

Career and Technical Education Courses

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
Foundational	10004	Computer Applications	Topics covered are: word processing software; spreadsheet software; presentation software; database software
	22104	Service Learning	Topics covered are: community demographics; community resources; problem solving; evaluation tools
	22150	Foundations of CTE	Topics covered are: characteristics, leadership styles and habits of effective leaders; effective management of self, teams, and organizations; importance of communication and social skills in creating a professional image; structure, programs, activities, and leadership activities of career and technical student organizations; ethical behavior in leadership situations; effective work relationships; communication strategies for positive work relationships; problem solving; relationship of wellness and productive workers
	22152	Employability/Careers	Topics covered are: career exploration; employment acquisition process; workplace knowledge and skills
	22210	Personal Finance	Topics covered are: factors affecting income; management of personal finances; decision making in regards to spending and credit; savings and investing
	80023	Career Exploration	Courses explore careers within all sixteen career clusters. Standards to be developed.
	18000	MS Agriculture, Food, and Natural Resources	Exploration of knowledge, skills and careers related to agriculture, food, and natural resources. Specific course topics are determined by the individual AFNR program.
	03003	Environmental Science (Core Content)	Environmental Science courses examine the mutual relationships between organisms and their environment. In studying the interrelationships among plants, animals, and humans, these courses usually cover the following subject: photosynthesis, recycling and regeneration, ecosystems, population and growth studies, pollution, and conservation of natural resources.
	18001	Introduction to Agriculture, Food, and Natural Resources	Topics covered are: FFA; leadership; SAE; natural resources; animal science; agribusiness; food science; agriculture systems technology.
	18051	Fundamental Plant Science	Topics covered are: plant anatomy; plant physiology; biotechnology; plant nutrition; soil; plant selection; plant reproduction; plant propagation; plant production; pest management; harvesting, handling, storing and marketing.

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	18053	Horticulture	Topics covered are: plant classification; plant physiology; plant growth; plant propagation; pest management; water management; soil/media management; plant nutrients; managing plant growth; turf grass production; nursery production; vegetable and fruit production; horticultural careers; record keeping; hydroponics.
	18054	Landscape, Design, and Maintenance	Topics covered are: sketching and drawing; landscape design software; analyzing sites; designing for function and aesthetics; identifying and selection plants and materials; purchasing and installing plants and materials; landscape maintenance; water requirements.
	18057	Advanced Plant Science	Topics covered are: agronomic plants; rangelands and wildlife habitat; genetically modified organisms (GMOs); fertilizers; integrated pest management (IPM); sustainable plant agriculture; harvesting and storing crops; economics; decision making in business.
	18058	Greenhouse Management	Topics covered are: greenhouse industry; careers; greenhouse technology; greenhouse structures; plant taxonomy; controlling and operating the greenhouse (lighting, heating/cooling, watering/irrigation), plant production and propagation; root media; plant nutrition; greenhouse production plans; hydroponics.
	18059	Floriculture	Topics covered are: careers; design; selection and storage of plant materials; corsage making; arrangement making; pricing and marketing; customer service.
	18101	Fundamental Animal Science	Topics covered are: anatomy and physiology; breeds; safety; nutrition; health; reproduction; genetics; performance; consumer concerns.
	18107	Advanced Animal Science	Topics covered are: animal classification; anatomy and physiology; animal selection; preventing and treating disease; biosecurity; nutrition; feed rations; breeding readiness; reproduction; animal handling; facilities and equipment; protecting the environment.
	18108	Companion Animals	Topics covered are: companion animal classification; companion animal reproduction; companion animal diet and nutrition; feed rations; animal performance; working with companion animals; companion animal housing and equipment.
	18201	Ag Business Sales & Marketing	Topics covered are: job applications; job interviews; personal strengths; marketing plans; merchandising; selling; inventory management; ag production in the U.S. and South Dakota; global food needs; international agriculture trade.

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Agriculture, Food and Natural Resources	18202	Agribusiness Entrepreneurship	Topics covered are: applications in agricultural business management and operation; economic principles; business structures; decision making; budgeting; record keeping; finance; risk management; marketing; technology in business; careers in agribusiness management.
	18203	Leadership and Personal Development	Topics covered are: personal growth; goal setting; career skills; FFA; parliamentary procedure; leadership skills; teamwork; effective communication; public speaking.
	18205	Agriculture Communications	Topics covered are: asking questions; researching news; interpreting the intent of communications; writing news stories; editing news stories; computer technology in the news; photographic media; graphic layouts; public speaking; ag communications careers.
	18302	Ag Processing Technology	Topics covered are: changes and trends in the food processing industry; food and worker safety; food processing regulations; processed food classification; harvesting, selection and inspection techniques; food processing procedures.
	18305	Food Science	Topics covered are: changes and trends in the food industry; food industry organizations and regulatory agencies; safe and sanitary handling procedures; food nutrition; food constituents; food additives; labeling; market testing.
	18308	Agriculture Biotechnology	Topics covered are: life processes as affected by biotechnology; lab procedures related to biotechnology; cellular biology; genetic theory; plant and animal genetics; plant and animal reproduction; plant and animal diseases and disease control; genetic engineering of plants and animals; biotechnology in the environment; controversies with biotechnology.
	18310	Agriscience	Topics covered are: agricultural literacy and history; employability skills; agricultural career opportunities; plant science; soil science; animal science - large and small animal; animal management.
	18401	Fundamental Ag Mechanics	Topics covered are: safety, maintenance of mechanical equipment and agricultural technology; servicing and testing mechanical systems; internal combustion engines; hydraulics; project planning; metal fabrication; electricity.

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	18402	Ag Power Technology	Topics covered are: basic engines principles; power trains; hydraulics; fuels; electrical systems; detailed maintenance; troubleshooting and repair of agricultural equipment systems; operation, maintenance and repair of small gasoline, diesel engines and electric motors; principles of operation of gasoline and diesel engines; tune-up and maintenance procedures; disassembly, overhaul and assembly; operation of two-cycle and four-cycle engines.
	18403	Fundamental Ag Structures Technology	Topics covered are: safety; plan creation; cost estimation; ag structure assembly; electricity; land measurements; surveying.
	18404	Ag Metal Fabrication Technology	Topics covered are: careers in metal fabrication; welding preparation and safety procedures; properties of materials; project design and construction procedures; welding fundamentals; shielded metal arc welding (SMAW); metal inert gas (MIG) welding, also known as Gas Metal Arc Welding (GMAW); oxy-acetylene, brazing and torch cutting; plasma cutting; Tungsten Inert Gas (TIG) welding, also known as Gas Tungsten Arc Welding (GTAW).
	18406	Advanced Ag Structures Technology	Topics covered are: safety; operating equipment and machinery; electrical systems; construction plans; designing building and agriculture facilities; construction; concrete/masonry; plumbing.
	18501	Wildlife and Fisheries	Topics covered are: fish and wildlife management; fish species; wildlife species; habitat; hunting; fishing; regulations; processing game and fish for consumption; safety; animal behaviors; disease.
	18504	Natural Resources	Topics covered are: environmental relationships; resource management; cartography; environmental health; weather; natural cycles; plant and tree identification; soils; hydrology; forestry.
	21050	MS Technology Education	Topics Covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications technologies
	12053	Entrepreneurship	Topics covered are: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures

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Architecture and Construction	17002	Intro to Building Trades	Topics covered are: industry safety procedures; hand, power, and pneumatic tools; blueprint reading and survey techniques; construction project; plumbing applications; electrical wiring applications; concrete construction applications; drafting design concepts
	17003	Residential Construction	Topics covered are: industry safety procedures; blue print reading & basic survey techniques; wood building materials, fasteners, and adhesives; hand, power, and pneumatic tools; concrete construction applications; framing of flooring systems, walls & ceilings, & roofing systems; installation of windows and exterior doors; exterior finishing; roofing application; thermal and moisture protection; drywall installation and finishing; interior finish work; cabinet Installation; stairs; basic residential electric and plumbing; career exploration
	17006	Introduction to Architecture and Construction	Topics covered are: hand/power tool and shop safety; wood identification; project assembly; equipment; construction of a project
	17007	Cabinetry	Topics covered are: safety; equipment; fasteners design assembly; blueprints; wood joints and applications
	21051	Introduction to Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications
	21103	Architectural Drafting	Topics covered are: basic architectural drafting techniques; proper drafting tools and safety; design concepts; new construction techniques; plot plan development; floor and foundations plans and various elevations ; basic cad applications used in architectural drafting
	21106	Technical Drafting	Topics covered are: concepts of drafting; proper tools and safety; orthographic projections ; geometric construction; sectional views; fasteners ; simple cad applications
	21107	Computer Assisted Drafting	Topics covered are: cad basic operations; illustrate layers; create blocks and attributes; 3D drawings; orthographic projections; drawing and plotting drawings to scale
	22214	Fashion Design	Topics covered are: career opportunities; history of fashion; influences on fashion; textiles and textile products; elements and principles of design; fashion illustration

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	05202	Introduction to Performing Arts	Topics covered are: overview of drama, music, dance, and media arts; careers in performing arts; history; evaluation of works of art
	05204	Visual Communications	Topics covered are: career opprotunities; color theory; principles and elements of design; technical skills; graphic identity of organizations; visual presentations; event planning and marketing
	10101	Network Technology	Topics covered are: network design and architecture; network configuration; network terminology; network media; network troubleshooting
	10102	Networking Systems	Topics covered are: network design and architecture; network devices; network operating systems; network configuration; network terminology; network media; network troubleshooting; network maintenance
	17106	Electronics	Topics covered are: safety; component usage and identification; calculations showing the relationship between resistance, voltage, current and power; circuit fundamentals
	10201	Web Publishing and Design	Topics covered are: design web sites; refining knowledge of site planning, page layout, graphic design, and the use of markup languages—such as Extensible Hypertext Markup, JavaScript, Dynamic HTML, and Document Object Model—to develop and maintain a web page.
	10202	Computer Graphics	Topics covered are: careers; raster graphics; vector graphics; 2-D and 3-D graphics; tools
	10203	Multi-Media Design	Topics covered are: create original production pieces, meeting goals, timeline, and elements of style and design; write original copy; effectively incorporate image, audio, animation and text media into multimedia presentation; prepare product for publishing / distribution.; implement basic interactivity in a multimedia program; organize the files that are part of a multimedia program logically and efficiently; use software to develop quality images and edit presentations
	10205	Digital Animation	Topics covered are: career opportunities; use of animations; animation development process; legal and ethical issues; animation software tools; basic animation techniques; interactivity in animation; publishing animated movies

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Arts, Audio-Video Technology and Communication	11000	Introduction to Arts, Audio-Video Technology & Communications	Topics covered are: careers; effect of media and technology; tools (hardware and software) – identification and introduction, safety
	11002	Communication Technology	Topics covered are: design & graphic arts; photography; drafting; telecommunications
	11051	Audiovisual Production	Topics covered are: pre-production; equipment operation; production; post-production; professionalism
	11052	Advanced Photographic Arts	Topics covered are: career opportunities in photographic arts; mounting, matting and framing photographs; operation of digital camera; application of elements of composition to specific subject photographs; studio photography; use of image editing software for creating composition; use of image editing software for creating art products
	11054	Photographic Arts	Topics covered are: career opportunities in photographic arts; selection and operation of digital camera; digital darkroom management and operation; legal issues related to photographic arts; preparation of photographs for visual display; elements of composition; effect of lighting and color on photographs; use of image editing software for photographic enhancement and artistic expression
	11056	Digital Music Production	Topics covered are: audio production for music; digital music recording and editing; music copyright; audio production for computer gaming industry, internet, and digital video; music and audio careers
	11151	Digital Media Technology	Topics covered are: internet research; copyright laws; web-publishing; use of digital imagery; electronic forums; newsgroups; mailing lists; presentation tools; project planning
	11152	Desktop Publishing	Topics covered are: career opportunities; desktop publishing hardware and software; variety of desktop publications; legal and ethical issues; design process; principles of typography; desktop publishing software skills; integration of text and graphics in desktop publications; desktop publishing design and layout; preparation of documents for publication
	11154	Commercial Graphic Design	Topics covered are: concept design; layout; paste-up and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning; painting; collage; computer graphics

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	21107	Computer Assisted Drafting	Topics covered are: CAD basic operations; illustrate layers; create blocks and attributes; 3D drawings; orthographic projections; drawing and plotting drawings to scale
	22211	Interior Design	Topics covered are: career opportunities; principles and elements of design; space planning; selection of interior furnishings and products; design and development of architecture and furniture
	22212	Advanced Interior Design	Topics covered are: opportunities in interior design; principles and elements of design; space planning; interior furnishings and products; future design trends in architecture and furniture; assessing client needs, goals and resources; communicating design to client
	12000	MS Business	Exploration of careers related to business. Course topics align with courses offered at the specific high school
	02154	Business Math (Core Content)	Topics covered: taxation; savings and investments; payroll and human resource management; cash management; financial management; credit management; purchase and sales; inventory records; depreciation, cost recovery, and depletion; insurance
	10005	Advanced Computer Applications	Topics covered: advanced word processing; advanced spreadsheets; advanced presentation skills; advanced database; advanced Web design; advanced Internet search
	10053	Database Programming	Topics covered: principles of database fundamentals; structured query language (SQL); handle exceptions and create reusable commands.
	10201	Web Publishing and Design	Topics covered: design web sites; refining knowledge of site planning, page layout, graphic design, and the use of markup languages—such as Extensible Hypertext Markup, JavaScript, Dynamic HTML, and Document Object Model—to develop and maintain a web page.
	10203	Multi-Media Design	Topics covered: create original production pieces, meeting goals, timeline, and elements of style and design; write original copy; effectively incorporate image, audio, animation and text media into multimedia presentation; prepare product for publishing / distribution.; implement basic interactivity in a multimedia program; organize the files that are part of a multimedia program logically and efficiently; use software to develop quality images and edit presentations

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Business, Management and Administration	11152	Desktop Publishing	Topics covered: career opportunities; hardware and software; variety of desktop publications; legal & ethical issues; design process; principles of topography; desktop publishing software skills; integration of text and graphic in desktop publications; design & layout; preparation of documents for publication.
	12003	Office/Business Technology	Topics covered: careers in office and business; communication in an office setting; skills in office communication; technology in office management and administration
	12009	Business Communications	Topics covered: nonverbal communication; personal and professional communication; self-concept; communication with business constituencies
	12051	Introduction to Business	Topics covered: role of business; economic systems; forms of business; management and marketing principles; financial planning; investment options.
	12052	Business Management	Topics covered: importance of management; management functions; human resource activities; diverse workforce; government regulation; international competition
	12053	Entrepreneurship	Topics covered: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	12054	Business Law	Topics covered: court systems; sources of law; criminal law; tort law; contract law; consumer law; employment law
	12056	International Business & Marketing	Topics covered: factors affecting international business; ethics in global business; international business ownership; international business operations; financial and marketing in international business
	12101	Introduction to Financial Services	Topics covered: banking & financial businesses; investment opportunities; types of insurance; banking & career opportunities.
	12102	Banking	Banking courses are similar to Banking and Finance courses, but they focus specifically on banking. These courses may also address examining and applying the methods used for measuring the financial performance of banks in addition to examining specialized brokerage products, current issues, and future trends in banking.
12104	Accounting I	Topics covered: accounting careers; accounting cycle; accounting equation; journalizing & posting; financial statements; cash management; tax forms; payroll	

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	12108	Accounting II	Topics covered: departmentalized accounting; accounting control system procedures; accounting for uncollectible accounts; accounting for plant assets/depreciation; notes payable/receivable; corporate accounting
	12164	Principles of Marketing	Topics covered: process affecting the flow of goods and services; general marketing; principles of product planning; production; distribution; pricing; promotions
Education and Training	22200	MS Family and Consumer Science	Exploration of knowledge, skills and careers related to family and consumer sciences. Specific course topics are determined by the individual local program.
	19051	Human Development: Preschool to School Age	Topics covered are: preschool and school-age theories in practice; physical, intellectual, emotional, and social development of preschool through school-age children; create of childcare settings; practices, regulations and opportunities in the child care industry; special topics related to childhood concerns, including childhood diseases, special needs, temperament and abuse and neglect, etc.; first aid/emergency training
	19056	Human Development: Adolescence to Adulthood	Topics covered are: theories of human development; principles of adolescent and adult development in physical, emotional, social, and intellectual; conditions that influence human growth and development; strategies to promote healthy human growth and development across the adolescence and adulthood
	19151	Introduction to Education & Training	Topics covered are: exploration of the career pathways within the cluster; qualities, characteristics, and skills of effective educators or trainers; influences on education and training; safe environment conducive to learning
	19152	Teaching & Training as a Profession	Topics covered are: theories of development; curriculum instructional models; learning environment; Importance of parental and community involvement; standards and goals; learning activities; reflection techniques
	02154	Business Math	Topics covered: taxation; savings and investments; payroll and human resource management; cash management; financial management; credit management; purchase and sales; inventory records; depreciation, cost recovery, and depletion; insurance
	10053	Database Programming	Topics covered: principles of database fundamentals; structured query language (SQL); handle exceptions and create reusable commands.

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Finance	12003	Office/Business Technology	Topics covered: careers in office and business; communication in an office setting; skills in office communication; technology in office management and administration
	12009	Business Communications	Topics covered: nonverbal communication; personal and professional communication; self-concept; communication with business constituencies
	12051	Introduction to Business	Topics covered: role of business; economic systems; forms of business; management and marketing principles; financial planning; investment options.
	12052	Business Management	Business Management courses acquaint students with management opportunities and effective human relations. These courses provide students with the skills to perform planning, staffing, financing, and controlling functions within a business. In addition, they usually provide a macro-level study of the business world, including business structure and finance, and the interconnections among industry, government, and the global economy. The course may also emphasize problem-based, real-world applications of business concepts and use accounting concepts to formulate, analyze, and evaluate business decisions.
	12053	Entrepreneurship	Topics covered: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	12056	International Business & Marketing	Topics covered: factors affecting international business; ethics in global business; international business ownership; international business operations; financial and marketing in international business
	12101	Intro to Financial Services	Topics covered: banking & financial businesses; investment opportunities; types of insurance; banking & career opportunities.
	12102	Banking	Banking courses are similar to Banking and Finance courses, but they focus specifically on banking. These courses may also address examining and applying the methods used for measuring the financial performance of banks in addition to examining specialized brokerage products, current issues, and future trends in banking.
	12104	Accounting I	Topics covered: accounting careers; accounting cycle; accounting equation; journalizing & posting; financial statements; cash management; tax forms; payroll
12106	Risk Management and Insurance	Topics covered: role of insurance agents; life insurance; health insurance; homeowner's insurance; client needs	

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
	12108	Accounting II	Topics covered: departmentalized accounting; accounting control system procedures; accounting for uncollectible accounts; accounting for plant assets/depreciation; notes payable/receivable; corporate accounting
	12109	Accounting III	Topics covered: cost accounting; managerial accounting; advanced partnership accounting; not-for-profit organizations accounting
	12053	Entrepreneurship	Topics covered are: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; and entrepreneurship ventures.
	14001	Health Science Careers I	Topics covered are: communications; legal responsibilities; ethics; safety practices; and career exploration.
	14002	Health Science Careers II	Topics covered are: the health care delivery system; measuring vital signs; first aid skills; and career exploration.
	14051	Certified Nursing Assistant	Topics covered are: normal human growth and development; bathing, feeding, dressing, and transporting patients; basic pharmacology; doctor, nurse, and patient relationships and roles; medical and professional ethics; death and dying; and care of various kinds of patients (e.g., chronically ill, children, new mothers, and so on). Nursing courses place a special emphasis on the particular knowledge and skills required of nurses and/or nursing assistants and aides while covering general health care topics (i.e., patient care, anatomy and physiology, medical terminology, hygiene and disease prevention, first aid and CPR, and laboratory procedures).
	14055	Introduction to Emergency Medical Services	Topics covered are: instruction in areas of legal and ethical issues; safety and infection control; healthy lifestyles; medical terminology; disaster preparedness; and injury prevention. Skills will include vital signs, adult/infant/child cardiopulmonary resuscitation (CPR), and adult/child automated external defibrillation (AED). This course is designed to teach students about emergencies and how to overcome reluctance to act in emergency situations.

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Health Science * Project Lead the Way Courses	14062	Introduction to Sports Medicine	Topics covered are: taping and bandaging; proper use of protective padding; treatment modalities; anatomy and physiology; and medical terminology. Students may learn to measure cardio respiratory endurance, muscular strength and endurance, flexibility, body composition, and blood pressure. More advanced topics may include injury assessment, the phases of healing, and the use of exercise and equipment to help in the reconditioning of injured athletes. The courses provide students with the knowledge and skills to understand and perform therapeutic tasks that would be designated by an athletic or fitness trainer.
	14102	Introduction to Medical Laboratory	Topics covered are: basic principles of anatomy and physiology; relevant concepts in microbiology and chemistry; and laboratory techniques (including preparation and analysis of various cultures and specimens). The courses may also cover such components as venipuncture, EKG, and CPR procedures. The courses provide students with the knowledge and skills necessary for employment in health care-related laboratories.
	14152	Pharmacy Tech	Topics covered are: pharmaceutical classification; drug interactions; interpersonal/communication skills; medical terminology, maintenance of records; labeling of medications; performing computer patient billing; performing stock inventory; and ordering supplies. These courses also emphasize The courses emphasize the knowledge and skills necessary to assist a pharmacist or pharmacy technician.
	14154	Medical Terminology	Topics covered are: anatomy and physiology; the disease process; and phonetic pronunciation and word building to learn the language of medicine.
	14253	Pharmacology	Topics covered are: basic concepts of physiology; pathology; biochemistry; and bacteriology; and the effects of drugs and their mechanisms of action. Pharmacology courses involve a study of how living animals can be changed by chemical substances, especially by the actions of drugs and other substances used to treat disease.

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	14255	* PLTW Principles of Biomedical Science	Topics covered are: human body systems; heart disease; diabetes; sickle cell disease; hypercholesterolemia; infectious diseases; medical interventions; and grant proposals. Students explore the concepts of human medicine and are introduced to research processes and bioinformatics. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses
	14256	* PLTW Human Body Systems	Topics covered are: human body identification; human body communication; powering the human body; human body movement; human body protection; and human body homeostasis. The course is designed to introduce students to the way in which body systems work together to maintain homeostasis and good health.
	14257	* PLTW Medical Intervention	Topics covered are: how the human body fights infection; how to screen what is in the human body genes; how to conquer cancer; and how to prevail when human organs fail. Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. These interventions are showcased across the generations of the family and provide a look at the past, present and future of biomedical science.
Hospitality and Tourism	22200	MS Family and Consumer Science	Exploration of knowledge, skills and careers related to family and consumer sciences. Specific course topics are determined by the individual local program.
	12053	Entrepreneurship	Topics covered are: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	12104	Accounting I	Topics covered are: accounting careers; accounting cycle; accounting equation; journalizing & posting; financial statements; cash management; tax forms; payroll
	16001	Introduction to Hospitality & Tourism	Topics covered are: career paths within the hospitality, tourism, and recreation industries; procedures related to safety, security and environmental issues; concepts of customer service; rights and responsibilities in hospitality and tourism; practices & skills involved in hospitality, tourism, and recreation industries
	16002	Hospitality & Tourism Management	Topics covered are: opportunities within hospitality and tourism management; organizational structure of hospitality and tourism systems; employer and employee relations; business procedures

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	16058	Restaurant Management / Culinary Arts I	Topics covered are: career paths within the foodservice industry; successful customer relations; prepare and serve safe food; preventing accidents and injuries; basic culinary skills and use of foodservice equipment; mathematical skills essential for job performance in the foodservice industry; food selection and preparation techniques
	16059	Restaurant Management / Culinary Arts II	Topics covered are: career paths within the foodservice industry; societal influences on food service; food selection and preparation techniques; art of service in the foodservice industry; business practices in hospitality industries; communication with customers
	22202	Nutrition and Wellness	Topics covered are: nutrition and wellness of individuals and families; food safety and sanitation; nutrition from production to consumption
	22203	Food Technology	In development
	22200	MS Family and Consumer Science	Exploration of knowledge, skills and careers related to family and consumer sciences. Specific course topics are determined by the individual local program.
	12052	Business Management	Importance of Management; Management Functions; Human Resource Activities; Diverse Workforce; Government Regulation; International Competition
	12054	Business Law	Court Systems; Sources of Law; Criminal Law; Tort Law; Contract Law; Consumer Law; Employment Law
	12104	Accounting I	Accounting Careers; Accounting Cycle; Accounting Equation; Journalizing & Posting; Financial Statements; Cash Management; Tax Forms; Payroll
	16054	Dietetics & Nutrition	Topics covered are: career paths and careers in dietetics and nutrition; societal trends impacting dietetics and nutrition careers; current nutrition concerns and trends; menu planning for others to meet individual needs; food safety and sanitation
	19001	Introduction to Human Services	Topics covered are: Human Services Cluster career exploration; ethical and legal responsibilities; impacts of personal, community and societal values on professional practice; communication between client and human services professional; problem-solving and decision-making strategies in human services careers; teamwork and leadership skills necessary for human services professionals; expectations and requirements for a human services professionals; individualized plan for a potential career in human services

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Human Services	19051	Human Development: Preschool to School Age	Topics covered are: preschool and school-age theories in practice; physical, intellectual, emotional, and social development of preschool through school-age children; create of childcare settings; practices, regulations and opportunities in the child care industry; special topics related to childhood concerns, including childhood diseases, special needs, temperament and abuse and neglect, etc.; first aid/emergency training
	19052	Human Development: Prenatal to Toddlers	Topics covered are: human development theories; influences on human growth and development; prenatal development, pregnancy and child-birth; physical, intellectual, emotional, and social development of infants and toddlers
	19056	Human Development: Adolescence to Adulthood	Topics covered are: theories of human development; principles of adolescent and adult development in physical, emotional, social, and intellectual; conditions that influence human growth and development; strategies to promote healthy human growth and development across the adolescence and adulthood
	19152	Teaching & Training as a Profession	Topics covered are: theories of development; curriculum instructional models; learning environment; importance of parental and community involvement; standards and goals; learning activities; reflection techniques
	19301	Consumer Services and Product Development	Topics covered are: careers in Consumer Services; process to make a product comparison; factors affecting consumer spending; fraud and consumer laws; advertising; marketing strategies
	22202	Nutrition and Wellness	Topics covered are: nutrition and wellness of individuals and families; food safety and sanitation; nutrition from production to consumption
	22204	Skills for Parenting	Topics covered are: personal, family, cultural and societal practices that impact parenting; alternatives to biological parenthood; beginning the parenting process; nurturing practices; discipline practices; communication strategies; community resources and services for families
	22213	Serving Communities and Families	Topics covered are: careers and skills in Family and Community Services; professional, ethical, and legal issues related to family and community issues; characteristics and causes of social problems; social support systems; coping strategies; advocacy groups

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	10009	Introduction to Information Technology	Topics covered: computer hardware; computer software; networks and the internet; web applications and multimedia; systems analysis and design; computers and society
	10051	Information Systems Analysis & Design	Topics covered: introduction to systems analysis and design; systems planning ; systems snalysis, requirements, and modeling; output, user interface, data, and systems design; systems implementation; systems operation, support, and security
	10053	Database Programming	Topics covered: principles of database fundamentals; structured query language (SQL); handle exceptions and create reusable commands
	10101	Network Technology	Topics covered: network design and architecture; network configuration; network terminology; network media; network troubleshooting
	10102	Networking Systems	Topics covered: network design and architecture; network devices; network operating systems; network configuration; network terminology; network media; network troubleshooting; network maintenance
	10112	Cabling	Topics covered: history and basics of telecommunications; tools and construction techniques in terminating cables; copper based systems for networking; safety precautions; fiber optic systems for networking; testing and troubleshooting of physical layer; physical layer of the OSI model
	10152	Computer Programming	Topics covered: introduction to programming history and the programming language ; understanding the information processing cycle; customer needs analysis for designing a program; defining and designing the program project; coding an application; creating, debugging, and documenting a software application
	10153	Visual Basic Programming	Topics covered: introduction to programming history and the programming language ; understanding the information processing cycle; customer needs analysis for designing a program; defining and designing the program project; coding an application; creating, debugging, and documenting a software application
	10154	C++ Programming	Topics covered: introduction to programming history and the programming language ; understanding the information processing cycle; customer needs analysis for designing a program; defining and designing the program project; coding an application; creating, debugging, and documenting a software application

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
Information Technology	10155	Java Programming	Topics covered: introduction to programming history and the programming language ; understanding the information processing cycle; customer needs analysis for designing a program; defining and designing the program project; coding an application; creating, debugging, and documenting a software application
	10161	Web Programming	Topics covered: web scripting languages (JavaScript, PHP, ASP, and DHTML. XHTML, PERL); programming basics using the selected language; information processing cycle; interface design; difference between client and server side applications; web site usability
	10201	Web Publishing and Design	Topics covered: design web sites; refining knowledge of site planning, page layout, graphic design, and the use of markup languages—such as Extensible Hypertext Markup, JavaScript, Dynamic HTML, and Document Object Model—to develop and maintain a web page.
	10202	Computer Graphics	Topics covered: production of visual imagery and application of graphic techniques to various fields, topics include modeling, simulation, animation, and image retouching.
	10203	Multi-Media Design	Topics covered: create original production pieces, meeting goals, timeline, and elements of style and design; write original copy; effectively incorporate image, audio, animation and text media into multimedia presentation; prepare product for publishing / distribution.; implement basic interactivity in a multimedia program; organize the files that are part of a multimedia program logically and efficiently; use software to develop quality images and edit presentations
	10253	Operating System	Topics covered: evolution of computer operating systems; navigation and using the DOS operating system; installation of operating systems; how software and hardware interact
	10254	Computer Hardware	Topics covered: individual hardware components; installation of hardware components; upgrading and troubleshooting a computer; formatting and partitioning hard drives; network topologies
	11152	Desktop Publishing	Topics covered: caareer opportunities; hardware and software; variety of desktop publications; legal & ethical issues; design process; principles of topography; desktop publishing software skills; integration of text and graphic in desktop publications; design & layout; preparation of documents for publication.

Career and Technical Education Courses

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
	17106	Electronics	Topics covered: safety; component usage and identification; calculations showing the relationship between resistance, voltage, current and power; circuit fundamentals
Manufacturing	21050	MS Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications technologies
	12053	Entrepreneurship	Topics covered are: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	21107	Computer Assisted Drafting	Topics covered are: cad basic operations; illustrate layers; create blocks and attributes; 3D drawings; orthographic projections; drawing and plotting drawings to scale
	21106	Technical Drafting	Topics covered are: concepts of drafting; proper tools and safety; orthographic projections ; geometric construction; sectional views; fasteners ; simplecadapplications
	17106	Electronics	Topics covered are: safety; component usage and identification; calculations showing the relationship between resistance, voltage, current and power; circuit fundamentals
	13002	Introduction to Manufacturing	Topics covered are: career exploration; manufacturing business process; manufacturing technology safety practices; health and environmental practices; basic tools & equipment used in the manufacturing industry; manufacturing technology basics
	21051	Introduction to Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications
	13203	Machine Tool	Topics covered are: careers; create various projects using machining theory; blueprints; measuring instruments; applied mathematical concepts; CAD/CAM software
	21009	Mechatronics / Robotics	Topics covered are: career possibilities; fluid power; basic motor controls; robotics and automation ; security; circuit design; mechanical systems; mechatronics
	13207	Welding Technology	Topics covered are: welding safety; technical specifications; oxyfuel cutting; preparing base metals; shielded metal arc welding (SMAW); career exploration

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
	13208	Advanced Welding Technology	Topics covered are: safety; interpret drawings; base metal prep; gas metal arc welding (GMAW); gas tungsten arc welding (GTAW); welding quality; career exploration
Marketing,	10005	Advanced Computer Applications	Topics covered: advanced word processing; advanced spreadsheets; advanced presentation skills; advanced database; advanced Web design; advanced Internet search
	10201	Web Publishing and Design	Topics covered: design web sites; refining knowledge of site planning, page layout, graphic design, and the use of markup languages—such as Extensible Hypertext Markup, JavaScript, Dynamic HTML, and Document Object Model—to develop and maintain a web page.
	10203	Multi-Media Design	Topics covered: create original production pieces, meeting goals, timeline, and elements of style and design; write original copy; effectively incorporate image, audio, animation and text media into multimedia presentation; prepare product for publishing / distribution.; implement basic interactivity in a multimedia program; organize the files that are part of a multimedia program logically and efficiently; use software to develop quality images and edit presentations
	11152	Desktop Publishing	Topics covered: caareer opportunities; hardware and software; variety of desktop publications; legal & ethical issues; design process; principles of topography; desktop publishing software skills; integration of text and graphic in desktop publications; design & layout; preparation of documents for publication.
	12009	Business Communications	Topics covered: nonverbal communication; personal and professional communication; self-concept; communication with business constituencies
	12051	Introduction to Business	Topics covered: role of business; economic systems; forms of business; management and marketing principles; financial planning; investment options.
	12053	Entrepreneurship	Topics covered: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	12054	Business Law	Topics covered: court systems; sources of law; criminal law; tort tlw; contract law; consumer law; employment law
	12056	International Business & Marketing	Topics covered: factors affecting international business; ethics in global business; international business ownership; international business operations; financial and marketing in international business

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
Sales and Services	12104	Accounting I	Topics covered: accounting careers; accounting cycle; accounting equation; journalizing & posting; financial statements; cash management; tax forms; payroll
	12152	Comprehensive Marketing	Topics covered: Market research, the purchasing process, distribution systems, warehouse and inventory control, salesmanship, sales promotions, shoplifting and theft control, business management, and entrepreneurship.
	12160	Marketing Merchandising	Topics covered: Marketing—Merchandising courses are designed to provide students with practical backgrounds in retailing, with emphasis on merchandising, promotion/display, selling, and career planning. The content of this course may also include fundamental principles of human relations.
	12161	Retail Marketing	Topics covered: marketing principles and concepts; goods and services; store operations; advertisements and display of goods; store security; human relations; business management and ownership
	12163	Sports & Entertainment Marketing	Topics covered: marketing concepts and theories that apply to sports & entertainment events; basic marketing; sponsorship; event marketing; promotion plans; sponsorship proposals
	12164	Principles of Marketing	Topics covered: process affecting the flow of goods and services; general marketing; principles of product planning; production; distribution; pricing; promotions
	12165	Principles of Selling & Advertising	Topics covered: promotional activities for various products; consumer buying behavior; principles of selling; interpersonal skills; media planning; various mediums; commercial design; developing a marketing plan; advertising campaign; advertising budget
	12168	Marketing Research	Topics covered: process of acquiring, classifying and interpreting primary and secondary marketing data; system (planning, collecting, processing information, and implementing information); conducting research; determine marketing strategies; make decisions
	12202	Marketing Management	Topics covered: marketing and business fundamentals; business management; information management; human relations; human resources; product/service planning; finance; distribution; purchasing; pricing; promotion; selling
	21000	* MS Engineering	Topics covered are: design and modeling; automation and robotics; flight and space; science of technology; magic of electrons

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
STEM * Project Lead the Way Courses	21004	* Principles of Engineering	Students explore technology systems and engineering processes to find out how math, science, and technology help people
	21006	* Introduction to Engineering Design	Using 3D computer modeling software, students learn the design process and solve design problems for which they develop, analyze, and create product models
	21008	* Digital Electronics	Students use computer simulation to learn about the logic of electronics as they design, test, and actually construct circuits and devices.
	21010	* Computer Integrated Manufacturing	Topics covered are: computer modeling; computer numerical control (CNC) machining; robotics; automated manufacturing; career possibilities
	21012	* Civil Engineering & Architecture	Teams of students collaborate on the development of community-based building projects and conceptual design for project presentations
	21013	* Aerospace Engineering	Students learn about aerodynamics, astronautics, space-life sciences, and systems engineering through hands-on engineering problems and projects.
	21014	* Biotechnical Engineering	Students apply biological and engineering concepts related to biomechanics, genetic engineering, and forensics.
	21050	MS Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications technologies
	21016	MS Mechtronics/ Robotics	Topics covered are: basic motor controls; solving worldly problems using robotics; basic programming; mechanical systems; robotics and entrepreneurship; career possibilities
	13101	Production Systems	Topics covered are: markets analysis; prototype development; business plan; production; career possibilities
	17106	Electronics	Topics covered are: safety; component usage and identification; calculations showing the relationship between resistance, voltage, current and power; circuit fundamentals
	20053	Aviation	Topics covered are: history of flight; principles of flight; flight environment; aircraft systems and performance; weather; navigation (basic and radio); aviation physiology; aerospace; career possibilities
	20101	Introduction to Energy/Power	Topics covered are: history of effects on society; relationship between work, energy, and power; transmission of power; alternative power; safety

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
	21001	Introduction to Engineering	Topics covered are: exploring the field of engineering; materials and processes used in engineering; systems used in engineering; effective communication
	21007	Engineering Design and Development	Topics covered are: problem solving; conducting research; analyzing criteria; analyzing research; decision making; creating a product; product testing; communication; writing
	21009	Mechatronics / Robotics	Topics covered are: fluid power; basic motor controls; robotics and automation; security; circuit design; mechanical systems; mechatronics; career possibilities
	21015	Advanced Mechatronics / Robotics	Topics covered are: design, build, program, and troubleshoot tabletop robots; programming concepts such as loops, thresholds, variables and timers; managing projects; analyzing systems; accessing information; work in teams; problem solving
	21051	Introduction to Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications
	21057	Alternate Energy Systems	Topics covered are: history of energy generation; energy consumption; energy systems; environment; atmospheric science & weather
	21106	Technical Drafting	Topics covered are: concepts of drafting; proper tools and safety; orthographic projections; geometric construction; sectional views; fasteners; simple CAD applications
	21107	Computer Assisted Drafting	Topics covered are: CAD basic operations; illustrate layers; create blocks and attributes; 3D drawings; orthographic projections; drawing and plotting drawings to scale; math and reading skills
	12009	Business Communications	Topics covered are: nonverbal communication; personal and professional communication; self-concept; communication with business constituencies
	12053	Entrepreneurship	Topics covered are: skills and characteristics of an entrepreneur; marketing and economic decisions; financial and accounting decisions; entrepreneurship ventures
	12164	Principles of Marketing	Topics covered are: process affecting the flow of goods and services; general marketing; principles of product planning; production; distribution; pricing; promotions

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
Transportation Distribution & Logistics	12165	Principles of Selling & Advertising	Topics covered are: promotional activities for various products; consumer buying behavior; principles of selling; interpersonal skills; media planning; various mediums; commercial design; developing a marketing plan; advertising campaign; advertising budget
	20101	Introduction to Energy/Power	Topics covered are: various sources of energy and their use in society (for example, characteristics, availability, conversion, storage, environmental impact, and socioeconomic aspects of various energy sources); principles involved in various means of energy transfer, such as electricity/electronics, hydraulics, pneumatics, heat transfer, and wind/nuclear/solar energies; and the transmission and control of power through mechanical or electrical devices such as motors and engines.
	20104	General Service Technician	Topics covered are: introduction to auto shop and personal safety; tools and equipment; looking for Information; preparing vehicle for service; preparing vehicle for customer; basic vehicle service; engine repair; automatic transmission; manual drive train and axles; suspension and steering; brakes; electrical/electronic systems; heating and air conditioning; engine performance
	20105	Automotive Electronics	Topics covered are: general electrical systems; battery components; starting system components; charging system components; lightning system components; horn & wiper/washer components; driver information systems; accessories systems
	20106	Introduction to Vehicle Systems & Maintenance	Topics covered are: safety related to transportation systems and maintenance; tools and equipment proper application and maintenance; principles chemical, mechanical, and physical functions of modern vehicle systems; document maintenance procedures; appropriate business practices; vehicle service and repairs; principles and operations of electrical systems; principles of automotive brakes, steering, suspension and automatic and manual transmission systems; career opportunities in TDL
	20109	ATV/Small Engine Mechanics	Topics covered are: safety; administrative functions; communication, mathematics, & science; diagnostic procedures; electrical systems; ignition systems; fuel delivery systems; emission systems
	20116	Auto body Painting & Refinishing	Topics covered are: automotive technology safety practices; HSE requirements; surface preparation; spray gun and related equipment operations; paint mixing, matching and applying; identifying paint defects; decals and finishing

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
	20119	Auto body Structural Analysis	Topics covered are: general automotive safety practices; inspect and repair frames; analyze types of frame damage; straighten frame damage; align frame and wheels; replace or repair structural components
	20120	Auto body Damage Analysis & Estimating	Topics covered are: automotive technology safety practices; damage reports; definitions used in collision repair; identify types of automotive finishes; obtaining important information; writing damage reports
	20121	Automotive Engine Performance	Topics covered are: safety; basic engine electrical; computerized engine controls; ignition systems; fuel, air induction and exhaust systems; emission control systems.
	20122	Automotive Brakes	Topics covered are: automotive technology safety practices; general brake systems diagnosis; hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; wheel bearings, parking brakes, electrical; antilock brake and traction control systems
	20123	Automotive Suspension & Steering	Topics covered are: automotive technology safety practices; general suspension and steering; steering systems; suspension systems: front suspension/rear suspension; suspension systems: miscellaneous service; wheel alignment; wheel and tire service
	20125	Auto body Non-structural analysis	Topics covered are: automotive technology safety practices; nonstructural inspection and repair; body panel repair; metal finishing and body filling; repairing and replacing movable glass; metal welding and cutting; plastic repairs and adhesives
	21001	Introduction to Engineering	Topics covered are: exploring the field of engineering; materials and processes used in engineering; systems used in engineering; effective communication
	21051	Introduction to Technology Education	Topics covered are: nature of technology; technology & society; design process; energy & power; transportation; manufacturing & construction; communications
Capstone Experience: A capstone experience is a	80018	Youth Internship	The youth internship allows students to gain hands-on experience at a business, develop employability skills, learn technical skills, and complete a portfolio.

Cluster or Type of Course	PRF Code	Course Title	Description and/or Topics Covered
culminating high school experience designed to integrate knowledge, skills and concepts gained from a student's previous years of learning.	80019	Senior Experience	The senior experience requires students to complete a research project, design and develop a product, assemble a portfolio, and complete an oral presentation before a panel.
	80026	Entrepreneurship Experience	The entrepreneurship experience requires students to research a new business opportunity, develop a business plan, assemble a portfolio, and complete an oral presentation before a panel.
	80020	Pre-Apprenticeship	Pre-apprenticeship, a contractual partnership between an employer and a student, allows students to gain initial training in a particular industry and formal classroom-related instruction.