, and consumer interactions. Students will be afforded the opportunity to not only understand the concepts, but also apply their knowledge and skills in project based activities.

Proposed Course 2 – Fundamentals of Fashion

Proposed Course 3a – Textile Science

Proposed Course 3b – Retail Math for Human Services

Personal Care Services - Cosmetology Pathway

The Personal Care Services – Cosmetology pathway is one of seven pathways in the Human Services Cluster. After completing an Introduction to Personal Care Services course, students in the Cosmetology pathway will be exposed to necessary skills and knowledge useful in any area in Personal Care Services. The subsequent courses in this pathway are aligned to the requirements set forth by the State Board of Cosmetology. A student may potentially take the State Board of Cosmetology written and practical assessment after having completed 1500 required hours or completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment.

Course 1 – Introduction to Personal Care Services 12.54400

Course Description: 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. Students will experience basic hands on skills in each area to help them determine the pathway they are most interested in pursuing. By completing courses in the personal care services pathways, students can potentially earn credit toward the hours required by the Georgia State Board of Barbering and/or Cosmetology or hours toward their license as an esthetician or nail technician.

Proposed Course 2 – Cosmetology I

Proposed Course 3 – Cosmetology II

Personal Care Services – Barbering Pathway

The Personal Care Services – Barbering pathway is one of seven pathways in the Human Services Cluster. After completing an Introduction to Personal Care Services course, students in the Barbering pathway will be exposed to necessary skills and knowledge useful in any area in Personal Care Services. The subsequent courses in this pathway are aligned to the requirements set forth by the State Board of Barbering. A student may potentially take the State Board of Barbering written and practical assessment after having completed 1500 required hours or completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment.

Georgia Department of Education Career Pathway Descriptions

Course 1 – Introduction to Personal Care Services 12.54400

Course Description: 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. Students will experience basic hands on skills in each area to help them determine the pathway they are most interested in pursuing. By completing courses in the personal care services pathways, students can potentially earn credit toward the hours required by the Georgia State Board of Barbering and/or Cosmetology or hours toward their license as an esthetician or nail technician. **Additional courses above the pathway courses will be available. Cosmetology and barbering share similar standards in the second and third courses of the pathway, but in the additional courses, differences will be apparent).

Proposed Course 2 – Barbering I

Proposed Course 3 – Barbering II

Personal Care Services – Esthetics Pathway

The Personal Care Services – Esthetics pathway is one of seven pathways in the Human Services Cluster. After completing an Introduction to Personal Care Services course, students in the Esthetics pathway will be exposed to necessary skills and knowledge useful in any area in Personal Care Services. The subsequent courses in this pathway are aligned to the requirements set forth by the State Board. A student may potentially take the State Board written and practical assessment after having completed 725 required hours or completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment.

Course 1 – Introduction to Personal Care Services 12.54400

Course Description: 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. Students will experience basic hands on skills in each area to help them determine the pathway they are most interested in pursuing. By completing courses in the personal care services pathways, students can potentially earn credit toward the hours required by the Georgia State Board of Barbering and/or Cosmetology or hours toward their license as an esthetician or nail technician.

Proposed Course 2 – Esthetics I

Proposed Course 3 – Esthetics II

Personal Care Services – Nails Pathway

The Personal Care Services – Nails pathway is one of seven pathways in the Human Services Cluster. After completing an Introduction to Personal Care Services course, students in the Nails pathway will be exposed to necessary skills and knowledge useful in any area in Personal Care Services. The subsequent courses in this pathway are aligned to the requirements set forth by the State Board. A student may potentially take the State Board written and practical assessment after having completed 500 required hours or completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment.

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Course 1 – Introduction to Personal Care Services 12.54400

Course Description: 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. Students will experience basic hands on skills in each area to help them determine the pathway they are most interested in pursuing. By completing courses in the personal care services pathways, students can potentially earn credit toward the hours required by the Georgia State Board of Barbering and/or Cosmetology or hours toward their license as an esthetician or nail technician.

Proposed Course 2 – Nails I

Proposed Course 3 – Nails II

Information Technology Cluster

Building linkages in Information Technology occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Web & Digital Communications Pathway

The Web & Digital Communications pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services. Careers in Web and Digital Communications involve creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. Organizations of all types and sizes use digital media to communicate with existing and potential customers, to track transactions, and to collaborate with colleagues. Web and digital communications experts can find employment opportunities in organizations of all sizes and types. This pathway culminates with an opportunity for students to earn industry recognized credentials in areas such as Design Specialist, Web Specialist, Video Specialist and Internet Core Computing Certification.

Course 1 – Introduction to Digital Technology 11.41500

Course Description: Introduction to Digital Technology is designed for high school 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 taught in a computer lab with hands- on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

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Proposed Course 2 – Digital Media & Communications

Proposed Course 3 – Digital Design

Programming Pathway

The Programming pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services. Careers in Programming and Software Development involve the design, development, implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers. While many of the career opportunities in this area are in software companies, large organizations of other types, such as financial services and business, also offer many opportunities. People with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles. This pathway culminates with an opportunity for students to take the Sun Certified Java Associate offered by Oracle or Microsoft Certified Professional Developer as the end of pathway assessment.

Course 1 – Introduction to Digital Technology 11.41500

Course Description: Introduction to Digital Technology is designed for high school 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 taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Proposed Course 2 – Programming Principles

Proposed Course 3 – Programming, Apps & Game Design

Advanced Programming Pathway

The Advanced Programming pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services. Careers in Programming and Software Development involve the design, development, implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers. While many of the career opportunities in this area are in software companies, large organizations of other types, such as financial

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services and business, also offer many opportunities. People with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles. Students will qualify to sit for the AP Computer Science exam to earn college credit after successful completion of this pathway. This pathway culminates with an opportunity for students to take the Sun Certified Java Associate or Microsoft Certified Professional Developer as the end of pathway assessment.

Course 1 – Introduction to Digital Technology 11.41500

Course Description: Introduction to Digital Technology is designed for high school 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 taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Proposed Course 2 – Computer Science Principles

Proposed Course 3 – AP Computer Science

Information Support & Services Pathway

The Information Support & Services pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services. Careers in Information Support and Services involve IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems. Successful IT deployment implementation of computer systems and software, provision of technical assistance, creation of technical documentation and management of information systems is critical to the success of most 21st century organizations. People with expertise in Information Support and Services are in high demand for a variety of positions in organizations of all sizes and types, doing work such as integrating multiple databases at a global investment company, enabling employees to share information between the New York, Paris and Hong Kong offices and improving service to customers. This pathway culminates with an opportunity for students to earn industry recognized credentials in areas such as A+ Certification, Certified Computing Professional, or CIW Security Essentials Specialist.

Course 1 – Introduction to Digital Technology 11.41500

Course Description: Introduction to Digital Technology is designed for high school 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 taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout

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the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Proposed Course 2 – Computer Systems

Proposed Course 3 – Information Technology Support

Network Systems Pathway

The Network Systems pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services. Careers in Network Systems involve network analysis, planning and implementation, including design, installation, maintenance and management of network systems. Successful establishment and maintenance of information technology infrastructure is critical to the success of almost every 21st century organization. People with expertise in Network Systems are in high demand for a variety of positions in organizations of all sizes and types, doing work such as creating and maintaining the infrastructure in medical facilities that enables multiple doctors to view the same patient's X-rays in real-time to determine the diagnosis and the best treatment. This pathway culminates with an opportunity for students to take the CISCO Certified Network Associate or Network+ Certification as the end of pathway assessment.

Course 1 – Introduction to Digital Technology 11.41500

Course Description: Introduction to Digital Technology is designed for high school 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 taught in a computer lab with hands- on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Course 2 – Networking Fundamentals

Course 3 – Network Systems & Support

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Health IT Pathway

The Health IT pathway is one of six pathways in the Information Technology Cluster. This cluster builds linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, and multimedia and systems integration services as it relates to the healthcare field. Careers in Health IT design develop and deliver state-of-the-art systems for capturing, managing and processing diagnostic images and clinical/administrative information for healthcare facilities. Beyond an introduction of medical terminology, Health IT interfaces with clinical, reference, epidemiological, financial, and demographic data and is responsible for the collection, the storage, the use, and the transmission of this information. Maintenance of health records in hospitals, clinics, health departments, insurance companies, governmental agencies, and other settings is highly technical to ensure that gathered information is accurate and where it needs to be for patient care. The Health IT field is becoming increasingly vital in the medical field with transition to electronic information management as the world becomes more and more technologically dependent. This pathway culminates with an opportunity for students to earn industry recognized credentials to transition to a successful career smoothly with knowledge of the health and IT fields.

Course 1 – Introduction to Healthcare Science 25.52100

Course Description: Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. It is appropriate for students wishing to pursue a career in the Healthcare Industry. The course will enable students to receive initial exposure to Healthcare Science careers as well as employability and communication skills necessary in the healthcare industry. The concepts of human growth and development, health, wellness, and preventative care are evaluated, as well as, legal, ethical and technology responsibilities of today's healthcare provider. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid. 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) and Center for Disease Control (CDC). Mastery of these standards through project- based learning, technical skills practice, and leadership development activities of the career and technical student organization HOSA, Future Health Professionals, will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training.

Proposed Course 2 – Essentials of Health IT—Business

Proposed Course 3 – Applications of Health IT/Healthcare

Law, Public Safety, Corrections & Security Cluster

Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

Corrections Services Pathway

The Corrections Services pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an introduction to Law, Public Safety Corrections and Security students in the corrections pathway will be exposed to essential skills and knowledge useful in any area in law enforcement. The third course will introduce the specialty field of corrections. Workers in the Correction Services pathway are responsible for overseeing individuals who have been arrested and are awaiting trial or who have been convicted of a crime and sentenced to serve time in a jail, reformatory, or Penitentiary. While the primary mission of corrections is protection of the public, many in this field are involved with the treatment, education and reintegration of offenders. There is a big need in our state for corrections workers, especially in the central and southern parts of our state. Students may

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also be interested in working for probation or pardons and parole which are also part of the Dept. of Corrections in the state of Georgia. Students may also choose to explore other areas of law enforcement or security by completing additional courses. Upon completion of the pathway option students may take include the national assessments offered by Skills Connect or the National Partnership in LPSCS that will validate their knowledge and skills in this pathway. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Criminal Justice Essentials

Proposed Course 3 – Applications of Corrections

Law Enforcement Services Pathway

The Law Enforcement Services pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the corrections pathway will be exposed to essential skills and knowledge useful in any area in law enforcement. The third course in the Law Enforcement Services Pathway is criminal investigations and forensics. This is a very exciting course that utilizes crimes scene investigative skills, and science and math to help solve crimes. People depend on police officers and detectives to protect their lives and property. Law enforcement personnel have duties that range from controlling traffic to preventing and investigating crimes. Law enforcement officers maintain order; enforce laws and ordinances; issue traffic summonses; investigate accidents; present evidence in court; serve legal documents for the court system; and apprehend, arrest and process prisoners. Students may be interested in working for their local sheriff or police departments or they could also pursue careers with the State Patrol or GBI, and specialize in areas such as CSI, SWAT, hostage negotiator, etc. Students may also choose to take additional courses in corrections and security and protective services. This pathway culminates with an opportunity for students to take the Skills Connect or the LPSSC end of pathway assessment from the Oklahoma Career Tech Testing Center.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Criminal Justice Essentials

Proposed Course 3 – Criminal Investigations and Forensics

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Security and Protective Services Pathway

The Security and Protective Services pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the Security and protective services pathway will be exposed to essential skills and knowledge useful in any area in law enforcement. The third course in this pathway will expose students to careers in the very fast paced and growing field of security. Students will explore the different types of security services, as well as the different issues and concerns faced in different environments and industries. Cyber security is a new and exciting area, with specific industries focusing on mobile devices. Security personnel often work in public buildings such as museums or art galleries to protect paintings and exhibits by inspecting people and packages entering and leaving the building. In factories, laboratories, government buildings, data processing centers, and military bases, security officers protect information, products, computer codes, and defense secrets and check the credentials of people and vehicles entering and leaving the premises. This pathway culminates with an opportunity for students to take the Skills Connect or the National Partnership in LPSSS end of pathway assessment from the Oklahoma Career Tech Testing Center.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Criminal Justice Essentials

Proposed Course 3 – Applications of Security of Protective Services

Fire and Emergency – Emergency Medical Responder Pathway

The Fire and Emergency – Emergency Medical Responder pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the Fire and Emergency pathway will be exposed to general emergency protocol for fire and emergency units that work together to protect life and property. Students will receive training in teamwork in an emergency responding to an emergency, CPR and First Aid as well as basic knowledge of fire prevention and fire management. All communities in Georgia require the services of fire and emergency personnel. Many parts of our state may operate local volunteer departments, while others have paid staff. Every year, fires and other emergencies take thousands of lives and destroy property worth billions of dollars. Firefighters and emergency services workers help protect the public against these dangers by rapidly responding to a variety of emergencies. Frequently the first emergency personnel are at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. Many fire and police departments require their employees to be trained Emergency Medical Responders. This pathway culminates with an opportunity for students to take the emergency medical responder end of pathway assessment from the National Registry of Emergency Medical Technicians and potentially earn the EMR credential.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS fields. It examines the basic concepts of law related to citizens' rights and the

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responsibilities, and students will receive instruction in critical skill areas including: communicating with diverse groups, conflict resolution, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Introduction to Fire and Emergency Services

Proposed Course 3 – Emergency Medical Responder

Fire and Emergency – Emergency Management/911 Dispatch Pathway

The Fire and Emergency – Emergency Management/911 Dispatch Corrections Services pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the Fire and Emergency pathway will be exposed to general emergency protocol for fire and emergency units that work together to protect life and property. Students will receive training in teamwork in an emergency responding to an emergency, CPR and First Aid as well as basic knowledge of fire prevention and fire management. Many parts of our state may operate local volunteer departments, while others have paid staff. Either way, they play a vital role in the lives of all Georgians. Every year, fires and other emergencies take thousands of lives and destroy property worth billions of dollars. Firefighters and emergency services workers help protect the public against these dangers by rapidly responding to a variety of emergencies. Frequently the first emergency personnel at the scene of a traffic accident or medical emergency may be called upon to put out a fire, treat injuries or perform other vital functions. Emergency management coordinates the efforts of all public safety personnel in a particular county, district or community. The emergency dispatch or 911 centers may not only coordinate the response of medical services, but may also dispatch fire and law enforcement units as well. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Law, Public Safety, Corrections and Security Career Cluster. This course provides students with career-focused educational opportunities in various public safety fields and examines the basic concepts of law related to citizens' rights and the responsibilities. Students will receive instruction in critical skill areas including communicating with diverse groups, conflict resolution, ethics, CERT (Citizens Emergency Response Training, or similar program), report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Introduction to Fire and Emergency Services

Proposed Course 3 – Emergency Management and 911 Dispatch

Fire and Emergency – Fire Services Pathway

The Fire and Emergency – Fire Services pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the Fire and Emergency pathway will be exposed to general emergency protocol for fire and emergency units that work together to protect life and property. Students receive training in teamwork in an emergency responding to an emergency, CPR and First Aid as well as basic knowledge of fire prevention and fire management. Many parts of our state may operate local volunteer departments, while others have paid staff. Every year, fires and other emergencies take thousands of lives and destroy property worth billions of dollars. Firefighters and emergency

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services workers help protect the public against these dangers by rapidly responding to a variety of emergencies. Frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. Students who are interested in careers in fire science should choose to pursue the fire services course which will prepare them for necessary additional courses at the post-secondary level.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Introduction to Fire and Emergency Services

Proposed Course 3 – Applications of Fire Services

Legal Services – Administrative Pathway

The Legal Services – Administrative pathway is one of six pathways in the Law, Public Safety, Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security course students in the legal pathway will be exposed to essential skills and knowledge useful in any careers in the law. In the second course, all students pursuing this pathway will be exposed to general knowledge and skills in dealing with the law no matter which area of law they choose to focus. The legal system affects nearly every aspect of our society, from buying a home to crossing the street. Workers in the Legal Services pathway form the backbone of this vital system, linking it to society in myriad ways. For this reason, they hold positions of great responsibility and are obligated to adhere to a strict code of ethics. Students may be interested in working as a court reporter or legal assistant in more clerical or administrative roles. Options for the end of pathway assessment for this pathway are still being explored.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Legal Services Essentials

Proposed Course 3 – Legal Administrative Services

Legal Services – Applications of the Law Pathway

The Legal Services – Applications of the Law pathway is one of six pathways in the Law, Public Safety, and Corrections & Security Cluster. After completing an Introduction to Law, Public Safety Corrections and Security

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course students in the legal pathway will be exposed to essential skills and knowledge useful in any careers in the law. In the second course, all students pursuing this pathway will be exposed to general knowledge and skills in dealing with the law no matter which area of law they choose to focus. The legal system affects nearly every aspect of our society, from buying a home to crossing the street. Workers in the Legal Services pathway form the backbone of this vital system, linking it to society in myriad ways. For this reason, they hold positions of great responsibility and are obligated to adhere to a strict code of ethics. Students who complete this legal pathway may want to pursue an internship in a law office. There is no end of pathway assessment currently for this pathway. Completion of this pathway should lead to students seeking post-secondary programs that would allow them to continue their path towards a paralegal or an attorney career.

Course 1 – Introduction to Law, Public Safety, Corrections and Security 43.45000

Course Description: Introduction to Law, Public Safety, Corrections, and Security (LPSCS) is the pre-requisite for all other courses within the Career Cluster. This course provides students with career-focused educational opportunities in various LPSCS 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, ethics, CERT (Citizens Emergency Response Training, or similar program), basic firefighting, report writing, terrorism, civil and criminal law. Career planning and employability skills will be emphasized.

Proposed Course 2 – Legal Services Essentials

Proposed Course 3 – Applications of the Law

Manufacturing Cluster

Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Mechatronics Pathway

The Mechatronics pathway is a pathway within the Manufacturing Career Cluster. The Mechatronics pathway has been developed to provide students with a strong foundation in the skills needed by advanced manufacturing industry. This pathway includes a core curriculum of three high school courses, followed by a work-based learning experience and/or additional training specific to the needs of the local community. Flexibility during the fourth year will enable this pathway to be tailored to the needs of local industry in order to further increase the student's career and post-secondary opportunities. Mechatronics skill sets provide students with opportunities to pursue rewarding and high-demand careers within the workplace. Mechatronics is a diverse field. It encompasses many inter-related disciplines including: Electronics, Mechanics, Fluid Power, Electrical Control Systems, Programmable Logic Controllers (PLC), Computers, and Robotics. Mechatronics is a term which includes the above disciplines and takes an integrated approach to their study. People employed in the mechatronics field deal with automated systems in a wide variety of applications. They also deal with related professional and technical support activities such as production planning and control, maintenance, and engineering. This pathway culminates with an opportunity for students to take the SkillsUSA Automated Manufacturing Technology (AMT); Robotics and Automated Technology (RAT) end of pathway assessment.

Proposed Course 1 – Introduction to Mechatronics-DC Theory, Pneumatic Systems, and Programmable Logic Controllers 21.46200

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Course Description:

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.

Proposed Course 2 – AC Theory, Electric Motors, and Hydraulic Systems

Proposed Course 3 – Semiconductors, Mechanical Systems, and Pump and Piping Systems

Marketing Cluster

Planning, managing, and performing marketing activities to reach organizational objectives such as brand management, professional sales, merchandising, marketing communications and market research.

Marketing and Management Pathway

Marketing and Management is one of three pathways in the Marketing Cluster. Marketing is the process responsible for identifying, anticipating and satisfying customer requirements in a manner that is profitable for the business. Marketing management involves the organization and coordination of the activities of the business which is aimed at achieving defined objectives. This growing demand for marketers by U. S. companies will cause employers and recruiters to compete fiercely to attract top marketing candidates over the next decade. Students participating in Georgia's Marketing and Management Pathway will obtain knowledge and skills in management and entrepreneurship, professional sales and marketing, buying and merchandising, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing. This pathway culminates with an opportunity for students to take the MBA Research "A*S*K Marketing Concepts" end of pathway assessment or the Oklahoma Consortium (MAVCC) "Marketing Education Manager Trainee" end of pathway assessment. Students may earn a credentialing certificate.

Course 1 – Marketing Principles 08.47400

Course Description: 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. Instructional projects with real businesses, work-based learning activities including School-Based Enterprises, and DECA application experiences should be incorporated in this course.

Proposed Course 2 – Marketing & Entrepreneurship

Proposed Course 3- Marketing & Management

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Fashion Merchandising and Buying Pathway

Fashion Merchandising and Buying is one of three pathways in the Marketing Cluster. Fashion merchandising and buying is a global industry whereby fashion designers, manufacturers, merchandisers and retailers collaborate to market and sell thousands of products. In addition to obtaining knowledge and skills in professional sales and marketing, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing, students participating in Georgia's Fashion Merchandising and Buying Pathway will focus in depth on fashion merchandising, fashion buying, fashion marketing, fashion management, visual merchandising, advertising and promotion. This pathway culminates with an opportunity for students to take the NOCTI "Retail Merchandising" end of pathway assessment or the Oklahoma Consortium (MAVCC) "Marketing Education Manager Trainee" end of pathway assessment. Students may earn a credentialing certificate.

Course 1 – Marketing Principles 08.47400

Course Description: 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. Instructional projects with real businesses, work-based learning activities including School-Based Enterprises, and DECA application experiences should be incorporated in this course.

Proposed Course 2 – Merchandising Essentials

Proposed Course 3 – Advanced Merchandising & Buying

Marketing Communications and Promotions Pathway

Marketing Communications and Promotions is one of three pathways in the Marketing Cluster. Marketing communications signifies messages and related media used to communicate with a target market. Marketing communications is focused on the product or service and is primarily concerned with demand generation and positioning of the product or service. Promotion is one of the marketing mix elements used to increase demand and differentiate a product. In addition to obtaining knowledge and skills in professional sales and marketing, marketing information management and research, distribution and logistics, global marketing, and e-marketing, students participating in Georgia's Marketing Communications and Promotions Pathway will focus in depth on oral and written communications, marketing communications in relation to specific products and services, promotions as a key component of the marketing mix, and the effect of marketing communications and promotions on product/service branding and customer buying behaviors. This pathway culminates with an opportunity for students to take the MBA Research "A*S*K Marketing Concepts" end of pathway assessment or the Oklahoma Consortium (MAVCC) "Marketing Education Manager Trainee" end of pathway assessment. Students may earn a credentialing certificate.

Course 1 – Marketing Principles 08.47400

Course Description: 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.

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Instructional projects with real businesses, work-based learning activities including School-Based Enterprises, and DECA application experiences should be incorporated in this course.

Proposed Course 2 – Marketing Communications

Proposed Course 3 – Marketing Promotions & Professional Sales

Science, Technology, Engineering & Mathematics Cluster

Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Engineering and Technology Pathway

The Engineering and Technology Education pathway is one of three pathways in the STEM Career Cluster. Engineering & Technology combines hands-on projects with a rigorous curriculum to prepare students for the most challenging postsecondary engineering and technology programs. Students build solid technical writing, comprehension, calculation, problem-solving, and technical skills. Students are encouraged to take relevant math and science courses, such as advanced algebra, chemistry, calculus, geometry, trigonometry, physics, design, and engineering concepts. In addition to classroom and laboratory experiences, Engineering & Technology students participate in the Technology Student Association (TSA). Activities in Technology Student Association promote soft skills, leadership skills, and high standards of craft quality, scholarship, and safety. Through Technology Student Association, students have the opportunity to explore industrial and technological resources, practice parliamentary procedures and democratic decision-making, and earn recognition for exemplary performance. Engineering & Technology graduates typically pursue postsecondary education at two-year or four-year colleges to prepare for engineering, engineering technology, and engineering technician-oriented positions. Possible college majors include architectural, biomedical, chemical, civil, computer, computer science, electrical, environmental, industrial, manufacturing, materials, mechanical, nuclear engineering, and engineering technology. Career opportunities in these fields generally involve planning, managing, and providing scientific research and professional and technical services. The demand for skilled engineers in the United States far outpaces the current supply, so the future looks bright for students who want to follow an engineering-related career. This pathway culminates with an opportunity for students to take the NOCTI Engineering or SkillsUSA Engineering end of pathway assessment.

Course 1 – Foundations of Engineering and Technology 21.42500

Course Description: 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.

Proposed Course 2 – Engineering Concepts

Proposed Course 3 – Engineering Applications

Georgia Department of Education Career Pathway Descriptions

Electronics Pathway

The Electronics pathway is one of three pathways within the STEM Career Cluster. 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. In the Electronics Pathway students lay out, build, test, troubleshoot, repair, and modify developmental and production electronic components, parts, equipment, and systems, such as computer equipment, missile control instrumentation, electron tubes, test equipment, and machine tool numerical controls, applying principles and theories of electronics, electrical circuitry, engineering mathematics, electronic and electrical testing, and physics. This pathway culminates with an opportunity for students to take the NOCTI Electronics Technology end of pathway assessment.

Course 1 – Foundations of Electronics 21.45200

Course Description: 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.

Proposed Course 2 – Advanced AC and DC Circuits

Proposed Course 3 – Digital Electronics

Engineering Drawing and Design Pathway

The Engineering Drafting and Design pathway is one of three pathways in the STEM Career Cluster. Behind every product, building, or process are drawings and models created by someone using the techniques and principles taught in a drafting course. In the study of Engineering Drafting and Design, students learn the math and drawing techniques needed to represent three-dimensional buildings and objects. The pathway courses cover such topics as interpreting specifications and estimating materials. Students learn to draw plans on paper as well as the computer. With computer-assisted drafting programs, students can make changes and add detail to plans quickly. Increasingly sophisticated technology allows drafters and designers to create more realistic images that almost seem like three-dimensional models, making it easy to imagine the finished structure or object. Engineering 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. This pathway culminates with an opportunity for students to take the American Design Drafter Association (ADDA) Certified Apprentice Mechanical; Certified Drafter Mechanical; Autodesk Certiport.

Course 1 – Introduction to Drafting and Design 48.54100

Course Description: This introductory course exposes students to a variety of fundamental skills utilized in entry-level drafting and design positions. Students are exposed to CAD technologies and conventional drafting methods to produce various designs, working drawings, charts, forms and records. Students will be exposed to both classroom theory and laboratory projects.

Proposed Course 2 – Survey of Engineering Drawing

Georgia Department of Education Career Pathway Descriptions

Proposed Course 3 – 3D Modeling and Analysis

Transportation, Distribution & Logistics Cluster

The planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Automobile Maintenance and Light Repair Pathway

Maintenance and Light Repair (MLR) is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. In this pathway students will learn how to research applicable vehicle and service information, service history, precautions and technical service bulletins. Many basic tasks will be covered such as fluid changes, belt replacement, brake, and tire service. This pathway culminates with the opportunity for students to take the end of pathway assessment in Maintenance and Light Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Course 1 – Basic Maintenance and Light Repair 47.53100

Course Description: 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. The hours completed in this course are aligned with ASE/NATEF standards and are a base for the entry-level technician.

Proposed Course 2 – Intermediate Maintenance and Light Repair

Proposed Course 3 – Advanced Maintenance and Light Repair

Automotive Service Technician Pathway

Automotive Service Technician (AST) is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. Students will learn intermediate tasks such as servicing transmissions, drive trains and axles, power steering and electrical systems. This pathway culminates with the opportunity for students to take the end of pathway assessment in Automotive Service Technology offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Proposed Course 1 – Advanced Maintenance and Light Repair

Proposed Course 2 – Intermediate Automobile Service Technology

Proposed Course 3 – Advanced Automobile Service Technology

Georgia Department of Education Career Pathway Descriptions

Master Automotive Service Technician Pathway

Master Automotive Service Technician (MAST) is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. Students will demonstrate an understanding of the components within automobile sub-systems as well as perform more advanced tasks related to automobile service. This pathway culminates with the opportunity for students to take the end of pathway assessment in Master Automotive Service Technician offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Proposed Course 1 – Advanced Automobile Service Technology

Proposed Course 2 – Intermediate Master Automobile Service Technology

Proposed Course 3 – Advanced Master Automobile Service Technology

Collision Repair - Painting and Refinishing Pathway

Painting and Refinishing is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. These courses teach the student skills and knowledge that will help him or her obtain a career in the automotive refinish industry. The student will learn theory as well as hands-on application in a project based setting. This training will give successful completers basic skills and knowledge to obtain an entry level job in the automotive refinish field. This pathway culminates with the opportunity for students to take the end of pathway assessment in Collision Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Course 1 – Introduction to Collision Repair 47.56500

Course Description: 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.

Proposed Course 2 – Painting and Refinishing I

Proposed Course 3 – Painting and Refinishing II

Collision Repair - Non Structural Analysis and Damage Repair Pathway

Non Structural Analysis and Damage Repair is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. These courses will teach the student skills and knowledge that will help them obtain a career in the automotive body repair industry. The student will learn theory as well as hands on application in a project based setting. This training will give successful completers basic skills and knowledge to obtain an entry level job in the field of Non-Structural damage repair. This pathway culminates with the opportunity for students to take the end of pathway assessment in Collision Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Course 1 – Introduction to Collision Repair 47.56500

Course Description: 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

Georgia Department of Education Career Pathway Descriptions

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.

Proposed Course 2 – Nonstructural Analysis and Damage Repair I

Proposed Course 3 – Nonstructural Analysis and Damage Repair II

Collision Repair - Mechanical and Electrical Components Pathway

Mechanical and Electrical Components is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. The student will learn how mechanical and electrical components are affected in a collision and how to repair or replace them after a collision. This pathway culminates with the opportunity for students to take the end of pathway assessment in Collision Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Course 1 – Introduction to Collision Repair 47.56500

Course Description: 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.

Proposed Course 2 – Mechanical and Electrical Components I

Proposed Course 3 – Mechanical and Electrical Components II

Collision Repair - Structural Analysis and Damage Repair Pathway

Structural Analysis and Damage Repair is one of eleven pathways in the Transportation, Distribution & Logistics Cluster. These courses will prepare the student for an entry level position in a specialized area of Collision Repair. The student will learn through theoretical and practical applications to analyze and restore vehicle structural damage to factory specifications. This pathway culminates with the opportunity for students to take the end of pathway assessment in Collision Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.

Course 1 – Introduction to Collision Repair 47.56500

Course Description: 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.

Proposed Course 2 – Mechanical and Electrical Components I

Proposed Course 3 – Mechanical and Electrical Components II

Georgia Department of Education Career Pathway Descriptions

Flight Operations Pathway

Flight Operations is one of eleven pathways in the Transportation, Distribution and Logistics Cluster. Completion of this pathway prepares students for employment in the aerospace industry. They may build, maintain, repair and service aircraft of any type. People in this pathway keep equipment and machinery running while looking for more efficient, safe and cost-effective ways to do so. This pathway culminates with the opportunity for students to take the end of pathway assessment offered by the FAA in Flight Operations.

Course 1 – Fundamentals of Aerospace 47.46000

Course Description: This course is designed as the foundational course for both the Aviation Maintenance and the Flight Operations pathways. Students will gain a fundamental knowledge base in aviation history and regulations, the basic principles of flight, aerospace careers, and factors influencing work systems, aerospace technologies, and basic aviation meteorology. These concepts can later be applied to various aerospace occupations. Classroom and lab activities will assure students a thorough understanding of the aerospace environment.

Proposed Course 2 – Flight Operations I

Proposed Course 3 – Flight Operations II

Aviation Maintenance Pathway

Aviation Maintenance is one of eleven pathways in the Transportation, Distribution and Logistics Cluster. Students learn weight and balance, tube bending and flaring, hose fabrication, hard ware identification, safety wiring, budgeting, ordering parts, tools, precision measurements, instruments, electrical symbols and troubleshooting. FAA regulations and other FAA forms are reviewed. Students learn how to become aircraft maintenance workers and are prepared with entry-level skills. This pathway culminates with the opportunity for students to take the end of pathway assessment offered by the SkillsUSA in Aviation Maintenance.

Course 1 – Fundamentals of Aerospace 47.46000

Course Description: This course is designed as the foundational course for both the Aviation Maintenance and the Flight Operations pathways. Students will gain a fundamental knowledge base in aviation history and regulations, the basic principles of flight, aerospace careers, and factors influencing work systems, aerospace technologies, and basic aviation meteorology. These concepts can later be applied to various aerospace occupations. Classroom and lab activities will assure students a thorough understanding of the aerospace environment.

Proposed Course 2 – Aviation Maintenance I

Proposed Course 3 – Aviation Maintenance II

Distribution and Logistics Pathway

Distribution and Logistics is one of the eleven pathways in the Transportation, Distribution and Logistics cluster. Completion of this pathway will prepare students for employment in the field of logistics and supply chain management. In this pathway, students can acquire a fundamental understanding of the logistics and supply chain industry. Students learn employability skills needed to make them marketable in the global economy. Students will become familiar with regulatory agencies such as OSHA, EPA, NRC, DOT, and FAA. Logistics and supply chain management topics will include the motor carrier industry, railroad industry, air freight industry and ocean carrier industry as it relates to the movement of materials around the world. This is an in-depth study of the warehousing industry. Topics will include material handling equipment and information technology tools used in warehouse

Georgia Department of Education Career Pathway Descriptions

facilities. Even though the logistics industry is huge in Georgia, this is a new pathway to CTAE. An end of pathway assessment has not been identified for this particular pathway.

Course 1 – Logistics Fundamentals 47.47000

Course Description: The Logistics Fundamentals course is the foundational course for the Distribution and Logistics pathway. Employment opportunities in the transportation, distribution, and logistics fields will be explored. In this course the student will be exposed to all areas of distribution and logistics. Basic skills in all of the above mentioned areas will be taught.

Proposed Course 2 – Logistics Operations

Proposed Course 3 – Materials Management

Marine Engine Technology Pathway

Marine Engine Technology is one of the eleven pathways in the Transportation, Distribution and Logistics cluster. This course introduces students to basic principles and skills associated with the field of marine engine service and repair. Students learn and apply basic skills including shop and boat safety, safe and appropriate use of tools and measuring devices, technical writing and shop management skills, and marine engine computer applications. Mastery of these standards through project-based learning and leadership development activities of SkillsUSA will help prepare students with a competitive edge for the marketplace. This pathway culminates with the opportunity for students to take the end of pathway assessment offered by the SkillsUSA in Marine Engine Service Technology.

Course 1 – Foundations of Marine Engine Technology 47.58000

Course Description: The Foundations of Marine Engine Technology is the foundational course for the Marine Engine Pathway. Students will be introduced to basic principles and skills associated with the field of marine engine service and repair. Students learn and apply basic skills including shop and boat safety, safe and appropriate use of tools and measuring devices, technical writing, shop management skills, and marine engine computer applications. Mastery of these standards through project-based learning and leadership development activities of SkillsUSA will help prepare students with a competitive edge for the marketplace. The pre-requisite for this course is advisor approval.

Proposed Course 2 – Marine Electrical Systems

Proposed Course 3 – Marine Engine Drive Systems

Support Services for Special Populations

Coordinated Career Academic Education (CCAEE) and Project Success (PS) programs provide intervention support services to Career, Technical, and Agricultural Education (CTAE) students as defined in the federal Carl D. Perkin legislation: (a) individuals from economically disadvantaged families, including foster children (b) individuals preparing for nontraditional fields, (c) single parents, including single pregnant women, (d) displaced homemakers, and (e) individuals with limited English proficiency.

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Coordinated Career Academic Education (CCAЕ) and Project Success (PS) are courses designed to provide intervention services for students from special populations as identified in the federal Carl D. Perkins legislation. These support services provide additional opportunities for students to sharpen their academic and employability skills in their chosen Career, Technical, and Agricultural Education (CTAE) pathway. Through participation in a CCAЕ and/or PS program, students learn about the world of work by achieving academic challenges, project based learning activities, and participating in a Career and Technical Student Organization (CTSO) aligned with their career goal. **The courses in this category are part of any pathway and do not count toward pathway completion.**

CCAЕ Level I: 32.41400

Project Success I 32.41700

Career Foundations and Leadership teaches students the academic skills needed to graduate high school along with the introductory employability skills needed to obtain employment; basic safety and health, teamwork, work ethic, basic personal finance, career technical student organizations, self-assessment, career pathways, career readiness, and employment performance. There is no pre-requisite for this course.

Proposed CCAЕ Level II:

Proposed CCAЕ Level III: