Career & Technical Education

Course Descriptions

CREDITS REQUIRED: Varies by CTE Program; most programs are 3 courses 5 credits

Career & Technical Education (CTE) is a collection of high school programs that follow a prescribed sequence of courses preparing students for life-long success. Students receive a college-prep education as well as technical skills/training that allow them to graduate from high school with more than a high school diploma. Other benefits of CTE include:

- CTE students have the opportunity to earn industry-recognized certifications
- CTE students can gain college credits through our partnerships with City Colleges of Chicago and other postsecondary institutions
- CTE students engage in real work experiences with professionals in their field

*Schedulers and Counselors: Please note that access to CTE courses requires approval from the Department of Career and Technical Education. Call (773) 553-2108 to request access.

### CTE Clusters and Programs

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AGRICULTURE CLUSTER

Study how to grow plants, turn raw materials into products and get to enjoy the outdoors.

CTE Program: AG Academy

Intro to AG Science

Course Number: 882201R / 882202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course provides an opportunity for students to learn how the agricultural industry is organized; its major components; the economic influence of agriculture at state, national and international levels; and the scope and types of job opportunities in the agricultural field. Basic concepts in animal science, plant science, soil science, horticulture, natural resources, agribusiness management, and agricultural mechanics, will be presented. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agribusiness

Course Number: 876101R / 876102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course builds on basic skills and knowledge gained in the Introduction to the Agricultural Industry course. Major units of instruction include agricultural research, soil science, advanced plant science, biotechnology, advanced animal science. Applied science and math skills and concepts will be stressed throughout the course as they relate to each area. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Basic AG Science

Course Number: 882101R / 882102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed to introduce students to the horticulture industry and provide them with basic plant science knowledge that can be further developed in advanced horticulture courses. Major units of instruction include horticulture research, horticultural careers, plant anatomy, seed germination, plant propagation, growing media, pest management, hydroponics, identifying horticultural plants, growing greenhouse crops, and floral design. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.
CTE Program: AG Academy

**AG Sales and Comm**

**Course Number:** 875201R / 875202R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course is designed to develop student knowledge and skills in agricultural sales and marketing, commodity marketing, agricultural economics, and international agriculture. Instructional units include: successfully starting an agribusiness, developing a marketing plan, pricing, advertising, and selling products and services, communicating with customers, applying commodity trading techniques, basic economic principles, the international agribusiness economy, and agricultural career opportunities. Student skills will be enhanced in math, reading comprehension, communications, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: AG Academy

**Global Food Systems I**

**Course Number:** 824101R / 824102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course provides learning experiences in food science and safety which allow students to apply scientific knowledge and processes to practices used in the development and preservation of food products. Issues of food science and safety are examined from a scientific and technological perspective. Students critically analyze information to evaluate and draw conclusions on the appropriate use of technology to implement food science and safety practices. Units of instruction include: principles of food preservation, food processing, biochemistry of foods, and food selection and consumer health. Careers to be examined include meat inspector, quality control technician, food processor, and sanitation supervisor. Students will use scientific and technological information about food science and safety as a part of developing career plans and personal viewpoints on societal issues concerning the development and preservation of food products. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: AG Academy

**AG Careers Leadership**

**Course Number:** 875101R / 875102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Students will analyze current agricultural issues and determine how they affect people on all sides of the issue. The students then learn and enhance their written and oral communication skills by presenting their views and opinions to the class. Students learn how to arrange and present debates, speeches, and interviews to be effective leaders in today’s society. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.
CTE Program: AG Academy

Global Food System II

Course Number: 824201R / 824202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course provides learning experiences in food science and safety which allow students to apply scientific knowledge and processes to practices used in the development and preservation of food products. Issues of food science and safety are examined from a scientific and technological perspective. Students critically analyze information to evaluate and draw conclusions on the appropriate use of technology to implement food science and safety practices. Units of instruction include: principles of food preservation, food processing, biochemistry of foods, and food selection and consumer health. Careers to be examined include meat inspector, quality control technician, food processor, and sanitation supervisor. Students will use scientific and technological information about food science and safety as a part of developing career plans and personal viewpoints on societal issues concerning the development and preservation of food products. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Finance

AG Finance I

Course Number: 884101R / 884102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness, managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

AG Finance II

Course Number: 884201R / 884202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness,
Career & Technical Education

Course Descriptions

managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Finance

AG Finance-I

Course Number: 884111R / 884112R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness, managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Finance

Applied AG Finance-I

Course Number: 884121R / 884122R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness, managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Finance

AG Finance-II

Course Number: 884211R / 884212R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters
**COURSE DESCRIPTION:**
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness, managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Finance

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**Applied AG Finance-II**

**Course Number:** 884221R / 884222R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course will provide students with the basic knowledge and skills necessary to manage personal finances and develop into a successful entrepreneur and/or businessperson. Instructional units include: business ownership types, starting an agribusiness, managing and operating an agribusiness, financing an agribusiness, managing personal finances, record keeping and financial management of an agribusiness, local, state, and federal taxes, agricultural law, and developing employability skills. Student skills will be enhanced in math, reading comprehension, and writing through agribusiness applications. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Mechanics and Technology

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**AG Mech and Tech I**

**Course Number:** 883101R / 883102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This course focuses on the knowledge, hands-on skills, and workplace skills applicable to construction in the agricultural industry. Major units of instruction include: personal safety, hand tools, power tools, blue print reading, surveying, construction skills in carpentry, plumbing, electricity, concrete, block laying, drywall and painting. Careers such as agricultural engineers, carpenter, plumber, electrician, concrete and block layers, finishers, safety specialists, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience projects is an integral course component for leadership development, career exploration, and reinforcement of academic concepts.

CTE Program: Agricultural Mechanics and Technology

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**AG Mech and Tech II**

**Course Number:** 883201R / 883202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective
Career & Technical Education

Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course will concentrate on expanding student’s knowledge and experiences with agricultural mechanics technologies utilized in the agricultural industry. Units of instruction included are: design, construction, fabrication, maintenance, welding, electricity/electronics, internal combustion engines, hydraulics, and employability skills. Careers of agricultural construction engineer, electrician, plumber, welder, equipment designer, parts manager, safety inspector, welder, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Mechanics and Technology

AG Mech and Tech-I

Course Number: 883111R / 883112R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
In this course, theory and hands-on experiences provide opportunities for students to develop basic knowledge and skills in agricultural mechanics. Instructional areas include the basic fundamentals of maintaining and repairing small gasoline engines, basic electricity, welding, construction, cold metal work, and operating agricultural equipment safely. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Mechanics and Technology

AG Mech and Tech-II

Course Number: 883211R / 883212R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course will concentrate on expanding student’s knowledge and experiences with agricultural mechanics technologies utilized in the agricultural industry. Units of instruction included are: design, construction, fabrication, maintenance, welding, electricity/electronics, internal combustion engines, hydraulics, and employability skills.
Careers of agricultural construction engineer, electrician, plumber, welder, equipment designer, parts manager, safety inspector, welder, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Agricultural Mechanics and Technology

**Applied AG Mech Tech-II**

**Course Number:** 883221R / 883222R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course will concentrate on expanding student’s knowledge and experiences with agricultural mechanics technologies utilized in the agricultural industry. Units of instruction included are: design, construction, fabrication, maintenance, welding, electricity/electronics, internal combustion engines, hydraulics, and employability skills. Careers of agricultural construction engineer, electrician, plumber, welder, equipment designer, parts manager, safety inspector, welder, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Animal Science

**Animal Science I**

**Course Number:** 885101R / 885102R

**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Animal Science I is a 40 week course offered to juniors at the Chicago High School for Agricultural Science who have chosen the animal science pathway. We will start our 20 week fall semester with a survey of mammalian anatomy and physiology. As a supplement to this unit, we will thoroughly dissect and identify a fetal pig. The second unit we will complete will cover nutrition and digestion from a comparative standpoint. From there, we will move to Cell Theory, structure and function, which will give us a basis for our final unit of the Fall Semester: the genetic basis for inheritance and Biotechnology.

CTE Program: Animal Science

**Animal Science II**

**Course Number:** 885201R / 885202R

**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Biological Science Application in Agriculture is a 40 week course offered to seniors at the Chicago School for Agricultural Science who have chosen the animal science pathway. We will get to know our animal family in the first few months and learn the care and chores involved in maintaining a healthy large animal population. Refer to the syllabus below to get a better idea of lessons and topics we will cover throughout the year.
Career & Technical Education

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CTE Program: Animal Science

BioSciAppAG-Animals I

Course Number: 885111R / 885112R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Animal Science I is a 40 week course offered to juniors at the Chicago High School for Agricultural Science who have chosen the animal science pathway. We will start our 20 week fall semester with a survey of mammalian anatomy and physiology. As a supplement to this unit, we will thoroughly dissect and identify a fetal pig. The second unit we will complete will cover nutrition and digestion from a comparative standpoint. From there, we will move to Cell Theory, structure and function, which will give us a basis for our final unit of the Fall Semester: the genetic basis for inheritance and Biotechnology.

CTE Program: Animal Science

BioSciAppAnimalSci-I

Course Number: 885131R / 885132R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed to reinforce and extend students understanding of science by associating scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of animal agriculture and specific biological science concepts that govern management decisions in the animal industry. Topics of study are in the areas of growth and development of animals – embryology, ethology, nutrition, immunity systems, and processing animal products – preservation, fermentation, and pasteurization. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Animal Science

ApldBioSciAppAnmlSci-I

Course Number: 885141R / 885142R
Course Level: Regular
**Course Descriptions**

**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is designed to reinforce and extend students understanding of science by associating scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of animal agriculture and specific biological science concepts that govern management decisions in the animal industry. Topics of study are in the areas of growth and development of animals – embryology, ethology, nutrition, immunity systems, and processing animal products – preservation, fermentation, and pasteurization. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Animal Science

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**ApldBioSciAppAnmlSci-II**

**Course Number:** 885241R / 885242R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course will develop students’ understanding of the livestock (beef, dairy, sheep, goats, and swine), poultry, and large (equine) animal industry. Topics of instruction include scientific investigations, genetics, animal anatomy and physiology, animal nutrition, animal reproduction, animal health, and meat science. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Food Science

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**Food Science I**

**Course Number:** 886101R / 886102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters
Course Descriptions

COURSE DESCRIPTION:
This course is designed to get you ready for the workforce in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices, organizational skills, and self-reliance.
- Successful completion of the Food Service Sanitation Managers Certificate coursework and issuance of State License.

CTE Program: Food Science

Food Science-I

Course Number: 886111R / 886112R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed to get you ready for the workforce in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices,

Food Science II

Course Number: 886201R / 886202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course is designed to get you ready for the workforce in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices,
organizational skills, and self-reliance.

- Successful completion of the Food Service Sanitation Managers Certificate coursework and issuance of State License.

CTE Program: Food Science

**Applied Food Science-I**

**Course Number:** 886121R / 886122R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**  
This course is designed to get you ready for the workforce in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices, organizational skills, and self-reliance.
- Successful completion of the Food Service Sanitation Managers Certificate coursework and issuance of State License.

CTE Program: Food Science

**Applied Food Science-II**

**Course Number:** 886221R / 886222R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**  
This course is designed to get you ready for the workforce in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices, organizational skills, and self-reliance.
- Successful completion of the Food Service Sanitation Managers Certificate coursework and issuance of State License.
in the food industry. It is a 4 semester career pathway. Its goals and expectations are different than in most high school courses. Successful completion of this course sequence could lead to earning 3 hours of college credit at the University of Illinois

- General knowledge of the functions of the Food industry, i.e. The Big Picture
- Experience with the processes used in the food industry, including: experimental design, use of scientific equipment, use of food processing equipment, data analysis and interpretation, critical thinking, product development, quality control, nutritional concerns and evaluation, and communication.
- The development of good business practices, organizational skills, and self-reliance.
- Successful completion of the Food Service Sanitation Managers Certificate coursework and issuance of State License.

CTE Program: Horticultural Science

Intro to Hort Sci

Course Number: 879101R / 879102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This first course is designed to develop knowledge and skills in the following areas: using soil and other plant growing media; identifying horticultural plants; understanding plant anatomy; propagating horticultural plants; basics of growing horticultural plants in greenhouse and nursery settings; constructing, maintaining and using plant-growing structures; operating, repairing and maintaining equipment used in the horticultural field.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development and career exploration.

CTE Program: Horticultural Science

Horticultural Sci I

Course Number: 872101R / 872102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This second course in a series of three offers instruction in both the floriculture and landscape areas of horticulture. Units of study include plant identification, greenhouse management, culture of greenhouse crops, care and handling of cut flowers, and floral design. Also included is landscape design: installation and maintenance, horticulture mechanics, nursery management, and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Horticultural Science

Horticultural Sci II

Course Number: 872201R / 872202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This third of three courses offers increased hands-on instruction and independent work in both the floriculture and landscape areas of horticulture. Units of study include plant identification, greenhouse management, culture of greenhouse crops, care and handling of cut flowers, and floral design. Also included are landscape design, installation, and maintenance; horticulture mechanics; nursery management; and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career preparation and reinforcement of academic concepts.

CTE Program: Horticultural Science

Applied Hort Sci-I

Course Number: 872121R / 872122R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This second course in a series of three offers instruction in both the floriculture and landscape areas of horticulture. Units of study include plant identification, greenhouse management, culture of greenhouse crops, care and handling of cut flowers, and floral design. Also included is landscape design: installation and maintenance, horticulture mechanics, nursery management, and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

CTE Program: Horticultural Science

Horticultural Sci-II

Course Number: 872211R / 872212R
Course Level: Regular
Number of Credits Earned: 1.0
Career & Technical Education

Course Descriptions

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This third of three courses offers increased hands-on instruction and independent work in both the floriculture and landscape areas of horticulture. Units of study include plant identification, greenhouse management, culture of greenhouse crops, care and handling of cut flowers, and floral design. Also included are landscape design, installation, and maintenance; horticulture mechanics; nursery management; and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career preparation and reinforcement of academic concepts.

**ARCHITECTURE & CONSTRUCTION CLUSTER**
Get the chance to design and build your own home or furniture, use tools and technology, or decorate homes.

CTE Program: Horticultural Science

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**Applied Hort Sci-II**

**Course Number:** 872221R / 872222R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective

**COURSE DESCRIPTION:**
This third of three courses offers increased hands-on instruction and independent work in both the floriculture and landscape areas of horticulture. Units of study include plant identification, greenhouse management, culture of greenhouse crops, care and handling of cut flowers, and floral design. Also included are landscape design, installation, and maintenance; horticulture mechanics; nursery management; and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales.

Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career preparation and reinforcement of academic concepts.

CTE Program: Architecture

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**Arch Draft Design I**

**Course Number:** 605101R / 605102R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective

**COURSE DESCRIPTION:**
Although there are no pre-requisites for this course, it is advisable that the student’s career interest inventory indicates the area of architecture. Students will employ introductory artistic and scientific concepts in the solution of architectural design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Architecture

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**Arch Draft Design II**

**Course Number:** 605201R / 605202R
**Course Level:** Regular
**Number of Credits Earned:** 2.0
**Course Descriptions**

**Arch Draft Design III**

Course Number: 621301R / 621302R  
Course Level: Regular  
Number of Credits Earned: 2.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters  

COURSE DESCRIPTION:  
Students will employ intermediate artistic and scientific concepts in the solution of architectural design problems. Successful completion of Architectural Design and Drafting I is expected. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Architecture

**Arch Draft Design II**

Course Number: 605231H / 605232H  
Course Level: Honors  
Number of Credits Earned: 2.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters  

COURSE DESCRIPTION:  
Students will employ intermediate artistic and scientific concepts in the solution of architectural design problems. Successful completion of Architectural Design and Drafting I is expected. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Architecture

**Arch Draft Design I**

Course Number: 605131H / 605132H  
Course Level: Honors  
Number of Credits Earned: 1.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters  

COURSE DESCRIPTION:  
Although there are no pre-requisites for this course, it is advisable that the student’s career interest inventory indicates the area of architecture. Students will employ introductory artistic and scientific concepts in the solution of architectural design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.
CTE Program: Architecture

Arch Draft Design III

Course Number: 621331H / 621332H
Course Level: Honors
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Successful completion of Architectural Design and Drafting I and II is expected. Students will employ advanced artistic and scientific concepts in the solution of architectural design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Architecture

Arch Draft Design II

Course Number: 604201R / 604202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students will employ intermediate artistic and scientific concepts in the solution of architectural design problems. Successful completion of Architectural Design and Drafting I is expected. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Architecture

Arch Draft Design III

Course Number: 604301R / 604302R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Successful completion of Architectural Design and Drafting I and II is expected. Students will employ advanced artistic and scientific concepts in the solution of architectural design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.
**Career & Technical Education**

**Course Descriptions**

CTE Program: Architecture

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**Arch Draft Design III**

**Course Number:** 604331H / 604332H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Successful completion of Architectural Design and Drafting I and II is expected. Students will employ advanced artistic and scientific concepts in the solution of architectural design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: Cabinet Making

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**Cabinet Making II**

**Course Number:** 617201R / 617202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Cabinetmaking II provides students with experiences related to the furniture and cabinetmaking profession. Planned experiences involve: shop math, fundamentals of wood cabinet construction, shop language, Hand tool, power tool and power equipment will be taught with identification and proper usage. Safety will be taught to properly and safely use of all procedures and tools.

CTE Program: Cabinet Making

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**Cabinet Making III**

**Course Number:** 617311R / 617312R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Cabinetmaking III provides students with experiences related to the furniture and cabinetmaking profession. Planned experiences involve: shop math, fundamentals of wood cabinet construction, shop language, Hand tool, power tool and power equipment will be taught with identification and proper usage. Mortiser Machine will be taught, making tenons. Safety will be taught to properly and safely use of all procedures and tools.
Career & Technical Education

Course Descriptions

CTE Program: Carpentry

Carpentry I

Course Number: 618101R / 618102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the first course in a three-year sequence of carpentry classes.

You will examine some of the following topics:
- Types of Construction
- The Building Trades
- The Construction Industry
- The traits of a successful tradesperson
- Carpentry trade terminology including materials, tools and best-practice procedures
- The educational process of choosing carpentry, other building trades and college-degreed professions as a career
- The utmost importance of safety and safe “habits of mind” in performing carpentry and building construction
- The practical reality and importance of strong workplace skills

Carpentry II

Course Number: 618201R / 618202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three-year sequence of carpentry classes.

You will examine some of the following topics:
- The traits of a successful tradesperson
- Carpentry trade terminology including materials, tools and best-practice procedures
- Portable Power Tools
- Stationary Power Tools
- Building Design, Plans, Specifications and Blueprints
- Floor, Wall and Ceiling Frame Construction
- Developing a Career Plan: The educational process of choosing carpentry, other building trades and/or college-degreed professions as a career
- The utmost importance of safety and safe “habits of mind” in performing carpentry and building construction
- Developing “internship-ready” workplace skills competencies

Carpentry III

Course Number: 656301R / 656302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third and final course in a three-year sequence of carpentry classes.

You will examine some of the following topics:
The traits of a successful tradesperson
Advanced Carpentry trade terminology including materials, tools and best-practice procedures
Portable Power Tools
Stationary Power Tools
Building Design, Plans, Specifications and Blueprints
Floor, Wall and Ceiling Frame Construction
Interior Finish – Interior Wall and Ceiling Finish, Interior Doors and Hardware and Interior Trim
Developing a Senior Portfolio: A culmination of academic and career-related components that demonstrate self development and examples of career readiness
The utmost importance of safety and safe “habits of mind” in performing advanced carpentry and building construction
Increase developing college and “internship-ready” workplace skills competencies

CTE Program: Electricity

Electricity I

Course Number: 607101R / 607102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the first course in a three-year sequence of Construction (Carpentry; Electrical; Heating, Ventilation, and Air Conditioning; or Plumbing) classes. Students will be able to identify safety hazards and corresponding precautions to take, use measuring tools and apply mathematical concepts with proficiency, identify, and safely use, basic hand tools and power tools, interpret a drawing and construct the item it depicts, and develop an individual career plan identifying his/her interests and occupations that match those interests.

CTE Program: Electricity

Electricity II

Course Number: 607201R / 607202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three-year sequence of Electrical classes. Students will be able to complete an electrical safety project, interpret electrical symbols and identify types of blueprints used by electricians, identify various raceway systems and their uses, bend EMT for specific raceway systems, apply math to electrical construction, wire series and parallel low voltage circuits and electrical devices, and to complete the postsecondary section of his/her individual career plan.

CTE Program: Electricity

Electricity III

Course Number: 623301R / 623302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Students will employ skills learned in Electricity I and Electricity II in the roughing and trimming of residential electrical projects. Students will develop problem-solving skills and apply their knowledge of electrical construction
Career & Technical Education

Course Descriptions

technology to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

CTE Program: HVAC and Refrigeration

**Heating/Air Cond I**

**Course Number:** 626101R / 626102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course is an introduction to the principles and practices employed in the installation, maintenance, and repair of basic air conditioning and heating systems units. Instruction is provided in safety precautions related to electricity, heating units, rotating machinery, refrigerants, and the use of power tools. Instruction includes basic electrical concepts, circuits, transformers, motors and motor controls, and circuit protection devices. Emphasis is also placed on basic refrigeration principles, gas laws, pressure, fluidics, heat and heat transfer, refrigerants, compressors, and lubrication systems. Activities include experiences in using hand tools, gauges, and test instruments used in cutting, reaming, flaring, swaging, bending, soldering, and brazing copper tubing; evacuating and charging refrigeration systems, and inspecting and testing electrical and air conditioning circuits and component parts.

CTE Program: HVAC and Refrigeration

**Heating/Air Cond II**

**Course Number:** 626201R / 626202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0

**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Successful completion of HVAC I is required for this course. It is advisable that the student’s career interest inventory indicates construction, and/or HVAC as a choice and they have requested to enter the three-year sequence with parental consent.

This is the second course in a three-year sequence of Heating, Ventilating & Air Conditioning (HVAC) classes. Students will review safety hazards and corresponding precautions to take. Students will then learn how to:

- properly install a Forced Air Furnace (FAF),  
- FAF safety codes,  
- design, layout and fabrication of ductwork,  
- install gas pipes, electrical breaker panels, conduit, thermostats, vents,  
- perform checks  
- maintain and service FAFs  
- start their own HVAC business.

CTE Program: HVAC and Refrigeration

**Heating/Air Cond III**

**Course Number:** 662301R / 662302R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
HVAC-2 is the third course of a three year program in Heating, Ventilating and Air Conditioning. You will examine some of the following topics:

- Theory and hands-on work of series and parallel...
circuit boards using light bulb and switching trainers.
- Sheet metal work used in forced air heating and air conditioning systems.
- Use of sheet metal tools and equipment.
- Design and fabrication of dusting and sheet metal work necessary for the installation of HVAC equipment.
- Soldering and brazing techniques
- Vocational ethics, transitional soft skills, workplace skills.
- Computer system technology as it applies to the HVAC field.
- Current industry skills standards leading to certification and licensing.

### RS1 App Development with Swift & RS2 App Development with Swift

**Course Number:** 666101R & 666102R  
**Course Level:** Regular

**Prerequisite:** Introductory computer science (ECS or other)  
**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**Teacher Certification Required:** Computer Science, or appropriate PD (App Development with Swift)

**COURSE DESCRIPTION:**  
App Development with Swift is designed to teach students the skills needed to be an app developer capable of bringing their own ideas to life. Whether they're new to coding or want to expand their skills, by the end of this course students should be able to build a fully functioning app of their own design. The course starts by introducing iOS development tools, basic programming concepts using Swift as the language, and industry best practices. Building on this foundation, students follow a step-by-step curriculum, work through practical exercises, and create apps from scratch.

### HS1 App Development with Swift & HS2 App Development with Swift

**Course Number:** 666101H & 666102H  
**Course Level:** Honors

**Prerequisite:** Introductory computer science (ECS or other)  
**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**Teacher Certification Required:** Computer Science, or appropriate PD (App Development with Swift)

**COURSE DESCRIPTION:**  
App Development with Swift is designed to teach students the skills needed to be an app developer capable of bringing their own ideas to life. Whether they’re new to coding or want to expand their skills, by the end of this course students should be able to build a fully functioning app of their own design. The course starts by introducing iOS development tools, basic programming concepts using Swift as the language, and industry best practices. Building on this foundation, students follow a step-by-step curriculum, work through practical exercises, and create apps from scratch.

### Plumbing I

**Course Number:** 684101R / 684102R  
**Course Level:** Regular

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Student will spend each day learning the history of plumbing and basic plumbing technology, vocabulary development, safety procedures, working cooperatively,
measuring, and proper installation of drainage, faucets, vents, and waste systems.

**Plumbing II**

**Course Number:** 684201R / 684202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
This is the second course in a three-year sequence of Plumbing classes. The following topics will be examined:

- History of plumbing profession  
- Unsafe conditions and accidents  
- Orthographic and schematic drawings  
- Types of pipe and fittings  
- Fixtures and faucets

**Plumbing III**

**Course Number:** 691301R / 691302R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
This is the third course in a three-year sequence of Plumbing classes. Students will be able to further develop skills in the use of common tools and a deepen their understanding of safety issues and proper dress codes for plumbing jobs. They will learn to analyze plumbing and pipe-fitting problems that occur in common types of construction (single-family and other types of buildings).

**Welding I**

**Course Number:** 616101R / 616102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Welding I course enables students to gain knowledge of the properties, uses, and applications of various metals, skills in various processes used to join and cut metals (such as oxyacetylene, shielded metal, metal inert gas, and tungsten arc processes), and experience in identifying, selecting, and rating appropriate techniques. Welding courses often include instruction in interpreting blueprints or other types of specifications.

**Welding II**

**Course Number:** 616201R / 616202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Successful completion of Introduction to Construction is
required for enrollment in this course. Welding II is an introduction to, as well as practical application of, various types of welding tools and equipment. Cutting and bonding metals are the two basic categories of welding operations. Welding I will provide the opportunity to earn certifications in Occupational Safety and Health Administration (OSHA) as well as National Center for Construction Education and Research (NCCER) in the following areas: welding safety, oxyfuel cutting, plasma arc cutting, air carbon arc cutting and gouging, base metal preparation, weld quality, shielded metal arc welding (SMAW)—equipment and setup, shielded metal arc electrodes, and SMAW beads and fillet welds.

CTE Program: Welding

Welding III

Course Number: 649301R / 649302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Successful completion of Welding III is required for enrollment in this course. Welding III continues the exposure to, as well as the practical application of, various types of welding tools and equipment. Cutting and bonding metals are the two basic categories of welding operations. Welding III will provide the opportunity to earn certifications in Joint Fit-up and Alignment, SMAW—Groove Welds with Backing, SMAW—Open V-groove Welds, Welding Symbols, Reading Welding Detail Drawings, Physical Characteristics and Mechanical Properties of Metals, Preheating and Post-heating of Metals, GMAW and FCAW—Equipment and Filler Metals, and GTAW—Equipment and Filler Materials.

BUSINESS & FINANCE CLUSTER
Learn to manage teams of people, crunch numbers to keep costs down, become an entrepreneur.

CTE Program: Business Orientation

Business Academy I

Course Number: 701101R / 701102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed to provide students with an introduction to business, marketing and management concepts. It includes an introduction to business principles, business communications and business computations. The impact and application of technology as it relates to business will also be introduced. Students will collect lessons, projects and relevant career information in a portfolio.

Students will be introduced to pre-employment skills, including resume and cover-letter writing, interviewing and job search techniques. Representatives of industry through guest speakers, field trips and/or job shadowing experiences will reinforce career and pre-employment skills. In addition, students will complete individual and team projects that will be presented to peers. Throughout this course, vocational ethics, transition skills, and workplace skills are integrated.

Students will develop proficiency in computer systems and technology related to the industry. Competencies and skills introduced are based on current industry skill standards and lead to industry certification/credentialing in the identified area.

CTE Program: Business Orientation

Business Academy II

Course Number: 701201R / 701202R
Career & Technical Education

Course Descriptions

**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This is the first course in a three year sequence of accounting classes. This first year course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use real-world business skills, accounting software, real-world source documents, financial statements, and multimedia. Accounting is an essential aspect of every business institution and organization. As future workers, small business owners, and entrepreneurs, students who understand basic accounting principles will more knowledgeably manage their companies’ financial resources. As citizens, future parents, and investors, these students will be better prepared to make the economic decisions that will impact their communities such as passing a referendum to build new schools and to make the financial decisions that will affect their own economic futures.

The introduction of computerized systems has made the mastery of technology skills an integral part of the accounting curriculum. Automated procedures eliminate the repetitive tasks required for manual accounting and facilitate the inclusion of individual and group activities that involve higher-level thinking skills. The Internet also offers tremendous opportunities for financial research and a wide variety of learning applications and activities.

CTE Program: Business Orientation

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**Business Academy I**

**Course Number:** 701131H / 701132H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course is designed to provide students with an introduction to business, marketing, and management concepts. It includes an introduction to business principles, business communications, and business computations. The impact and application of technology as it relates to business will also be introduced. Students will collect lessons, projects, and relevant career information in a portfolio. Students will be introduced to pre-employment skills, including resume and cover-letter writing, interviewing and job search techniques. Representatives of industry through guest speakers, field trips, and/or job shadowing experiences will reinforce career and pre-employment skills. In addition, students will complete individual and team projects that will be presented to peers. Throughout this course, vocational ethics, transition skills, and workplace skills are integrated.

Students will develop proficiency in computer systems and technology related to the industry. Competencies and skills introduced are based on current industry skill standards and lead to industry certification/credentialing in the identified area.

CTE Program: Business Orientation

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**Business Academy II**

**Course Number:** 701231H / 701232H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This is the first course in a three year sequence of accounting classes. This first year course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use...
real-world business skills, accounting software, real-world source documents, financial statements, and multimedia.

CTE Program: Accounting

Accounting I

Course Number: 702101R / 702102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three-year sequence of accounting classes. This first course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use real-world business skills, accounting software, real-world source documents, financial statements, and multimedia.

CTE Program: Accounting

Accounting II

Course Number: 702201R / 702202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third course in the three-year sequence of accounting courses. The course builds on the theory learned in Accounting I by emphasizing the more practical aspects of accounting. Students will solve problem situations on their own. They will prepare payroll reports and analyze financial reports. Corporate accounting fundamentals are also taught. This course is very important for students who wish to become college business administration or accounting majors.

CTE Program: Accounting

Accounting I

Course Number: 728101R / 728102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the second course in a three-year sequence of accounting classes. This first course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use real-world business skills, accounting software, real-world source documents, financial statements, and multimedia.

CTE Program: Accounting

Accounting II

Course Number: 728201R / 728202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the third course in the three-year sequence of accounting courses. The course builds on the theory learned in Accounting I by emphasizing the more practical aspects of accounting. Students will solve problem situations on their own. They will prepare payroll reports and analyze financial reports. Corporate accounting
fundamentals are also taught. This course is very important for students who wish to become college business administration or accounting majors.

CTE Program: Accounting

**Accounting I**

**Course Number:** 702131H / 702132H  
**Course Level:** Honors  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This is the second course in a three year sequence of accounting classes. This first course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use real-world business skills, accounting software, real-world source documents, financial statements, and multimedia.

CTE Program: Accounting

**Accounting II**

**Course Number:** 702231H / 702232H  
**Course Level:** Honors  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This is the third course in the three-year sequence of accounting courses. The course builds on the theory learned in Accounting I by emphasizing the more practical aspects of accounting. Students will solve problem situations on their own. They will prepare payroll reports and analyze financial reports. Corporate accounting fundamentals are also taught. This course is very important for students who wish to become college business administration or accounting majors.

CTE Program: Accounting

**Accounting I**

**Course Number:** 728131H / 728132H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This is the second course in a three year sequence of accounting classes. This first course is a comprehensive, two-semester course that’s designed to bring the real world of business and accounting into the classroom. Students will have the opportunity to use real-world business skills, accounting software, real-world source documents, financial statements, and multimedia.

CTE Program: Accounting

**Accounting II**

**Course Number:** 728231H / 728232H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This is the third course in the three-year sequence of accounting courses. The course builds on the theory learned in Accounting I by emphasizing the more practical aspects of accounting. Students will solve problem situations on their own. They will prepare payroll reports and analyze financial reports. Corporate accounting
fundamentals are also taught. This course is very important for students who wish to become college business administration or accounting majors.

CTE Program: Entrepreneurship

**Entrepreneurship I**

**Course Number:** 724101R / 724102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This course is designed to provide students with practical hands-on experience in the expertise needed to become a successful entrepreneur. It covers a wide variety of topics: return on investment, supply and demand, opportunity recognition, personal finance, cost/benefit analysis, and sales and marketing. The capstone and program goal for the class is to write, present and defend a business plan through a series of competitions for seed capital prize money, culminating with the citywide business plan competition.

CTE Program: Entrepreneurship

**Entrepreneurship II**

**Course Number:** 724201R / 724202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This course is offered to seniors and is the second of a two-year sequence. Students in this course should have successfully completed the prerequisite course, Entrepreneurship I. This course uses technology to refine and build on previous skills and knowledge learned in Entrepreneurship I. The course will enable students to further develop and apply management, marketing, insurance/investments, and leadership skills to entrepreneurship. Students will complete individual and team projects, utilizing critical thinking, problem solving, interpersonal and team communication skills. The Senior Project – Capstone activity – will be introduced in the fourth quarter.

CTE Program: Entrepreneurship

**Entrepreneurship I**

**Course Number:** 724131H / 724132H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is designed to provide students with practical hands-on experience in the expertise needed to become a successful entrepreneur. It covers a wide variety of topics: return on investment, supply and demand, opportunity recognition, personal finance, cost/benefit analysis, and sales and marketing. The capstone and program goal for the class is to write, present and defend a business plan through a series of competitions for seed capital prize money, culminating with the citywide business plan competition.

CTE Program: Entrepreneurship

**Entrepreneurship II**

**Course Number:** 724231H / 724232H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is offered to seniors and is the second of a two-year sequence. Students in this course should have successfully completed the prerequisite course, Entrepreneurship I. This course uses technology to refine and build on previous skills and knowledge learned in Entrepreneurship I. The course will enable students to further develop and apply management, marketing, insurance/investments, and leadership skills to entrepreneurship. Students will complete individual and team projects, utilizing critical thinking, problem solving, interpersonal and team communication skills. The Senior Project – Capstone activity – will be introduced in the fourth quarter.

CTE Program: Entrepreneurship
Course Descriptions

**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is offered to seniors and is the second of a two-year sequence. Students in this course should have successfully completed the prerequisite course, Entrepreneurship I. This course uses technology to refine and build on previous skills and knowledge learned in Entrepreneurship I. The course will enable students to further develop and apply management, marketing, insurance/investments, and leadership skills to entrepreneurship. Students will complete individual and team projects, utilizing critical thinking, problem solving, interpersonal and team communication skills. The Senior Project – Capstone activity – will be introduced in the fourth quarter.

CTE Program: Entrepreneurship

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### Entrepreneurship I

**Course Number:** 703101R / 703102R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is designed to provide students with practical hands-on experience in the expertise needed to become a successful entrepreneur. It covers a wide variety of topics: return on investment, supply and demand, opportunity recognition, personal finance, cost/benefit analysis, and sales and marketing. The capstone and program goal for the class is to write, present and defend a business plan through a series of competitions for seed capital prize money, culminating with the citywide business plan competition.

CTE Program: Entrepreneurship

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### Entrepreneurship II

**Course Number:** 703201R / 703202R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is offered to seniors and is the second of a two-year sequence. Students in this course should have successfully completed the prerequisite course, Entrepreneurship I. This course uses technology to refine and build on previous skills and knowledge learned in Entrepreneurship I. The course will enable students to further develop and apply management, marketing, insurance/investments, and leadership skills to entrepreneurship. Students will complete individual and team projects, utilizing critical thinking, problem solving, interpersonal and team communication skills. The Senior Project – Capstone activity – will be introduced in the fourth quarter.

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### Culinary Arts & Hospitality Management Cluster

Learn to become the next top chef and learn the skills to become a restaurant owner.

CTE Program: Culinary Arts

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### Culinary Arts-I

**Course Number:** 801101R / 801102R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** 2 semesters
COURSE DESCRIPTION:
This serves as a foundational course in the fields of Culinary Arts and Hospitality Management for the development of competencies leading to entry-level hospitality industry employment. You will examine the topics of food safety, sanitation, security procedures, professional knife skills, basic nutrition, and menu planning. You will apply skills through project-based learning in the areas of basic food preparation and use of industry equipment, procedures, terminology, and training. Throughout this course, technical, employability, and academic skills are integrated. You will be evaluated on your proficiency by school and industry professionals.

CTE Program: Culinary Arts

Culinary Arts II

Course Number: 801201R / 801202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence. You will review and continue work toward mastery of knife skills, safety/sanitation/security procedures, nutrition concepts, and menu planning. You will also work towards mastery of intermediate level food preparation and presentation as well as use of industry equipment, procedures, and terminology. Through project-based learning experiences and presentations, you will receive collaborative evaluations of competencies from school and industry professionals. Some of the following topics will be examined: baking yeast breads; researching careers; researching post-secondary education/training; exploring internships and jobs; and participating in culinary competitions. The culminating activity of this class is the preparation and serving of a buffet.

Culinary Arts III

Course Number: 805301R / 805302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third course in a three-year sequence of Culinary Arts. This course is designed to continue industry standards-based instruction that will lead to the development of advanced intermediate level student competencies and subsequent industry employment. Industry-based unit topics will include cost control, equipment operation, vocabulary, and sanitation license criteria, etc. Use of industry equipment, procedures, terminology, and training will be emphasized.

As an option for both career academies and general high schools, entree preparation, advanced baking and pastry, and advanced poultry/meat/seafood cookery will serve as the backbone for advanced industry standards-based instruction.

There are three culminating activities for this class. They include: Passport On A Plate, Student Café, and Employability Skills Expo. Students will choose either Passport On A Plate or Student Café; then they will plan, prepare, and execute a lunch and presentation based on one of the ethnic cuisines studied. The lunch for Passport On A Plate will be prepared for 200 people. The lunch for Student Café will be prepared for 24 people. Guests will include chefs, parents, media and other industry professionals. The Employability Skills Expo will consist of interviewing with industry partners for soft skills and job readiness.
CTE Program: Culinary Arts

Food and Nutrition

Course Number: 805111R / 805112R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Nutrition and Food Preparation courses provide students with knowledge and skills about food preparation and/or production, with a strong emphasis on nutrition, balanced diets, and satisfying special dietary needs. Topics typically include assessing nutrient content, the science of food and nutrition, physiology and utilization of nutrients. Course content may also cover additives, contaminants, foodborne illnesses, and food technology.

CTE Program: Culinary Arts

Culinary Arts I Dbl

Course Number: 801121R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Meets 4 X 4 Block per day – 1 Semester per year

COURSE DESCRIPTION:
This serves as a foundational course in the fields of Culinary Arts and Hospitality Management for the development of competencies leading to entry-level hospitality industry employment. You will examine the topics of food safety, sanitation, security procedures, professional knife skills, basic nutrition, and menu planning. You will apply skills through project-based learning in the areas of basic food preparation and use of industry equipment, procedures, terminology, and training. Throughout this course, technical, employability, and academic skills are integrated. You will be evaluated on your proficiency by school and industry professionals.

CTE Program: Culinary Arts

Food and Nutrition Dbl

Course Number: 805121R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Meets 4 X 4 Block per day – 1 Semester per year

COURSE DESCRIPTION:
Nutrition and Food Preparation courses provide students with knowledge and skills about food preparation and/or production, with a strong emphasis on nutrition, balanced diets, and satisfying special dietary needs. Topics typically include assessing nutrient content, the science of food and nutrition, physiology and utilization of nutrients. Course content may also cover additives, contaminants, foodborne illnesses, and food technology.

CTE Program: Hospitality Management

Hospitality Mgmt I

Course Number: 854101R / 854102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
In this course students learn the basic elements of front of the house operations and delve deeper into the areas of the hospitality industry. The subject matter is presented through labs, lectures, and guest speakers. Areas of study
include financial processes, the guest experience cycle, room rate systems, performance standards, workplace etiquette, front office operations, and sales and marketing practices and tools. Students continue to develop written and oral communication skills and employability skills.

CTE Program: Hospitality Management

**Hospitality Mgmt II**

**Course Number:** 854201R / 854202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
In Hospitality II students focus on the back of the house operations including housekeeping, inventory management, green practices, food and beverage operations, banquet and event planning. The subject matter is presented through labs, lectures, guest speakers, job shadows and other culinary events. Areas of study include operational finance, operational safety, security, key control and emergency preparedness. Students continue to develop written and oral communication skills, employability skills and resume development.

**EDUCATION & TEACHING CLUSTER**
Learn how to work with children and their families, develop classroom management skills, become a child’s favorite teacher.

CTE Program: Early Childhood Education

**Intro Early Child Ed**

**Course Number:** 815101R / 815102R  
**Course Level:** Regular

**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Education and Training is an introductory course for students interested in early childhood education or the teaching profession. The course is specifically designed to develop competencies related to the role and career path of an educator. Students will be introduced to characteristics of an effective educator, positive expectations, classroom organization, discipline techniques, and the professionalism of education. Students will develop skills in collaborative education and learning, leadership, and communication. The course will also examine human growth and development, including the fundamentals of the physical, cognitive, social, emotional, and moral development of children from conception through adolescence.

Students are exposed to essential theories and philosophies which will facilitate the further development and understanding of learning strategies and pedagogy. They will create, maintain, and develop a teacher portfolio including all important and relevant documents related to their development as an educator. A work-based learning component is integrated into the course to provide an opportunity for students to observe the skills and knowledge of the education profession learned in class.

CTE Program: Early Childhood Education

**Early Childhood Ed I**

**Course Number:** 836101R / 836102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
Early Childhood Education I is the second course of a
three year Early Childhood Education program sequence. Students will explore the various career opportunities in the field of child care and development. Special emphasis is placed on job related competencies and employability skills needed in early child care education and services, nutrition, safety, sanitation, and age and developmentally appropriate practices and curriculum. Students will learn to identify effective strategies that promote children’s growth and development, and ethical, professional standards and practices related to working with young children in the on-site pre-school.

CTE Program: Early Childhood Education

**Early Childhood Ed II**

**Course Number:** 836201R / 836202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
Early Childhood Education II is the third course of a three year Early Childhood Education program sequence. This course continues the development of Early Childhood Education I which includes an emphasis on the practical application of the theory learned in the first and second courses of the sequence. Students will plan and implement age-appropriate curriculum in the on-site pre-school. Through feedback and reflection, students will learn to assess the unique needs of various learners and differentiate instruction. Upon course completion the students will have the job-related competencies needed to successfully gain employment in a child care site or continuing in post-secondary education in a child-related field.

CTE Program: Teaching

**Teaching Profession I**

**Course Number:** 839211R / 839212R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0

**Education and Training**

**Course Number:** 839111R / 839112R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Education and Training is an introductory course for students interested in the early childhood education or teaching profession. The course is specifically designed to develop competencies related to the role and career path of an educator. Students will be introduced to characteristics of an effective educator, positive expectations, classroom organization, discipline techniques, and the professionalism of education. Students will develop skills in collaborative education and learning, leadership, and communication. The course will also examine human growth and development, including the fundamentals of the physical, cognitive, social, emotional, and moral development of children from conception through adolescence.

Students are exposed to essential theories and philosophies which will facilitate the further development and understanding of learning strategies and pedagogy. They will create, maintain, and develop a teacher portfolio including all important and relevant documents related to their development as an educator. A work-based learning component is integrated into the course to provide an opportunity for students to observe the skills and knowledge of the education profession learned in class.
Career & Technical Education

Course Descriptions

Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Teaching as a Profession I is designed to continue the development of teaching practice and critical academic and communication skills. Students are exposed to essential theories and philosophies which will facilitate the further development and understanding of learning modalities and pedagogy, including the history and philosophy of education, various educational systems around the world, lesson planning and assessments, and the issues particular to teaching in an urban setting.

This course provides opportunity for students to develop skills to teach and guide others. Students will create and develop teaching objectives, design lesson plans, and experience teaching in a controlled environment. Students examine and practice teaching strategies, learning styles, time management and planning strategies, presentation and questioning skills, classroom management, and evaluation techniques. The course will also highlight Illinois regulations and licensing requirements in the field of education. A work-based learning component is integrated into the course to provide an opportunity for students to apply the skills and knowledge of the education profession learned in class.

CTE Program: Teaching

Teaching Profession II

Course Number: 839311R / 839312R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Teaching as a Profession II will continue to facilitate the further development and understanding of learning modalities and pedagogy. The purpose of this course is for students to research and conceptualize the major themes, issues, and concepts that are essential to teaching in an urban setting. Students will focus on the special concerns and needs of various learners, including the impact of income, race, and learning ability on education.

Students will explore opportunities in education careers and develop/expand their career portfolio. A work-based learning component is integrated into the course to provide an opportunity for students to apply the skills and knowledge of the education profession learned in class.

HEALTH SCIENCES
Jump-start your career in a medical profession. Practice taking vitals, drawing blood and other skills that will prepare you for your future.

CTE Program: Health Orientation

Intro to Health Occ

Course Number: 838101R / 838102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Introduction to Health Sciences is an orientation level course in the Health Sciences cluster. The course includes segments which cover various health careers such as community health, nursing, rehabilitation services, medical office, radiology (x-ray), emergency medicine, dentistry, and environmental health. The units of instruction includes history of health care, health care systems, personal qualities of a health care worker, legal and ethical issues in health, communication, and safety, with a major emphasis on medical terminology and anatomy and physiology.

CTE Program: Allied Health
# Allied Health I

**Course Number:** 833101R / 833102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
This second level course will build on the foundation laid in Introduction to Health Sciences, providing students with a more in-depth overview of the health care system. The course will include a more extensive study of careers, training in basic health care skills. Topics include human growth and development, nutrition and wellness, vital signs, First Aid & CPR, and infection control. Upon completion of this course, students will sample the work of at least three health care careers, and be able to communicate different pathways to various healthcare careers: specifically education and certification requirements.

Students will participate in numerous lab activities and class discussions. Field trips to hospitals, health care professional speakers and medical labs will further aid the student with the selection of a future career in medicine. Volunteer work and work-based learning experiences are required of this course where students will receive advanced training, service learning hours and potentially certification in areas of interest by the third year in the program.

Students will experience five professional speakers and two Medical Learning Labs through the Museum of Science and Industry throughout the year.

CTE Program: Allied Health

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# Med/Health Prof I

**Course Number:** 842131H / 842132H  
**Course Level:** Honors  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
This second level course will build on the foundation laid in Introduction to Health Sciences, providing students with a more research-based overview of the health care system. The course will include a more extensive study of careers, and researchable hot topics in respective health careers. Health topics include human growth and development, nutrition and wellness, vital signs, CPR & First Aid, and infection control. Upon completion of this course, students
will research the work of at least three health care careers, and be able to communicate different pathways to various healthcare careers: specifically education and certification requirements.

Students will participate in numerous lab activities and class discussions. Field trips to hospitals, health care professional speakers and medical learning labs will further aid the student with the selection of a future career in medicine. Volunteer work and work-based learning experiences are required of this course where students will receive advanced training, service learning hours and potentially certification in areas of interest by the start of the third year in the program.

CTE Program: Medical & Health Careers

Med-Health Prof I

**Course Number:** 842141H / 842142H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This second level course will build on the foundation laid in Introduction to Health Sciences, providing students with a more research-based overview of the health care system. The course will include a more extensive study of careers, and researchable hot topics in respective health careers. Health topics include human growth and development, nutrition and wellness, vital signs, CPR & First Aid, and infection control. Upon completion of this course, students will research the work of at least three health care careers, and be able to communicate different pathways to various healthcare careers: specifically education and certification requirements.

Students will participate in numerous lab activities and class discussions. Field trips to hospitals, health care professional speakers and medical learning labs will further aid the student with the selection of a future career in medicine. Volunteer work and work-based learning experiences are required of this course where students will receive advanced training, service learning hours and potentially certification in areas of interest by the start of the third year in the program.

Students will experience five professional speakers and two Medical Learning Labs through the Museum of Science and Industry throughout the year.

CTE Program: Medical & Health Careers

Med/Health Prof II

**Course Number:** 842231H / 842232H  
**Course Level:** Honors  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This third level course will build on the foundation laid in Medical Health Careers I, providing students with an overview of pathology and disease the health care system. The course will include a more extensive study of careers and training in basic health care skills. Topics include diseases in human growth and development, nutrition and wellness, the heart, and metabolism. Upon completion of this course, students will become familiar with the work of a diverse selection of health care careers, and be able to communicate different pathways to various health care fields: specifically education and certification requirements.

Students will participate in numerous lab activities (3 hours per week) and class discussions. Visits to and from health care organizations, health care professionals, and medical labs will further aid the student with the selection of a future career in medicine. Volunteer work and work-based learning experiences are required of this course where students will receive advanced training, service learning hours and potentially certification in areas of interest by the start of the third year in the program.

Students will experience five professional speakers and two Medical Learning Labs through the Museum of Science and Industry throughout the year.
Industry throughout the year.

CTE Program: Medical & Health Careers

Med-Health Prof II

**Course Number:** 842241H / 842242H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**  
This third level course will build on the foundation laid in Medical Health Careers I, providing students with an overview of pathology and disease the health care system. The course will include a more extensive study of careers and training in basic health care skills. Topics include diseases in human growth and development, nutrition and wellness, the heart, and metabolism. Upon completion of this course, students will become familiar with the work of a diverse selection of health care careers, and be able to communicate different pathways to various health care fields: specifically education and certification requirements.

Students will participate in numerous lab activities (3 hours per week) and class discussions. Visits to and from health care organizations, health care professionals, and medical labs will further aid the student with the selection of a future career in medicine. Volunteer work and work-based learning experiences are required of this course where students will receive advanced training, service learning hours and potentially certification in areas of interest by the start of the third year in the program.

CTE Program: Medical Assistant

Medical Assistant II

**Course Number:** 862201R / 862202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters  

**COURSE DESCRIPTION:**  
This is the third course in a three-year sequence of Medical Assistant classes. The following topics:

- the history of medical assisting
- administrative medical assisting
- health information in the medical office
- financial and practice management
- billing and coding procedures

CTE Program: Medical Assistant

Medical Assistant I

**Course Number:** 862101R / 862102R  
**Course Level:** Regular  

The culminating activity of this class is completing the practice exam for the Registered Medical Assistant certification.
Career & Technical Education

Course Descriptions

CTE Program: Practical Nursing Program (PNP)

**Prac Nurse Theory I**

*Course Number*: 829131H / 829132H  
*Course Level*: Honors  
*Number of Credits Earned*: 1.0  
*Type of Graduation Credit Earned*: Career Ed; Elective  
*Recommended Course Duration*: 2 semesters

**COURSE DESCRIPTION:**
The course is composed of a combination of subject matter and learning activities designed to prepare a person to perform as a practical nurse under the direction of the physician or professional nurse. LPN courses offer the knowledge and experience needed to provide nursing care for patients of all ages, in various stages of sickness or health, and with a variety of disease conditions. Through classroom, laboratory and clinical experiences the student is exposed to the following units of instruction: interpersonal relationships; communications; physiological, psychological and sociological principles and needs of patients/clients; basic skills; nutrition and special dietary content. Additional topics covered may include community health, nutrition, drug therapy and administration, and mental illness. This program must meet the approval requirements of the Illinois Department Financial and Professional Regulation.

CTE Program: Practical Nursing Program (PNP)

**Prac Nursing Perf I**

*Course Number*: 830131H / 830132H  
*Course Level*: Honors  
*Number of Credits Earned*: 2.0  
*Type of Graduation Credit Earned*: Career Ed; Elective  
*Recommended Course Duration*: Double period, 2 semesters

**COURSE DESCRIPTION:**
The course is composed of a combination of subject matter and learning activities designed to prepare a person to perform as a practical nurse under the direction of the physician or professional nurse. LPN courses offer the knowledge and experience needed to provide nursing care for patients of all ages, in various stages of sickness or health, and with a variety of disease conditions. Through classroom, laboratory and clinical experiences the student is exposed to the following units of instruction: interpersonal relationships; communications; physiological, psychological and sociological principles and needs of patients/clients; basic skills; nutrition and special dietary content. Additional topics covered may include community health, nutrition, drug therapy and administration, and mental illness. This program must meet the approval requirements of the Illinois Department Financial and Professional Regulation.

CTE Program: Practical Nursing Program (PNP)

**Prac Nurse Theory II**

*Course Number*: 829231H / 829232H  
*Course Level*: Honors  
*Number of Credits Earned*: 1.0  
*Type of Graduation Credit Earned*: Career Ed; Elective  
*Recommended Course Duration*: 2 semesters

**COURSE DESCRIPTION:**
The course is composed of a combination of subject matter and learning activities designed to prepare a person to perform as a practical nurse under the direction of the physician or professional nurse. LPN courses offer the knowledge and experience needed to provide nursing care for patients of all ages, in various stages of sickness or health, and with a variety of disease conditions. Through classroom, laboratory and clinical experiences the student is exposed to the following units of instruction: interpersonal relationships; communications; physiological, psychological and sociological principles and needs of patients/clients; basic skills; nutrition and special dietary content. Additional topics covered may include community health, nutrition, drug therapy and administration, and mental illness. This program must meet the approval requirements of the Illinois Department Financial and Professional Regulation.
health, nutrition, drug therapy and administration, and mental illness. This program must meet the approval requirements of the Illinois Department Financial and Professional Regulation.

CTE Program: Practical Nursing Program (PNP)

**Prac Nursing Perf II**

Course Number: 830231H / 830232H  
Course Level: Honors  
Number of Credits Earned: 2.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters

**COURSE DESCRIPTION:**
The course is composed of a combination of subject matter and learning activities designed to prepare a person to perform as a practical nurse under the direction of the physician or professional nurse. LPN courses offer the knowledge and experience needed to provide nursing care for patients of all ages, in various stages of sickness or health, and with a variety of disease conditions. Through classroom, laboratory and clinical experiences the student is exposed to the following units of instruction: interpersonal relationships; communications; physiological, psychological and sociological principles and needs of patients/clients; basic skills; nutrition and special dietary content. Additional topics covered may include community health, nutrition, drug therapy and administration, and mental illness. This program must meet the approval requirements of the Illinois Department Financial and Professional Regulation.

CTE Program: Biomedical Engineering

**Prin of Biomedical Sci**

Course Number: 697101H / 697102H  
Course Level: Honors  
Number of Credits Earned: 1.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: 2 semesters

**COURSE DESCRIPTION:**
Biomedical courses introduce students to the broad field of biomedical science. It provides the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body system and various health conditions including: heart disease, diabetes, sickle cell disease, hypercholesterolemia, and infectious diseases.

**INFORMATION TECHNOLOGY (IT) STEM CLUSTER**

Study how technology works, learn how to create websites or computer games, be part of a career that is always changing.

CTE Program: IT Orientation

**Fundamentals of IT**

Course Number: 668101R / 668102R  
Course Level: Regular  
Number of Credits Earned: 1.0  
Type of Graduation Credit Earned: Computer Science; Career Ed; Elective  
Recommended Course Duration: 2 semesters

**COURSE DESCRIPTION:**
This is the first course in a three year sequence of all Information technology classes. The primary purpose of this course is to introduce students to the breadth of the field of computer science through an exploration of engaging and accessible topics. Focused on the conceptual ideas if computing, it helps students understand why certain tools or languages might be utilized to solve particular problems. The goal is to develop the computational thinking practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of
today's students. They will also be introduced to interface design, limits of computers and societal and ethical issues. The student should be able to analyze the effects of developments in computing. Students also complete Microsoft Office Suite (MOS) training modules and have the opportunity to take the MOS certification exam. Successful MOS exam completers earn a MOS certification.

CTE Program: IT Orientation

Fundamentals of IT

**Course Number:** 668131H / 668132H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This is the first course in a three year sequence of all Information technology classes. The primary purpose of this course is to introduce students to the breadth of the field of computer science through an exploration of engaging and accessible topics. Focused on the conceptual ideas if computing, it helps students understand why certain tools or languages might be utilized to solve particular problems. The goal is to develop the computational thinking practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. They will also be introduced to interface design, limits of computers and societal and ethical issues. The student should be able to analyze the effects of developments in computing. Students also complete Microsoft Office Suite (MOS) training modules and have the opportunity to take the MOS certification exam. Successful MOS exam completers earn a MOS certification.

CTE Program: IT STEM Orientation

STEM Intro Comp Sci

**Course Number:** 753101R / 753102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
The course units draw on the curricular framework listed in Levels II and III of the ACM’s A Model Curriculum for K-12 Computer Science (2003). Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis, and Robotics.

CTE Program: IT STEM Orientation

STEM Intro Comp Sci

**Course Number:** 753101H / 753102H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
The course units draw on the curricular framework listed in Levels II and III of the ACM’s A Model Curriculum for K-12 Computer Science (2003). Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis,
and Robotics.

CTE Program: IT STEM Orientation

**IT Problem Solving**

**Course Number:** 753201H / 753202H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course will give students hands-on experience in a wide range of modern information technology. Several IT concepts will be introduced that will provide a basis for further study in Information Technology. Students will work on a number of projects that will give perspectives on areas of IT including but not limited to: visual and/or robotic programming, social networking tools, web design and networking. Issues of security, privacy and ethics will also be examined. Students will leave the course with an understanding of the components of modern IT systems and the scope of knowledge needed to become an IT professional.

CTE Program: IT STEM Orientation

**STEM IT IntroCompSci Dbl**

**Course Number:** 753111H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective  
**Recommended Course Duration:** Meets 4 X 4 Block per day – 1 Semester per year

**COURSE DESCRIPTION:**
The course units draw on the curricular framework listed in Levels II and III of the ACM’s A Model Curriculum for K-12 Computer Science (2003). Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis, and Robotics.

CTE Program: IT STEM Orientation

**IT Problem Solving Dbl**

**Course Number:** 753211H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Meets 4 X 4 Block per day – 1 Semester per year

**COURSE DESCRIPTION:**
This course will give students hands-on experience in a wide range of modern information technology. Several IT concepts will be introduced that will provide a basis for further study in Information Technology. Students will work on a number of projects that will give perspectives on areas of IT including but not limited to: visual and/or robotic programming, social networking tools, web design and networking. Issues of security, privacy and ethics will also be examined. Students will leave the course with an understanding of the components of modern IT systems and the scope of knowledge needed to become an IT professional.

CTE Program: IT STEM Orientation

**Taste of Computing**

**Course Number:** 713111R / 713112R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0
Course Descriptions

**Career & Technical Education**

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
The course units draw on the curricular framework listed in Levels II and III of the ACM’s A Model Curriculum for K-12 Computer Science (2003). Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis, and Robotics.

**Exploring Computer Science**

- **Course Number:** 668201R/668202R
- **Course Level:** Regular
- **Number of Credit Earned:** 1.0
- **Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective
- **Grades:** 9-12
- **Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Exploring Computer Science is a nationally recognized introductory college preparatory computer science course and includes curriculum, professional development, and assessments. ECS is composed of six foundational units with lessons that are designed to promote an inquiry-based approach to teaching and learning foundational concepts in computer science and highlighting the computational practices and problem solving associated with doing computer science.

**CTE Program:** Computer Science for All (CSA)

**Honors Exploring Computer Science**

- **Course Number:** 668201H/668202H
- **Course Level:** Honors
- **Grades:** 9-12
- **Number of Credit Earned:** 1.0
- **Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective
- **Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Exploring Computer Science is a nationally recognized introductory college preparatory computer science course and includes curriculum, professional development, and assessments. ECS is composed of six foundational units

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**Taste of Computing**

- **Course Number:** 713111H / 713112H
- **Course Level:** Honors
- **Number of Credits Earned:** 1.0
- **Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective
- **Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
The course units draw on the curricular framework listed in Levels II and III of the ACM’s A Model Curriculum for K-12 Computer Science (2003). Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis, and Robotics.

**COMPUTER SCIENCE FOR ALL (CSA)**

- **CTE Program:** Computer Science for All (CSA)
Career & Technical Education

Course Descriptions

with lessons that are designed to promote an inquiry-based approach to teaching and learning foundational concepts in computer science and highlighting the computational practices and problem solving associated with doing computer science.

CTE Program: Computer Science for All (CSA)

Computer Science Principles

Course Number: 668211R/668212R
Course Level: Regular
Grades: 10-12
Number of Credit Earned: 2.0
Recommended Course Duration: Double Period, 2 semesters

COURSE DESCRIPTION:
Currently in a pilot phase leading to an AP® exam in 2016-2017, this course is far more than a traditional introduction to programming and the fundamental concepts of computing—it is a rigorous, engaging, and approachable course designed so that all students understand how computer science concepts are transforming the world we live in. Students will participate in the transformation of their world by learning how to use computer science concepts in their own lives, studies, and in collaboration with others.

CTE Program: Business System Networking

Advanced Placement Computer Science Principles

Course Number: 668201A / 668202A
Course Level: Advanced
Prerequisites: Algebra 1
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Computer Science; Career Ed; Elective
Recommended Course Duration: 2 semesters
Teacher Certification Required: Math or Computer Science and AP summer institute

COURSE DESCRIPTION:
The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course students will develop computational thinking vital for success across all disciplines, such as computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. Students are encouraged to apply creative processes when developing computational artifacts and to think creatively while using computer software and other technology to explore questions that interest them. Students will develop communication and collaboration skills, working individual and collaboratively to solve problems.
Honors Computer Science

Course Number: 668221H / 668222H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students in Honors Computer Science receive a rigorous introduction to programming and the fundamental concepts of computational thinking. The class will approach computer science as a discipline concerned with the design and implementation of solutions to problems, making frequent recourse to the discipline's mathematical underpinnings. No prior programming experience is necessary; conversely, students with programming experience will find much to challenge them here. The principal language will be Python, though some time will be spent in Snap, JavaScript, and possibly other languages. Topics include procedural and object-oriented programming, data types and structures, algorithm development and analysis, and abstraction.

IB MYP Exploring Computer Science

Course Number: 668241R / 668242R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Computer Science; Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The International Baccalaureate Middle Years Programme (MYP) is a philosophy of teaching and an approach to instruction. Students in the MYP explore significant content, develop skills, and deepen conceptual understanding through their engagement with global contexts. Teachers will plan using the MYP objectives and assess using the MYP criteria. Exploring Computer Science is a nationally recognized introductory college preparatory computer science course and includes curriculum, professional development, and assessments. ECS is composed of six foundational units with lessons that are designed to promote an inquiry-based approach to teaching and learning foundational concepts in computer science and highlighting the computational practices and problem solving associated with doing computer science.

Honors IB MYP Exploring Computer Science

Course Number: 668241H / 668242H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Computer Science; Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The International Baccalaureate Middle Years Programme (MYP) is a philosophy of teaching and an approach to instruction. Students in the MYP explore significant content, develop skills, and deepen conceptual understanding through their engagement with global contexts. Teachers will plan using the MYP objectives and assess using the MYP criteria. Exploring Computer Science is a nationally recognized introductory college preparatory computer science course and includes curriculum, professional development, and assessments. ECS is composed of six foundational units with lessons that are designed to promote an inquiry-based approach to teaching and learning foundational concepts in computer science and highlighting the computational practices and problem solving associated with doing computer science.

Honors Intermediate Computer Science

Course Number: 669101H / 669102H
Course Level: Honors
Number of Credits Earned: 1.0
Career & Technical Education

Course Descriptions

**Course Catalog**

**Course Descriptions**

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is geared toward the student who has an interest in mathematics, computer science, or engineering. Intermediate Computer Science provides a rigorous foundation for the study of computer science. Students will learn the principles of the design of programs that are applicable to any area of problem solving that they will encounter later in life. No one can predict what kind of computer applications will exist five or ten years from now. Whatever they are, they will require some form of programming, and this class will provide the foundation to understand them. The emphasis of the course is on developing a problem solving process, breaking problems down into functions, and verifying that the final results are as expected (which is called “unit testing”).

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**Honors Programming I**

**Course Number:** 733141H / 733142H

**Course Level:** Honors

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Students will learn the fundamentals of Object Oriented Programming. Using Ruby, they’ll learn to analyze problems, think algorithmically about logic and design, and build/debug programs that accept input and return output while using variables, operators, data types, methods, arguments, blocks, control structures, and classes.

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**Honors Software App I: Design**

**Course Number:** 733181H / 733182H

**Course Level:** Honors

**Prerequisites:** Software App I: Design

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Software App I: Design is a course that focuses on developing and bringing Google Android apps to market. We live in a world where we are surrounded by mobile technology. Due to many factors such as exponential growth in computing power and huge leaps in miniaturization, our lives will continue to find itself more and more intertwined with devices that have massive computing potential. Students in this course will learn how to leverage one of the more popular technologies and in the process, be introduced to one of the highest paid fields in IT and CS, software engineering.

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**Honors Software App II: Design**

**Course Number:** 733181H / 733182H

**Course Level:** Honors

**Prerequisites:** Software App I: Design

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Often we hear students ask “Why?” Why do we learn the things we do? In this course, we try to give them that answer in a very tangible way. This course combines digital electronics and programming. Students will get to design, prototype, and implement new ideas using popular microcontrollers and microcomputers like the Raspberry Pi and many variations of the Arduino board.

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**Honors Web Dev I: HTML Client Script**

**Course Number:** 778601H / 778602H

**Course Level:** Honors

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Web Development I is designed to introduce students to the programming and design skills needed to create modern interactive “Web 2.0” websites and applications. Within the context of web development, students will develop their algorithmic problem-solving skills, explore Internet communication protocols, explore elements of human computer interaction topics, and data collection and manipulation.

Honors Program & Media Compu

Course Number: 733161H / 733162H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course teaches fundamental manipulations of digital media as an introduction to Computer Science. The critical characteristic of MediaComp is that students create expressive media by manipulating computational materials (like images and sound files) at a lower-level of abstraction. Students manipulate images by changing pixels, create sounds by iterating over samples, render linked lists into music, and create artifacts like collages, music, and digital video special effects. In so doing, the students learn computation.

Honors Microarchitecture Logic Design

Course Number: 733241H / 733242H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed for students who have a desire to explore how a computer is able to “think”. Many CS students are missing the forest for the trees, and this course aims to restore the big picture. By gradually constructing and unit-testing a complete hardware platform and a modern software hierarchy from the ground up, you will discover how computer systems work, and how they are built. Since this is our first Computer Engineering course, it is very challenging, it is recommended that you have taken prior CS courses or if you have teacher approval because you have made them aware of some prior experience elsewhere.

Introduction to Robotics

Course Number: 397101R / 397102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Computer Science; Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Introduction to Robotics is a course designed to introduce students to the branch of technology that deals with the design, construction, operation, and application of robotic mechanisms. Students will explore various applications of STEM through computer programming, 3D design drafting, applied physics and mathematics as well as robot construction. This course will include hands-on activities and team projects. Students will be able to design, build and program robots that use a variety of sensors to interact with the environment. Students will use robotics to design and propose a solution to a challenging, real-world problem.

Honors Introduction to Robotics

Course Number: 397101H / 397102H
Course Level: Honors
Number of Credits Earned: 1.0
Career & Technical Education

Course Descriptions

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Introduction to Robotics is a course designed to introduce students to the branch of technology that deals with the design, construction, operation, and application of robotic mechanisms. Students will explore various applications of STEM through computer programming, 3D design drafting, applied physics and mathematics as well as robot construction. This course will include hands-on activities and team projects. Students will be able to design, build and program robots that use a variety of sensors to interact with the environment. Students will use robotics to design and propose a solution to a challenging, real-world problem.

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**Robotics II**

**Course Number:** 397201R / 397202R

**Course Level:** Regular

**Prerequisites:** Introduction to Robotics

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Robotics II is a project-based course where students apply and expand upon existing principles of technological design and robotics. Students will learn about the operation and application of advanced, industrial-grade robotic mechanisms. Students will have the opportunity to use professional computer programming environments, 3D design software and industrial grade hardware to design, program and build custom robots. Students will collaborate in specialized teams such as programming, robotics drivetrain, pneumatics and electronics in order to build robots that can solve problems in medicine, animatronics and industry.

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**Honors Robotics II**

**Course Number:** 397201H / 397202H

**Course Level:** Honors

**Prerequisites:** Introduction to Robotics

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Robotics II is a project-based course where students apply and expand upon existing principles of technological design and robotics. Students will learn about the operation and application of advanced, industrial-grade robotic mechanisms. Students will have the opportunity to use professional computer programming environments, 3D design software and industrial grade hardware to design, program and build custom robots. Students will collaborate in specialized teams such as programming, robotics drivetrain, pneumatics and electronics in order to build robots that can solve problems in medicine, animatronics and industry.

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**Honors Intro to Artificial Intelligence**

**Course Number:** 667101H / 667102H

**Course Level:** Honors

**Prerequisites:** Introductory programming course

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Computer Science; Career Ed; Elective

**Teacher Certification:** Computer Science

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Intended for students who have completed an introductory programming course. In parallel to learning object oriented programming concepts in Python, students will get a high level introduction to several data structures and algorithms.
Certified Net Tech I

Course Number: 734101R / 734102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Computer Networking I is a skill-level course designed to provide students with the skills needed to setup, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Instruction will include network planning decisions, such as choosing an appropriate network configuration, determining the performance level requirements considering the differences among operating systems, and recommending network interface cards and cabling. Students will also learn how to setup and manage file systems and resources, and network topologies, protocols, and system utilities to efficiently run software applications on a network. Students will learn to use basic operating system commands, install and configure networks, set up user accounts and rights, and establish user security and permissions.

CTE Program: Business System Networking

Computer Networking I

Course Number: 792101R / 792102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Computer Networking II is a skill-level course for students...
who have completed Computer Networking I. Students will continue to learn skills to set up, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Students will learn to use troubleshooting services, system monitoring utilities, and data backup and recovery systems. Instruction will include setting up and configuring various network services such as TCP/IP, DHCP, DNS, VPN, terminal services, e-mail, content filtering, and web services. Students will learn techniques to secure and protect network servers and data. Students will be introduced to some basic concepts regarding web server configuration. Students will also learn to use standard software tools to determine system vulnerabilities and correct these vulnerabilities by reconfiguring the operating system. Students will diagnose network problems using public domain network sniffers such as Ethereal. Instruction will include setting up and configuring a firewall, intrusion detection system, and encryption software for identifying and preventing potential network attacks.

CTE Program: Business System Networking

Certified Net Tech I

Course Number: 734131H / 734132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Computer Networking I is a skill-level course designed to provide students with the skills needed to setup, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Instruction will include network planning decisions, such as choosing an appropriate network configuration, determining the performance level requirements considering the differences among operating systems, and recommending network interface cards and cabling. Students will also learn how to setup and manage file systems and resources, and network topologies, protocols, and system utilities to efficiently run software applications on a network. Students will learn to use basic operating system commands, install and configure networks, set up user accounts and rights, and establish user security and permissions.

CTE Program: Cisco Networking

Computer Networking II

Course Number: 792131H / 792132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Computer Networking II is a skill-level course for students who have completed Computer Networking I. Students will continue to learn skills to set up, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Students will learn to use troubleshooting services, system monitoring utilities, and data backup and recovery systems. Instruction will include setting up and configuring various network services such as TCP/IP, DHCP, DNS, VPN, terminal services, e-mail, content filtering, and web services. Students will learn techniques to secure and protect network servers and data. Students will be introduced to some basic concepts regarding web server configuration. Students will also learn to use standard software tools to determine system vulnerabilities and correct these vulnerabilities by reconfiguring the operating system. Students will diagnose network problems using public domain network sniffers such as Ethereal. Instruction will include setting up and configuring a firewall, intrusion detection system, and encryption software for identifying and preventing potential network attacks.

CTE Program: Cisco Networking
Computer Networking I

Course Number: 792101R / 792102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Cisco Network Management classes. The primary purpose of this course is to give students the preparation needed to successfully pass the CompTIA A+ Essentials, exam code 220-701; and CompTIA A+ Practical Application, exam code 220-702. Technical understanding of computer technology, networking and security, as well as the communication skills and professionalism are emphasized in this course. In addition students will acquire the knowledge and skills of an entry-level IT Professional. The following topics will be examined:

- PC Hardware Components
- Operating systems
- Memory technologies
- Basic Principles of support I/O devices
- Procedures to support PCs, preventive maintenance and troubleshooting
- Networking Technologies
- Considerations for supporting Notebooks, peripheral devices and troubleshooting
- Windows Installation, preventive maintenance, and Windows utilities
- Printer types and features, maintaining and troubleshooting printers
- Security fundamentals, security policies, protecting resources and security maintenance

CTE Program: Cisco Networking

Comp Networking II

Course Number: 792201R / 792202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of the Computer Science classes. The Cisco CCNA Discovery curriculum provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development. In addition students will acquire the knowledge and skills of an entry-level network technician position. Students will complete two of four CCNA Discovery courses. After completing the first two courses students will gain the necessary preparation needed to successfully pass the Cisco CCENT certification exam.

CTE Program: Cisco Networking

Computer Networking I

Course Number: 792131H / 792132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Cisco Network Management classes. The primary purpose of this course is to give students the preparation needed to successfully pass the CompTIA A+ Essentials, exam code 220-701; and CompTIA A+ Practical Application, exam code 220-702. Technical understanding of computer technology, networking and security, as well as the communication
skills and professionalism are emphasized in this course. In addition students will acquire the knowledge and skills of an entry-level IT Professional. The following topics will be examined:

- PC Hardware Components
- Operating systems
- Memory technologies
- Basic Principles of support I/O devices
- Procedures to support PCs, preventive maintenance and troubleshooting
- Networking Technologies
- Considerations for supporting Notebooks, peripheral devices and troubleshooting
- Windows Installation, preventive maintenance, and Windows utilities
- Printer types and features, maintaining and troubleshooting printers
- Security fundamentals, security policies, protecting resources and security maintenance

CTE Program: Cisco Networking

Comp Networking II

Course Number: 792231H / 792232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of the Computer Science classes. The Cisco CCNA Discovery curriculum provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development. In addition students will acquire the knowledge and skills of an entry-level network technician position. Students will complete two of four CCNA Discovery courses. After completing the first two courses students will gain the necessary preparation needed to successfully pass the Cisco CCENT certification exam.

CTE Program: Computer Engineering

Java and Media Comp

Course Number: 723131H / 723132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
In this course, you will learn the fundamentals of computer programming using the Java programming language. Course objectives:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs: assignment, decisions, repetition, functions and parameters, variables, and structural decomposition.
2. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
3. Create algorithms for solving simple problems.
4. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.
5. Design, implement, test, and debug simple programs in an object-oriented programming language.
6. Implement some of the most common quadratic and O(NlogN) sorting algorithms.

CTE Program: Computer Engineering
Digital Comp Sys

Course Number: 723231H / 723232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed for students who have successfully completed Java and Media Computation, and have a desire to explore how a computer is able to “think”. Many CS students are missing the forest for the trees, and this course aims to restore the big picture. By gradually constructing and unit-testing a complete hardware platform and a modern software hierarchy from the ground up, you will discover how computer systems work, and how they are built. You will apply some of the most important algorithms, data structures, and techniques learned in college-level CS courses. This course guides you through the construction of a modern, full-scale computer system (hardware and software) from first principles.

CTE Program: Computer Engineering

Adv Data Structures

Course Number: 723301A and 723302A
Course Level: Advanced
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course extends the concepts of CS1 and CS2 with an emphasis on object-oriented programming (OOP) and design. This course will prepare students to take the AP® Computer Science exam and covers topics typically found in a first semester college computer programming course. Students will learn how to problem solve and to create software using the Java programming language. Course content is focused on learning the logic structures universal to most all programming languages: loops, if statements, arrays, etc. Other topics include program design and implementation, algorithm analysis, and object-oriented programming design. This course is intended to serve both as an introductory course for computer science majors and for students who will major at disciplines that require significant involvement with computing.

CTE Program: Computer Programming

Computer Prog I

Course Number: 798101R / 798102R
Course Level: Regular
Course Descriptions

Career & Technical Education

Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
In this course, you will learn the fundamentals of computer programming using the Java programming language. Course objectives:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs: assignment, decisions, repetition, functions and parameters, variables, and structural decomposition.
2. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
3. Create algorithms for solving simple problems.
4. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.
5. Design, implement, test, and debug simple programs in an object-oriented programming language.
6. Implement some of the most common quadratic and O(NlogN) sorting algorithms.

CTE Program: Computer Programming

Computer Prog II

Course Number: 798201R / 798202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course is designed for students who have successfully completed Java and Media Computation, and have a desire to explore how a computer is able to “think”. Many CS students are missing the forest for the trees, and this course aims to restore the big picture. By gradually constructing and unit-testing a complete hardware platform and a modern software hierarchy from the ground up, you will discover how computer systems work, and how they are built. You will apply some of the most important algorithms, data structures, and techniques learned in college-level CS courses. This course guides you through the construction of a modern, full-scale computer system (hardware and software) from first principles.

CTE Program: Computer Programming

Computer Prog I

Course Number: 798131H / 798132H
Course Level: Honors
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
In this course, you will learn the fundamentals of computer programming using the Java programming language. Course objectives:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs: assignment, decisions, repetition, functions and parameters, variables, and structural decomposition.
2. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
3. Create algorithms for solving simple problems.
4. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.

5. Design, implement, test, and debug simple programs in an object-oriented programming language.

6. Implement some of the most common quadratic and O(NlogN) sorting algorithms.

CTE Program: Computer Programming

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Computer Prog I

Course Number: 796131H / 796132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
In this course, you will learn the fundamentals of computer programming using the Java programming language. Course objectives:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs: assignment, decisions, repetition, functions and parameters, variables, and structural decomposition.

2. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.

3. Create algorithms for solving simple problems.

4. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.

5. Design, implement, test, and debug simple programs in an object-oriented programming language.

CTE Program: Computer Programming

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Computer Prog II

Course Number: 798231H / 798232H
Course Level: Honors
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This course is designed for students who have successfully completed Java and Media Computation, and have a desire to explore how a computer is able to “think”. Many CS students are missing the forest for the trees, and this course aims to restore the big picture. By gradually constructing and unit-testing a complete hardware platform and a modern software hierarchy from the ground up, you will discover how computer systems work, and how they are built. You will apply some of the most important algorithms, data structures, and techniques learned in college-level CS courses. This course guides you through the construction of a modern, full-scale computer system (hardware and software) from first principles.

CTE Program: Computer Programming

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Computer Prog II

Course Number: 796231H / 796232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is designed for students who have successfully completed Java and Media Computation, and have a desire to explore how a computer is able to “think”. Many CS students are missing the forest for the trees, and this course aims to restore the big picture. By gradually constructing and unit-testing a complete hardware platform and a modern software hierarchy from the ground up, you will discover how computer systems work, and how they are built. You will apply some of the most important algorithms, data structures, and techniques learned in college-level CS courses. This course guides you through the construction of a modern, full-scale computer system (hardware and software) from first principles.

CTE Program: Game Programming

**Gaming Concepts I**

**Course Number:** 721101R / 721102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Students will employ concepts of Science, Technology, Engineering, Art and Technology to synthesize computer games. Students will learn the value of interdisciplinary teamwork while reflecting on their own personal strengths and weaknesses. Students will develop problem-solving skills in computer project design. Students will develop an understanding of the purpose of games, how modern video games are assembled and useful marketing distribution channels. Students will apply all areas of learning to design an original video game within budget and time constraints in a simulated team design studio setting. Students will master several software applications to aid in the design of computer games and associated assets.

CTE Program: Game Programming

**Gaming Concepts II**

**Course Number:** 721201R / 721202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
Students will explore all components needed to create an advanced video game project. Composition sections focus on design, character, story, interaction, strategy, art, sound, simulation and programming. Using a variety of software, students will develop unique game stories and design role playing games. Industry standard documents will be created to guide design in a simulated design team environment. Assets such as 3D art, animated graphics, and sound will be integrated into finished designs. Physics will be simulated within the game environment. Programming basics will be utilized in a variety of computer languages to include Visual Basics, Python, Ruby and C++. The end results will be a portfolio of work to showcase mastery of the composition elements of video game design.

CTE Program: Game Programming

**Gaming Concepts I**

**Course Number:** 721131H / 721132H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Students will employ concepts of Science, Technology, Engineering, Art and Technology to synthesize computer games. Students will learn the value of interdisciplinary teamwork while reflecting on their own personal strengths...
and weaknesses. Students will develop problem-solving skills in computer project design. Students will develop an understanding of the purpose of games, how modern video games are assembled and useful marketing distribution channels. Students will apply all areas of learning to design an original video game within budget and time constraints in a simulated team design studio setting. Students will master several software applications to aid in the design of computer games and associated assets.

CTE Program: Game Programming

Gaming Concepts II

Course Number: 721231H / 721232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students will explore all components needed to create an advanced video game project. Composition sections focus on design, character, story, interaction, strategy, art, sound, simulation and programming. Using a variety of software, students will develop unique game stories and design role playing games. Industry standard documents will be created to guide design in a simulated design team environment. Assets such as 3D art, animated graphics, and sound will be integrated into finished designs. Physics will be simulated within the game environment. Programming basics will be utilized in a variety of computer languages to include Visual Basics, Python, Ruby and C++. The end results will be a portfolio of work to showcase mastery of the composition elements of video game design.

Gaming-Concepts I

Course Number: 721151R / 721152R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students will employ concepts of Science, Technology, Engineering, Art and Technology to synthesize computer games. Students will learn the value of interdisciplinary teamwork while reflecting on their own personal strengths and weaknesses. Students will develop problem-solving skills in computer project design. Students will develop an understanding of the purpose of games, how modern video games are assembled and useful marketing distribution channels. Students will apply all areas of learning to design an original video game within budget and time constraints in a simulated team design studio setting. Students will master several software applications to aid in the design of computer games and associated assets.

Gaming-Concepts II

Course Number: 721251R / 721252R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students will explore all components needed to create an advanced video game project. Composition sections focus on design, character, story, interaction, strategy, art, sound, simulation and programming. Using a variety of software, students will develop unique game stories and design role playing games. Industry standard documents will be created to guide design in a simulated design team environment. Assets such as 3D art, animated graphics, and sound will be integrated into finished designs. Physics will be simulated within the game environment. Programming basics will be utilized in a variety of computer languages to include Visual Basics, Python, Ruby and C++. The end results will be a portfolio of work to showcase mastery of the composition elements of video game design.
languages to include Visual Basics, Python, Ruby and C++. The end results will be a portfolio of work to showcase mastery of the composition elements of video game design.

CTE Program: IT Applications

Info Tech Apps I

Course Number: 735101R / 735102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Information Processing I is a skill-level course that includes the concepts and terminology related to the people, equipment, and procedures of information processing as well as skill development in the use of information processing equipment. Students will operate computer equipment to prepare memos, letters, reports, and forms. Students will create rough drafts, correct copy, process incoming and outgoing telephone calls and mail, and transmit and receive messages electronically. Students will create, input, and update databases and spreadsheets. Students will create data directories; copy, rename, move, and delete files, and perform backup procedures. In addition, students will prepare files to merge, as well as create mailing labels and envelopes from merge files. Students will learn to locate and retrieve information from hard copy and electronic sources, and prepare masters for a presentations using presentation software. Students will apply proper grammar, punctuation, spelling and proofreading practices. Accuracy will be emphasized. Workplace skills as well as communication skills (thinking, listening, composing, revising, editing, and speaking) will be taught and integrated throughout this course.

CTE Program: IT Applications

Info Tech Apps II

Course Number: 735201R / 735202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Information Processing II is a skill-level course for students who have completed Information Processing I. Students will create and update documents using word processing and desktop publishing programs and put together slideshows, speaker notes and handouts using presentation software. Students will revise data in a stored database and use queries to create customized reports. Students will edit and utilize calculation functions in spreadsheets, integrate graphics, spreadsheets, tables, text and data into documents and reports, and create graphs and charts from spreadsheets. Students will learn to conduct research on the internet and/or intranet, prepare and answer routine correspondence, organize and maintain a filing system, maintain an appointment calendar, make travel arrangements, prepare itineraries and expense reports, and prepare and process timesheets. In addition, students will maintain inventory, order equipment and supplies, and perform routine equipment maintenance. Students will apply proper grammar, punctuation, spelling and proofreading practices to documents and reports. Accuracy will be emphasized. Workplace skills as well as communication skills will be taught and integrated throughout this course. A simulated information processing center or workbased learning experience may be used to provide students with the experience of working in the environment of an information processing center.

CTE Program: IT Applications

Info Tech Apps I

Course Number: 735131H / 735132H
**Career & Technical Education**

**Course Descriptions**

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**Course Level:** Honors

**Number of Credits Earned:** 2.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**

Information Processing I is a skill-level course that includes the concepts and terminology related to the people, equipment, and procedures of information processing as well as skill development in the use of information processing equipment. Students will operate computer equipment to prepare memos, letters, reports, and forms. Students will create rough drafts, correct copy, process incoming and outgoing telephone calls and mail, and transmit and receive messages electronically. Students will create, input, and update databases and spreadsheets. Students will create data directories; copy, rename, move, and delete files, and perform backup procedures. In addition, students will prepare files to merge, as well as create mailing labels and envelopes from merge files. Students will learn to locate and retrieve information from hard copy and electronic sources, and prepare masters for a presentations using presentation software. Students will apply proper grammar, punctuation, spelling and proofreading practices. Accuracy will be emphasized. Workplace skills as well as communication skills (thinking, listening, composing, revising, editing, and speaking) will be taught and integrated throughout this course.

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CTE Program: IT Applications

**Info Tech Apps I**

**Course Number:** 797101R / 797102R

**Course Level:** Regular

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**

Information Processing I is a skill-level course that includes the concepts and terminology related to the people, equipment, and procedures of information processing as well as skill development in the use of information processing equipment. Students will operate computer equipment to prepare memos, letters, reports, and forms. Students will create rough drafts, correct copy, process incoming and outgoing telephone calls and mail, and transmit and receive messages electronically. Students will create, input, and update databases and spreadsheets. Students will create data directories; copy, rename, move, and delete files, and perform backup procedures. In addition, students will prepare files to merge, as well as create mailing labels and envelopes from merge files. Students will learn to locate and retrieve information from hard copy and electronic sources, and prepare masters for a presentations using presentation software. Students will apply proper grammar, punctuation, spelling and proofreading practices to documents and reports. Accuracy will be emphasized. Workplace skills as well as communication skills will be taught and integrated throughout this course. A simulated information processing center or workbased learning experience may be used to provide students with the experience of working in the environment of an information processing center.

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CTE Program: IT Applications

**Info Tech Apps II**

**Course Number:** 735231H / 735232H

**Course Level:** Honors

**Number of Credits Earned:** 2.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**

Information Processing II is a skill-level course for students who have completed Information Processing I. Students will create and update documents using word processing and desktop publishing programs and put together slideshows, speaker notes and handouts using presentation software. Students will revise data in a stored database and use queries to create customized reports. Students will edit and utilize calculation functions in spreadsheets, integrate graphics, spreadsheets, tables, text and data into documents and reports, and create graphs and charts from spreadsheets. Students will learn to conduct research on the internet and/or intranet, prepare and answer routine correspondence, organize and maintain a filing system, maintain an appointment calendar, make travel arrangements, prepare itineraries and expense reports, and prepare and process timesheets. In addition, students will maintain inventory, order equipment and supplies, and perform routine equipment maintenance. Students will apply proper grammar, punctuation, spelling and proofreading practices to documents and reports. Accuracy will be emphasized. Workplace skills as well as communication skills will be taught and integrated throughout this course. A simulated information processing center or workbased learning experience may be used to provide students with the experience of working in the environment of an information processing center.
processing equipment. Students will operate computer equipment to prepare memos, letters, reports, and forms. Students will create rough drafts, correct copy, process incoming and outgoing telephone calls and mail, and transmit and receive messages electronically. Students will create, input, and update databases and spreadsheets. Students will create data directories; copy, rename, move, and delete files, and perform backup procedures. In addition, students will prepare files to merge, as well as create mailing labels and envelopes from merge files. Students will learn to locate and retrieve information from hard copy and electronic sources, and prepare masters for a presentations using presentation software. Students will apply proper grammar, punctuation, spelling and proofreading practices. Accuracy will be emphasized. Workplace skills as well as communication skills (thinking, listening, composing, revising, editing, and speaking) will be taught and integrated throughout this course.

CTE Program: IT Applications

Info Tech Apps II

Course Number: 797201R / 797202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Information Processing II is a skill-level course for students who have completed Information Processing I. Students will create and update documents using word processing and desktop publishing programs and put together slideshows, speaker notes and handouts using presentation software. Students will revise data in a stored database and use queries to create customized reports. Students will edit and utilize calculation functions in spreadsheets, integrate graphics, spreadsheets, tables, text and data into documents and reports, and create graphs and charts from spreadsheets. Students will learn to conduct research on the internet and/or intranet, prepare and answer routine correspondence, organize and maintain a filing system, maintain an appointment calendar, make travel arrangements, prepare itineraries and expense reports, and prepare and process timesheets. In addition, students will maintain inventory, order equipment and supplies, and perform routine equipment maintenance. Students will apply proper grammar, punctuation, spelling and proofreading practices to documents and reports. Accuracy will be emphasized. Workplace skills as well as communication skills will be taught and integrated throughout this course. A simulated information processing center or workbased learning experience may be used to provide students with the experience of working in the environment of an information processing center.

CTE Program: IT Applications

Info Tech Apps I

Course Number: 797131H / 797132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Information Processing I is a skill-level course that includes the concepts and terminology related to the people, equipment, and procedures of information processing as well as skill development in the use of information processing equipment. Students will operate computer equipment to prepare memos, letters, reports, and forms. Students will create rough drafts, correct copy, process incoming and outgoing telephone calls and mail, and transmit and receive messages electronically. Students will create, input, and update databases and spreadsheets. Students will create data directories; copy, rename, move, and delete files, and perform backup procedures. In addition, students will prepare files to merge, as well as create mailing labels and envelopes from merge files. Students will learn to locate and retrieve information from hard copy and electronic sources, and prepare masters for a presentations using presentation software. Students will apply proper grammar, punctuation, spelling and
proofreading practices. Accuracy will be emphasized. Workplace skills as well as communication skills (thinking, listening, composing, revising, editing, and speaking) will be taught and integrated throughout this course.

CTE Program: IT Applications

Info Tech Apps II

Course Number: 797231H / 797232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Information Processing II is a skill-level course for students who have completed Information Processing I. Students will create and update documents using word processing and desktop publishing programs and put together slideshows, speaker notes and handouts using presentation software. Students will revise data in a stored database and use queries to create customized reports. Students will edit and utilize calculation functions in spreadsheets, integrate graphics, spreadsheets, tables, text and data into documents and reports, and create graphs and charts from spreadsheets. Students will learn to conduct research on the internet and/or intranet, prepare and answer routine correspondence, organize and maintain a filing system, maintain an appointment calendar, make travel arrangements, prepare itineraries and expense reports, and prepare and process timesheets. In addition, students will maintain inventory, order equipment and supplies, and perform routine equipment maintenance. Students will apply proper grammar, punctuation, spelling and proofreading practices to documents and reports. Accuracy will be emphasized. Workplace skills as well as communication skills will be taught and integrated throughout this course. A simulated information processing center or workbased learning experience may be used to provide students with the experience of working in the environment of an information processing center.

CTE Program: Network Cabling

Converging Tech I

Course Number: 729101R / 729102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Converging Technologies I is a skill-level course designed to provide students with the skills needed to setup, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Instruction will include network planning decisions, such as choosing an appropriate network configuration, determining the performance level requirements considering the differences among operating systems, and recommending network interface cards and cabling. Students will also learn how to setup and manage file systems and resources, and network topologies, protocols, and system utilities to efficiently run software applications on a network. Students will learn to use basic operating system commands, install and configure networks, set up user accounts and rights, and establish user security and permissions.

Converging Tech II

Course Number: 729201R / 729202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters
Career & Technical Education

Course Descriptions

**COURSE DESCRIPTION:**
Converging Technologies II is a skill-level course for students who have completed Converging Technologies I. Students will continue to learn skills to set up, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Students will learn to use troubleshooting services, system monitoring utilities, and data backup and recovery systems. Instruction will include setting up and configuring various network services such as TCP/IP, DHCP, DNS, VPN, terminal services, e-mail, content filtering, and web services. Students will learn techniques to secure and protect network servers and data. Students will be introduced to some basic concepts regarding web server configuration. Students will also learn to use standard software tools to determine system vulnerabilities and correct these vulnerabilities by reconfiguring the operating system. Students will diagnose network problems using public domain network sniffers such as Ethereal. Instruction will include setting up and configuring a firewall, intrusion detection system, and encryption software for identifying and preventing potential network attacks.

CTE Program: Network Cabling

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**Converging Tech II**

**Course Number:** 729231H / 729232H  
**Course Level:** Honors  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
Converging Technologies II is a skill-level course for students who have completed Converging Technologies I. Students will continue to learn skills to set up, configure, test, troubleshoot, maintain, and administer a data network using various network operating systems such as Novell, Windows, and Linux. Students will learn to use troubleshooting services, system monitoring utilities, and data backup and recovery systems. Instruction will include setting up and configuring various network services such as TCP/IP, DHCP, DNS, VPN, terminal services, e-mail, content filtering, and web services. Students will learn techniques to secure and protect network servers and data. Students will be introduced to some basic concepts regarding web server configuration. Students will also learn to use standard software tools to determine system vulnerabilities and correct these vulnerabilities by reconfiguring the operating system. Students will diagnose network problems using public domain network sniffers such as Ethereal. Instruction will include setting up and configuring a firewall, intrusion detection system, and encryption software for identifying and preventing potential network attacks.
Course Descriptions

Career & Technical Education

CTE Program: Oracle / Database Programming

Relational DB I

Course Number: 722101R / 722102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Database Programming classes. The primary purpose of this course is to prepare students to pursue careers in business, marketing, accounting, database management, or the myriad fields of information technology. Data modeling forms the basis for identifying the information needs of businesses. The following topics will be examined:

- Data modeling
- Entity Relationship Diagramming (ERD)
- System Development Life Cycle (SDLC) and how it relates to Structured Query Language SQL
- Constructing simple Select statements and clauses

The culminating activity of this class will be to sit for the first of two exams required to earn certificates as Oracle Certified Associates (this is funded by the IT program). Upon successful completion of the exam students will receive the corresponding Level 1 certificate.

CTE Program: Oracle / Database Programming

Relational DB II

Course Number: 722201R / 722202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of Database Programming classes. The primary purpose of this course is to prepare students to pursue careers in business, marketing, accounting, database management, or the myriad fields of information technology. Data modeling forms the basis for identifying the information needs of businesses. The following topics will be examined:

- Key points about case and character manipulation
- Number, date, conversion and general functions
- Conditional expressions
- Cartesian product and join operations
- Non-equijoins, outer joins, self joins, cross joins, natural joins and join clauses
- Group functions, group by syntax and having clauses
- Single-row and multiple row subqueries
- Pair-wise and non-pair-wise subqueries
- Correlated subqueries
- DML statements, insert, update, delete, merge and multi-table inserts
- DDL statements, FLASHBACK TABLE, DROP and FLASHBACK QUERY

The culminating activity of this class will be to sit for the second of two exams required to earn the Oracle Certified Associate (OCA) Certification (this is funded by the IT program). Upon successful completion of the exam students will receive the corresponding Level 2 certificate.

CTE Program: Oracle / Database Programming

Relational DB I

Course Number: 722131H / 722132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective

Recommended Course Duration: Double period, 2 semesters
Career & Technical Education

Course Descriptions

Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Database Programming classes. The primary purpose of this course is to prepare students to pursue careers in business, marketing, accounting, database management, or the myriad fields of information technology. Data modeling forms the basis for identifying the information needs of businesses. The following topics will be examined:

- Data modeling
- Entity Relationship Diagramming (ERD)
- System Development Life Cycle (SDLC) and how it relates to Structured Query Language SQL
- Constructing simple Select statements and clauses

The culminating activity of this class will be to sit for the first of two exams required to earn certificates as Oracle Certified Associates (this is funded by the IT program). Upon successful completion of the exam students will receive the corresponding Level 1 certificate.

CTE Program: Oracle / Database Programming

Relational DB II

Course Number: 722231H / 722232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of Database Programming classes. The primary purpose of this course is to prepare students to pursue careers in business, marketing, accounting, database management, or the myriad fields of information technology. Data modeling forms the basis for identifying the information needs of businesses. The following topics will be examined:

- Number, date, conversion and general functions
- Conditional expressions
- Cartesian product and join operations
- Non-equijoins, outer joins, self joins, cross joins, natural joins and join clauses
- Group functions, group by syntax and having clauses
- Single-row and multiple row subqueries
- Pair-wise and non-pair-wise subqueries
- Correlated subqueries
- DML statements, insert, update, delete, merge and multi-table inserts
- DDL statements, FLASHBACK TABLE, DROP and FLASHBACK QUERY

The culminating activity of this class will be to sit for the second of two exams required to earn the Oracle Certified Associate (OCA) Certification (this is funded by the IT program). Upon successful completion of the exam students will receive the corresponding Level 2 certificate.

CTE Program: Software Applications

Computational Thnkng

Course Number: 753131H / 753132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Exploring Computational Thinking is designed to introduce students to the breadth of the field of computer science. The goal of Exploring Computational Thinking is to develop in students the computational thinking practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today’s students. Students will also be introduced to topics such as interface design, limits of computers and societal and ethical issues of software engineering. The
course contains the following units: Human Computer Interaction, Problem Solving, Web Design, Programming, Data Modeling, and Robotics.

CTE Program: Software Applications

Web Page Design

Course Number: 732131H / 732132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course covers various topics of Web design using forms, cascading style sheets, DOM, javascripting, multi-media web developments including animation and ActionScript, and App Inventor for Mobile App developments. The design part also focuses on the elements and the processes of combining text, graphics and or multi-media for page-layout designs.

Students will be using various applications and software packages to design and develop quality online documents and applications.

CTE Program: Software Applications

Database Design

Course Number: 732231H / 732232H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Oracle is the largest vendor of database systems in the world with the largest market share for both MS-Windows and Unix based databases. Oracle is also the second largest independent software company in the world. All 10 of the world’s largest Web sites - from Amazon.com to Yahoo! - use Oracle. Databases are a key technology used in a vast array of applications such as business data processing, decision support systems, expert systems, robotics, web storage, and indexing and searching. This course is a hands-on introduction to the principles, uses, and applications of relational database management systems (DBMS). The goal of the course is to prepare students to be sophisticated database users, applications programmers, and administrators. Students will be able to design and implement database system applications.

CTE Program: Web Design

Web Design Fund I

Course Number: 730101R / 730102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the first of a two year course in IT Web Developer. creating Web-based applications by using Microsoft® Visual Studio® 2008, the Microsoft .NET Framework 3.5, and managed code. This course covers the building of Web applications and Web servers using the Microsoft .NET development platform. Most aspects of Web applications and servers will be covered: architecture, design, coding, data access, etc. The architecture of the .NET development platform will be discussed, as well as practical development issues such as debugging, deployment and security. Design for scalability, performance and availability will be emphasized. Students will also be introduced to Photoshop, Dreamweaver, Flash and Microsoft Expressions.
Web Design Fund II

Course Number: 730201R / 730202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the 2nd course in a two year sequence of Information Technology, Web Developer. IT Web Developer II, Senior level, provides a hands-on introduction to designing, building, and launching websites. Students will use Adobe Dreamweaver, Photoshop, and Flash to create professional websites.

CTE Program: Web Design

Web Design Fund I

Course Number: 730131H / 730132H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the 1st course in a two year course in IT Web Developer creating Web-based applications by using Microsoft® Visual Studio® 2008, the Microsoft .NET Framework 3.5, and managed code. This course covers the building of Web applications and Web servers using the Microsoft .NET development platform. Most aspects of Web applications and servers will be covered: architecture, design, coding, data access, etc. The architecture of the .NET development platform will be discussed, as well as practical development issues such as debugging, deployment and security. Design for scalability, performance and availability will be emphasized. Students will also be introduced to Photoshop, Dreamweaver, Flash and Microsoft Expressions.

CTE Program: Web Design

Web Site Design Fund I

Course Number: 730151R / 730152R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the 1st course in a two year course in IT Web Developer creating Web-based applications by using Microsoft® Visual Studio® 2008, the Microsoft .NET Framework 3.5, and managed code. This course covers the building of Web applications and Web servers using the Microsoft .NET development platform. Most aspects of Web applications and servers will be covered: architecture, design, coding, data access, etc. The architecture of the .NET development platform will be discussed, as well as practical development issues such as debugging, deployment and security. Design for scalability, performance and availability will be emphasized. Students will also be introduced to Photoshop, Dreamweaver, Flash and Microsoft Expressions.
issues such as debugging, deployment and security. Design for scalability, performance and availability will be emphasized. Students will also be introduced to Photoshop, Dreamweaver, Flash and Microsoft Expressions.

CTE Program: Web Design

Web Site Design Fund II

**Course Number:** 730251R / 730252R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This is the 2nd course in a two year sequence of Information Technology, Web Developer. IT Web Developer II, Senior level, provides a hands-on introduction to designing, building, and launching websites. Students will use Adobe Dreamweaver, Photoshop, and Flash to create professional websites.

**MANUFACTURING & ENGINEERING CLUSTER**  
Learn how to design, create, and improve the objects you use every day.

CTE Program: Electronics

Electronics I

**Course Number:** 608101R / 608102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
Electronic I—course provides a survey of the theory, terminology, equipment, and practical experience in the skills needed for careers in the electronics field. This course typically include AC and DC circuitry, safety, and the National Electrical Code.

CTE Program: Electronics

Electronics II

**Course Number:** 608201R / 608202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**  
This course introduces students to the skills needed to service, repair, and replace a wide range of equipment associated with automated or instrument-controlled manufacturing processes. Planned learning activities in this course allow students to become more knowledgeable in the fundamental principles and theories of electrical/electronic and hydraulic/pneumatic equipment as applied to instrumentation devices and digitally encoded radio equipment. Instruction also includes safety principles and practices, semi-conductors and transistor theory, electrical parameters and circuits, electronic component function and identification, and the use and care of related hand tools, power tools, and test equipment.

CTE Program: Electronics

Electronics III

**Course Number:** 624301R / 624302R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2
semesters

**COURSE DESCRIPTION:**
This course provides planned learning activities designed to allow students to gain knowledge and skills in testing, maintaining, and repairing electronic equipment and systems used in the manufacturing industry. Learning activities in this course emphasize the development of more advanced knowledge and skills than those provided in Industrial Electronics I. Skills introduced in this course include instruction in the interpretation of technical sketches, schematics, and circuit diagrams. Additional units of instruction include the identification and causes of equipment malfunctions, the repair and replacement of parts and equipment, the care and use of standard tools, equipment, and specialized instrumentation testing devices.

**CTE Program: Electronics**

**Electronics-II**

**Course Number:** 629201R / 629202R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**
This course introduces students to the skills needed to service, repair, and replace a wide range of equipment associated with automated or instrument-controlled manufacturing processes. Planned learning activities in this course allow students to become more knowledgeable in the fundamental principles and theories of electrical/electronic and hydraulic/pneumatic equipment as applied to instrumentation devices and digitally encoded radio equipment. Instruction also includes safety principles and practices, semi-conductors and transistor theory, electrical parameters and circuits, electronic component function and identification, and the use and care of related hand tools, power tools, and test equipment.

**CTE Program: Equipment & Technology Institute**

**Equip & Tech Inst I**

**Course Number:** 610101R / 610102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**
This is the first course in a three-year sequence of the Equipment and Technology Institute. The Level I course will enable students to develop a basic understanding of the fundamental scientific principles of electricity and
electronics, as well as the basic skills necessary in the use of electrical/electronic tools, materials and components. Students will learn to develop safe work habits, as well as learn the importance of proper procedures and protocol for manufacturing construction and assembly through the use of engaging and challenging mechanical motorized kits and models.

CTE Program: Equipment & Technology Institute

### Equip & Tech Inst II

**Course Number:** 610201R / 610202R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
ETI II is the second course in a three-year sequence of the Equipment and Technology Institute. The Level II course will enable students to develop an increased understanding of the scientific principles of electricity and electronics, as well as acquire basic skills in the use of precision measurements and electrical/electronic devices, through in-class measurement labs. In addition, students will learn about the importance of teamwork, and the importance of following safety rules and regulations in manufacturing. Students will also learn about post-secondary options through college and career readiness initiatives, including participation in the 8-week VWright mentorship program in which they develop resumes, cover letters and personal statements, participate in mock interviews, and college and business site visits. Students will prepare for the ACT Exam through the Prep Me program, and train for the MSSC (Manufacturing Skill Standard Council) National Certification Exam in Safety.

CTE Program: Equipment & Technology Institute

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### Equip & Tech Inst III

**Course Number:** 610301R / 610302R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This is the third course in a three-year sequence of the Equipment and Technology Institute. The Level III course will enable students to develop understanding of small engines through lessons in engine theory, as well as acquire knowledge of small engine components, systems, related tools and national/international measurement devices for small engine manufacture, maintenance, repair, installation, and assembly/disassembly. In addition, students will learn blueprint reading and drafting, as well as quality control and continuous improvement in the assurance of high standards and innovations in Manufacturing. The benefits and strategies for teamwork will be reinforced. Through the College and Career Readiness initiative, students will prepare for post-secondary opportunities after high school graduation, identify their career choices, identify the education needed for those careers, and identify the professional qualities and attributes necessary to compete, excel and succeed in their chosen fields. An important component of the course is that students will also train for MSSC National Certification in Quality Practices and Measurement.

CTE Program: Machine Technology

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### Machine Tech/CAM I

**Course Number:** 613101R / 613102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters
COURSE DESCRIPTION:
This course is designed to introduce students to various applications in the machine shop. The conventional projects are lathe and milling machine intensive, but also include layout procedures and hand tool applications. Upon successful completion of the projects, the student will have a series of fully functional hand tools, and will have learned many of the procedures needed to effectively operate a variety of machine tools. In addition, 2- and 3-axis computer numerical control (CNC) programming will be introduced. Students will learn basic point-to-point programming, as well as advanced cycle programming, to develop and manufacture a personalized keepsake.

CTE Program: Machine Technology

Machine Tech/CAM II

Course Number: 613201R / 613202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Machine Technology/CAM II is designed to improve previously acquired skills in both conventional machining and Computer Assisted Machining (CAM). Students are introduced to Mastercam, an industrially recognized CAD system. The three conventional projects are all NIMS certifiable, upon successful completion of requirements.

CTE Program: Machine Technology

Machine Tech/CAM III

Course Number: 639301R / 639302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
The Machine Technology/CAM III course is designed to improve previously acquired skills in both conventional machining and Computer Assisted Machining (CAM). Students transition drawings from CAD to CAM. The conventional project was developed by the Machine Tool Advisory council and addresses all aspects of machine technology.

- Available Certifications: MSSC-Quality Practices & Measurement, NIMS CNC operator

CTE Program: Pre-Engineering

Intro Engr Design

Course Number: 699101R / 699102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The major focus of the course is learning how to take an idea through a design process that will eventually be manufactured or produced (solving real world problems). As you learn about various aspects of engineering and engineering design, such as how engineers communicate through drawing, you will apply what you learn through various activities, projects, and problems.

You will use Inventor, a state of the art 3-D design software package from AutoDesk, to help you design solutions to different design projects. Working in teams, you will learn about documenting your solutions, solving problems, and communicating your solutions to other students and members of the professional community of engineering and engineering design.

Introduction to Engineering DesignTM is intended to serve
as a foundation course within the Project Lead The Way® (PLTW) course sequence. All of the topics learned in this course will be used in future courses.

CTE Program: Pre-Engineering

Prin of Engineering

Course Number: 699201R / 699202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Students will employ engineering and scientific concepts in the solution of engineering design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

Principles of Engineering (POE) is the second of three foundation courses in the Project Lead The Way (PLTW) high school engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Digital Electronics

Course Number: 699301R / 699302R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The major focus of the Digital Electronics course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design, and build digital electronic circuits. While implementing these designs, students will continually hone their interpersonal skills, creative abilities, and understanding of the design process.

Digital Electronics is the third of three foundation courses in the Project Lead The Way® high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Comp Integrated Manuf

Course Number: 699601R / 699602R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course applies principles of robotics and automation in manufacturing through computer control. The course builds on computer solid modeling skills developed in Introduction to Engineering Design. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included.

Adv Engineering Dsgn

Course Number: 699701R / 699702R
Course Level: Regular
Course Descriptions

**Career & Technical Education**

**Intro Engr Design**

- **Course Number:** 699131H / 699132H
- **Course Level:** Honors
- **Number of Credits Earned:** 1.0
- **Type of Graduation Credit Earned:** Career Ed; Elective
- **Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**

This course consists of four units including Manufacturing, Energy and Power, Construction and Transportation. The Manufacturing unit examines the advances that maintain manufacturing efficiency, how human consumption affects manufacturing, how manufacturing affects the standard of living of various peoples, and how processing and changing raw materials can produce more desirable products. The Construction unit examines a number of factors influencing the design and construction of permanent and semi-permanent structures, the practices related to construction maintenance, alteration, and renovation and the functions of the primary systems installed in those structures. The Energy & Power unit explores the relationship between energy and power technologies and all other technologies, and how modern energy and power systems impact cultures, societies, and the environment. It also offers an examination of how energy and power systems can become more efficient and how they may be utilized in problem solving. The Transportation unit examines the complex networks of interconnected subsystems that comprise each transportation system, and the roles of these components in the overall functional process of the system. It also analyzes the improvements and the impacts of transportation technologies on the environment, society, and culture.

**Prin of Engineering**

- **Course Number:** 699231H / 699232H
- **Course Level:** Honors
- **Number of Credits Earned:** 1.0
- **Type of Graduation Credit Earned:** Career Ed; Elective
- **Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**

Students will employ engineering and scientific concepts in the solution of engineering design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

Principles of Engineering (POE) is the second of three foundation courses in the Project Lead The Way® (PLTW) course sequence. All of the topics learned in this course will be used in future courses.

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in mathematics, science, and technology.

CTE Program: Pre-Engineering

Digital Electronics

Course Number: 699331H / 699332H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The major focus of the Digital Electronics course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design, and build digital electronic circuits. While implementing these designs, students will continually hone their interpersonal skills, creative abilities, and understanding of the design process.

Civil Engineering and Architecture is one of four specialization courses in the Project Lead The Way® high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Civil Engr and Arch

Course Number: 699431H / 699432H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
The major focus of the CEA course is to expose students to the design and construction of residential and commercial building projects, design teams and teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design, and build electronic and physical models of residential and commercial facilities. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process.

Civil Engineering and Architecture is one of four specialization courses in the Project Lead The Way® high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Design Development

Course Number: 699531H / 699532H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is an advanced course in which students demonstrate mastery of knowledge and skills from previous pre-engineering courses to develop an original product or machine design. In groups using project-based learning, students research, design, and construct a solution to an
engineering problem. Students apply principles developed in the preceding courses and are guided by an industry mentor. Students must present progress reports, submit a final written report, and defend their solutions to a panel of outside reviewers at the end of the course. Students are placed in management situations in production operations to develop leadership and entrepreneurship skills. Students are responsible for scheduling, pricing, procuring materials and equipment, and the maintaining of equipment.

CTE Program: Pre-Engineering

Comp Integrated Manuf

Course Number: 699631H / 699632H
Course Level: Honors
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course applies principles of robotics and automation in manufacturing through computer control. The course builds on computer solid modeling skills developed in Introduction to Engineering Design. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included.

CTE Program: Pre-Engineering (Middle School)

Technological Sys I

Course Number: 698101R / 698102R
Course Level: Regular
Number of Credits Earned Per Semester: 0.25
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course examines specific topics in technology applications.

MEDIA & COMMUNICATION ARTS CLUSTER

Explore the world of entertainment by working on website designs, film production and advertisements.

Broadcast Tech I

Course Number: 671101R / 671102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course provides students with the basic knowledge and skills necessary for television, video, film, and/or radio production. Camera operation, use of graphics and other visuals, lighting, audio techniques, editing, production principles, and career opportunities are typical topics covered within this course.

CTE Program: Broadcast Technology
**Broadcast Tech II**

**Course Number:** 671201R / 671202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**

This course is designed to provide students with the skills needed for a career in the technical aspects of radio and television broadcasting. Instruction includes camera operations, basic audio and video editing, sound and lighting techniques, and sound mixing. Students learn the operation, maintenance, and repair of video and DVD recording equipment, video/digital cameras, microphones, computers, lighting/grip equipment, and other production equipment used in the video and audio production of television programs. Students also learn to use, maintain, and repair various types of audio recorders, amplifiers, transmitters, receivers, microphones, and sound mixers to record and broadcast radio programs.

CTE Program: Broadcast Technology

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**Broadcast Tech III**

**Course Number:** 689201R / 689202R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**

This course is designed to provide students with the skills needed for a career in the technical aspects of radio and television broadcasting. Instruction includes camera operations, basic audio and video editing, sound and lighting techniques, and sound mixing. Students learn the operation, maintenance, and repair of video and DVD recording equipment, video/digital cameras, microphones, computers, lighting/grip equipment, and other production equipment used in the video and audio production of television programs. Students also learn to use, maintain, and repair various types of audio recorders, amplifiers, transmitters, receivers, microphones, and sound mixers to record and broadcast radio programs.

CTE Program: Broadcast Technology
Broadcast Tech III

Course Number: 689301R / 689302R  
Course Level: Regular  
Number of Credits Earned: 1.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: 2 semesters  

COURSE DESCRIPTION:  
This course is for students who have completed Broadcast Technology II. In addition to expanding on the activities explored in the first course, students work in a team-based environment to create a variety of video and audio related broadcasts. Instruction includes single and multi camera operations, linear and nonlinear video editing, production and post-production processes, animation graphics, sound mixing, multi-track production, audio editing, and special effects. Students learn how to use digital editing equipment and software to electronically cut and paste video and sound segments together, as well as how to regulate and monitor signal strength, volume, sound quality, brightness, and clarity of outgoing signals. This course also provides students with an understanding of the FCC and other governmental agencies regulations related to radio and television broadcasting.

CTE Program: Digital Media

Digital Media I

Course Number: 693101R / 693102R  
Course Level: Regular  
Number of Credits Earned: 1.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: 2 semesters  

COURSE DESCRIPTION:  
This is the first course in a three-year sequence of Digital Media classes. In this course you will identify the basic principles of graphic design. You will acquire an understanding of high-resolution images and be able to differentiate between a raster and a vector image. Additionally, you will explore appropriate uses of typography (font), additive and subtractive color. Finally, you will embark upon career eN/Exploration for the graphics industry.

CTE Program: Digital Media

Digital Media II

Course Number: 693201R / 693202R  
Course Level: Regular  
Number of Credits Earned: 2.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters  

COURSE DESCRIPTION:  
This is the second course in a three-year sequence of Digital Media classes. During the second year you will become proficient in Photoshop, InDesign and Illustrator. Applying basic principles of design, you will create live traced images; images for heat press (t-shirts) and build basic animations. You will apply filters, color correction, masking, clipping mask, and blending modes. As the course progresses, you will animate graphics in 2-D and 3-D.

CTE Program: Digital Media

Digital Media III

Course Number: 693301R / 693302R  
Course Level: Regular  
Number of Credits Earned: 2.0  
Type of Graduation Credit Earned: Career Ed; Elective  
Recommended Course Duration: Double period, 2 semesters
COURSE DESCRIPTION:
This is the third course in a three-year sequence of Digital Media classes. You will demonstrate increased proficiency in multimedia skills and the application of design principles. At this level you will plan and develop a website, movie, and DVD through the import and manipulation of different file formats.

PERSONAL CARE SERVICES CLUSTER
Learn how to become a hair stylist or barber, develop strong customer service skills or prepare to open your own shop.

CTE Program: Barbering

Barbering I

Course Number: 826101R / 826102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Barbering I is an introductory course that will allow students to learn by hands-on practical procedures as well as the history and theory associated with the profession. Students will learn the history of barbering, the basics of bacteriology, sterilization and sanitation techniques, basic electricity as it applies to salons, the beginning fundamentals of haircutting, razor cutting mustache and beard trimming, and the fundamentals of shaving.

CTE Program: Cosmetology

Cosmetology I

Course Number: 825101R / 825102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the first course in a three-year sequence of cosmetology. Five student performance outcomes will guide the studies in this course:

- The students should be able to understand history of cosmetology and the career opportunities that are available.
- The student should be able to utilize infection control principles and practices.
- The student should be able to analyze a client’s hair and scalp.
The student should be able to service a live model using appropriate shampooing and conditioning techniques.

The student should be able to exhibit technical and artistic skills essential to Cosmetology.

**Course Level:** Regular  
**Number of Credits Earned:** 3.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Meets 3 Periods per day – 2 Semesters per year

**COURSE DESCRIPTION:**
This is the second course in a three-year sequence of cosmetology. Five student performance outcomes will guide the studies in this course:

- Students will be able to execute the four basic haircutting techniques.
- Students will be able to analyze hair texture to determine the proper chemical product to use on a client.
- Students will be able to explain the relationship of chemistry, electricity and light therapy to cosmetology.
- Students will be able to effectively care for client’s skin and nails.
- Students will develop the fundamentals of owning and operating a business.

**CTE Program:** Cosmetology

**Cosmetology III**

**Course Number:** 825301R / 825302R  
**Course Level:** Regular  
**Number of Credits Earned Per Semester:** 4.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Meets 4 periods per day, 2 semesters

**COURSE DESCRIPTION:**
This course is the final course in a three year sequence of cosmetology. Three student performance outcomes will guide the studies in this course:

- The students will prepare for the Mock Written State Board by completing required class review sessions.
- The students will prepare for the Mock Practical State Board by demonstrating required practicum skills.
- The students will successfully complete the State Cosmetologists Board Exam to earn the required license and qualifications to practice Cosmetology.
- The student will prepare and present a business plan for owning, opening and operating a salon.

**CTE Program:** Cosmetology
State Board by demonstrating required practicum skills.

- The students will successfully complete the State Cosmetologists Board Exam to earn the required license and qualifications to practice Cosmetology.
- The student will prepare and present a business plan for owning, opening and operating a salon.

CTE Program: Cosmetology

### Cosmetology IIIA & Cosmetology IIIB

**Course Number:** 825321R / 825331R & 825322R / 825332R (co-requisite course)

**Course Level:** Regular

**Number of Credits Earned Per Semester:** 4.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** Meets 4 periods per day, 2 semesters

**COURSE DESCRIPTION:**
This course is the final course in a three year sequence of cosmetology. Three student performance outcomes will guide the studies in this course:

- The students will prepare for the Mock Written State Board by completing required class review sessions.
- The students will prepare for the Mock Practical State Board by demonstrating required practicum skills.
- The students will successfully complete the State Cosmetologists Board Exam to earn the required license and qualifications to practice Cosmetology.
- The student will prepare and present a business plan for owning, opening and operating a salon.

CTE Program: CPFTA

### Chgo Pol-Fire Acad I

**Course Number:** 750101R / 750102R

**Course Level:** Regular

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is a basic introduction to basic public safety with an emphasis in urban policing and urban firefighting. This course, from the fire perspective, includes topics like fire safety, fire behavior, fire terminology, basic first aid, fire alarms and responses, basic hazardous material, and fire tools and equipment. In addition, from the police perspective, the course will cover police report writing, conflict management, gang awareness, police rank structure, and law enforcement orientation. Students are geared towards taking the Police Academy or Firefighter Academy Examinations.

CTE Program: CPFTA

### Chgo Pol-Fire Acad II

**Course Number:** 750201R / 750202R

**Course Level:** Regular

**Number of Credits Earned:** 1.0

**Type of Graduation Credit Earned:** Career Ed; Elective

**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This course is an advanced training level course designed to expand upon the student's knowledge and skills previously introduced in CPFTA 1. This course will include fire topics such as: infectious control, high-rise firefighting, arson investigations, flashovers, and backdraft fires. The police emphasis will include topics such as: methods of

**PRE-LAW CLUSTER**

Study criminal justice and victim psychology. Participate in mock trials in a real court room.
Career & Technical Education

Course Descriptions

Investigation, crime rate statistics, and court testimony. Learning will include problem solving and decision making through the ethical model.

CTE Program: CPFTA

**CPFTA-1st Responders**

<table>
<thead>
<tr>
<th>Course Number:</th>
<th>749101R / 749102R</th>
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<tr>
<td>Course Level:</td>
<td>Regular</td>
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<tr>
<td>Number of Credits Earned:</td>
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<tr>
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<tr>
<td>Recommended Course Duration:</td>
<td>2 semesters</td>
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**COURSE DESCRIPTION:**
Emergency Medical Technology courses place a special emphasis on the knowledge and skills needed in medical emergencies. Topics typically include clearing airway obstructions, controlling bleeding, bandaging, methods for lifting and transporting injured persons, simple spinal immobilization, infection control, stabilizing fractures, and responding to cardiac arrest. The courses may also cover the legal and ethical responsibilities involved in dealing with medical emergencies.

CTE Program: Pre-Law

**Civil Const Law**

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<tr>
<th>Course Number:</th>
<th>748231H / 748232H</th>
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<tr>
<td>Course Level:</td>
<td>Honors</td>
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<tr>
<td>Number of Credits Earned:</td>
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<td>Career Ed; Elective</td>
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<tr>
<td>Recommended Course Duration:</td>
<td>2 semesters</td>
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**COURSE DESCRIPTION:**
This law course is the second in a four-year sequence of law classes and is divided into two sections. The first semester students will study the juvenile justice system as well as civil law and civil litigation including family law, and tort law. The second semester covers consumer education and constitutional rights and responsibilities and the study of a number of landmark U.S. Supreme Court cases. Students will also gain a better understanding of the decision-making process of the Court. In addition, students again compete in a civil mock trial.

CTE Program: Pre-Law

**Criminal Psychology**

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<tr>
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<td>Honors</td>
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<tr>
<td>Recommended Course Duration:</td>
<td>2 semesters</td>
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COURSE DESCRIPTION:
This law course is the third in a four-year law sequence. The course explores the areas of criminology and the American criminal justice system. Students will become familiar with the major theories of the causes of crime, fundamental techniques of investigative procedures and evidence analysis and the relationship between forensic science and criminal investigations.

CTE Program: Pre-Law

LPSA IV - Prac/Intern

Course Number: 748431H / 748432H
Course Level: Honors
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION
This course is the final component of a four-year sequence of law classes that is designed to give students authentic exposure to careers in the American legal system through participation in two 13-week internship experiences. Before starting the internships, students learn crucial job readiness skills including resume writing, interviewing techniques, professional etiquette, effective communication, problem solving and diversity training. Throughout the internship, students will keep a written journal of experiences that will be used to complete their Final Capstone project.

Students will also develop and implement individual plans for their senior year focusing on college applications, financial aid, college essays and college scholarships.

TRANSPORTATION & LOGISTICS CLUSTER
Diagnose and repair cars, trucks and buses; service engines; and develop strategies to get products where they need to be.

CTE Program: Auto Body Repair

Auto Body Repair I

Course Number: 619101R / 619102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the first course in a three-year sequence of Auto Body Repair classes. Automotive Body Repair I presents an overview of the various skills and techniques, as well as the job opportunities associated with the field of Auto Body Repair. Students learn to identify the various parts of an automobile and the tools used to repair the vehicle. Students are introduced to the basic auto body repair skills and terminology. Safety rules are taught, explained and emphasized throughout the class. The following topics will be examined:

- Developing a repair plan
- Maintaining an individual career plan
- Preparing and applying fillers
- Preparing and applying sealers, primers, and paints
- Developing detailing skills

CTE Program: Auto Body Repair

Auto Body Repair II

Course Number: 619201R / 619202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters
**Career & Technical Education**

**Course Descriptions**

**COURSE DESCRIPTION:**
This is the second course in a three-year sequence of Auto Body Repair classes.

Automotive Body Repair II is an intermediate level course designed to acquaint students with the skills and methods employed in the field of Auto Body Repair. The students are introduced to minor damage repairs using sheet metal, plastic, fiberglass and urethane, panel replacement, alignment, and rust repairs. Students learn simple electrical service, automotive maintenance, and the use of refinishing equipment and materials. Students also learn minor glass, trim, and molding servicing procedures. The following topics will be examined:

- Body shop safety
- Developing a repair plan
- Basic estimating procedures
- Metal straightening procedures
- Surface preparation for refinishing

CTE Program: Auto Body Repair

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**Auto Body Repair III**

**Course Number:** 657301R / 657302R
**Course Level:** Regular
**Number of Credits Earned:** 2.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
This is the third course in a three-year sequence of Auto Body Repair classes. Automotive Body Repair III is an advanced level course designed to build on, and reinforce, skills previously introduced and/or developed in Automotive Body Repair II. Students will first review skills learned the previous year, including all shop and tool safety rules. Students repair major collision damage, perform structural repairs, and refinish panels using various materials. They learn to identify and correct imperfections of paint or repair jobs. They are also introduced to environmental and hazardous waste procedures, corrosion applications, and customizing techniques (striping, dying roofs, molding installation, etc.). The following topics will be examined:

- Body shop safety
- Developing a repair plan
- Advanced estimating procedures
- Metal straightening procedures
- Surface preparation for refinishing

CTE Program: Automotive Technology

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**Automotive Tech I**

**Course Number:** 601101R / 601102R
**Course Level:** Regular
**Number of Credits Earned:** 1.0
**Type of Graduation Credit Earned:** Career Ed; Elective
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This is Introduction to Automotive Technology 60110, the first course in a three year sequence of the Automotive Technology Academy. The following topics will be examined:

- How to use the correct tools to get the job done.
- Basic car maintenance why important is it?
- The principles of tires and wheels.
- What is electricity and how does it work?
- Ohms Law
- Digital multimeters
- Batteries service and diagnosis
- Charging system diagnosis and repairs
- Starting system diagnosis and repairs
- Lighting systems diagnosis and repairs
- Gauges, warning devices and driver information systems diagnosis and repairs
Career & Technical Education
Course Descriptions

- Horn and wipers diagnosis and repairs

CTE Program: Automotive Technology

Automotive Tech II

Course Number: 601201R / 601202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Automotive Technology Academy. The following topics will be examined:

- General engine diagnosis
- Diagnosing computerized engine control systems
- Ignition systems diagnostics and repairs
- Understanding fuel, air and exhaust systems diagnostics
- Emissions control systems diagnostic and repairs
- What is exhaust gas recirculation?
- Understanding the importance of evaporative emission control system on today’s cars
- Engine related services
- Performing general brake services and hydraulic system diagnostics
- Disc and drum brake service and diagnostics
- Power assist units and proper service procedures
- Wheel bearings, parking brakes, electrical, Etc. diagnostic and repairs
- Anti-Lock brakes and traction control systems

Automotive Tech III

Course Number: 611301R / 611302R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of the Automotive Technology Academy. The following topics will be examined:

- General suspension and steering system diagnosis
- Steering system diagnosis and repair
- Suspension system diagnosis and repairs
- Related suspension and steering service
- Wheel alignment diagnosis, adjustment, and repair
- Wheel and tire diagnosis and repair
- Understanding service shop operations
- Postsecondary unit for study and employment

Automotive Tech-II

Course Number: 601211R / 601212R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the second course in a three year sequence of the Automotive Technology Academy. The following topics will be examined:

- General engine diagnosis
Career & Technical Education

Course Descriptions

- Diagnosing computerized engine control systems
- Ignition systems diagnostics and repairs
- Understanding fuel, air and exhaust systems diagnostics
- Emissions control systems diagnostic and repairs
- What is exhaust gas recirculation?
- Understanding the importance of evaporative emission control system on today’s cars
- Engine related services
- Performing general brake services and hydraulic system diagnostics
- Disc and drum brake service and diagnostics
- Power assist units and proper service procedures
- Wheel bearings, parking brakes, electrical, etc. diagnostic and repairs
- Anti-Lock brakes and traction control systems
- Understanding service shop operations
- Postsecondary unit for study and employment

CTE Program: Automotive Technology

Automotive Tech-III

Course Number: 601311R / 601312R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This is the third course in a three year sequence of the Automotive Technology Academy. The following topics will be examined:
- General suspension and steering system diagnosis
- Steering system diagnosis and repair
- Suspension system diagnosis and repairs
- Related suspension and steering service
- Wheel alignment diagnosis, adjustment, and repair
- Wheel and tire diagnosis and repair

Diesel I

Course Number: 612101R / 612102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This introductory training course is designed to provide students with classroom and laboratory training in current truck and diesel engine technologies. Instruction during the first semester includes the following: Introduction to Course Syllabus and Shop Safety Practices; classroom and hands-on Introduction to Precision Measurement and Precision Measuring Tools; Introduction to Engine Operation and Theory. The student will participate in the build up of a complete engine from its individual parts and witness this engine running on a stand at the end of the semester. The student will be introduced to diesel engine fuel systems including demonstration of injection pump operation in a test stand. The first semester includes classroom and hands-on experiments with the fundamentals of electricity and electronics. This includes mastery of Ohm's Law and introduction to automotive and trucks electrical components and use of electronic diagnostic equipment.

Diesel II

Course Number: 612201R / 612202R
Course Level: Regular
Number of Credits Earned: 2.0
Course Descriptions

**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters

**COURSE DESCRIPTION:**
The first semester of the second year of the Medium/Heavy Truck Training Course begins with in-depth instruction on shop safety practices. The unit on precision measurement expands to the application of this skill to actual truck components, students will perform a complete tear down, inspection, reconditioning, and reassemble of diesel engines followed by in-depth classroom and laboratory analysis of diesel fuel injection systems. Basic electrical concepts and skills learned as sophomores will be applied to actual truck systems along with introduction to on-board microprocessor controls. This unit is followed by microprocessor applications to truck systems and PC based diagnostic procedures for vehicle electronic systems. Students will also cover details of vehicle electrical systems in class and laboratory work.

The second semester of the junior year will cover hands-on training of Preventive Maintenance (PM) procedures and practices. A key portion of the PM experience will include analysis of the economics of PM. Students will understand oil analysis and how it can predict impending failures in major components such as engines, transmissions and axles. Student skills in failure analysis and problem solving on truck components such as engines, transmissions and axles. This semester will also develop student skills in failure analysis and problem solving on truck components such as cabs; cooling systems; tires and wheels; HVAC. R & R (remove and replace), inspection, diagnostics and repair of steering systems, suspension, hydraulic and air brake systems, and design and diagnostics of anti-lock braking systems (ABS).

**CTE Program: Diesel Technology**

**Diesel III**

**Course Number:** 612301R / 612302R  
**Course Level:** Regular  
**Number of Credits Earned:** 3.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Meets 3 Periods per day – 2 Semesters per year

**COURSE DESCRIPTION:**
The first semester begins with reinforcement of all aspects of technician safety as well as emphasis on the impact of critical repair of vehicle systems and its effect on truck and trailer safety.

This semester concentrates on mechanical and electronic diagnostics of all major truck systems. Students gain proficiency in diagnostic methodology and analysis, the importance of accurate diagnostic methodology and analysis, the importance of accurate diagnostic and hands-on application of modern diagnostic equipment.

The second semester of the senior year will be a managed and coordinated cooperative education program for qualifying seniors. Participating companies will be interviewed and selected on the basis of commitment to the co-op program, and mirroring at least two of the six NATEF elements covered in the truck technician training courses. Administration of the Co-op program will involve course instructor(s), homeroom teacher, guidance counselor, Co-op coordinator, student and parent(s). Interviews will be conducted and placement will comply with all legal, school and participating company requirements.

The program’s cooperative education coordinator will monitor the cooperative education experience for each student. Monthly visits to the training sites will be used to develop criteria for the purpose of generating mid-term and end of semester reports for program evaluation.

**CTE Program: Logistics**

**Transportation Distrib**

**Course Number:** 754101R / 754102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**
This is the first course in a three-year sequence of the Logistics classes. The following topics will be examined:
- Basics of Inventory Management
- Fundamentals of Warehousing
- Supply Chain Models
- Inventory Management Tools and Techniques
- Financial Analysis
- Customer/Market Needs
Career & Technical Education

Course Descriptions

- Distribution Inventory Planning and Control
- Forecasting
- Microsoft Office Suite 2007

CTE Program: Logistics

Warehouse Distrib Ops

Course Number: 754201R / 754202R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
This is the second course in a three-year sequence of the Logistics classes. The following topics will be examined:
- Different methods of organizing a warehouse and the process in which inventory tracking will take place.
- Different methods to deliver a product.
- Case studies base on transportation and warehouse planning.
- Budgeting analysis for a transportation project using technologies such as Microsoft Excel.

CTE Program: Cooperative Education

Interrelate Co-op Rel

Course Number: 627101R / 627102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Cooperative Education is a capstone course designed to assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students' abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.

CTE Program: Cooperative Education

Interrelate Co-op Exp

Course Number: 628101R / 628102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Cooperative Education is a capstone course designed to
assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students’ abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.

CTE Program: Cooperative Education

STEP Related I

Course Number: 880101R / 880102R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
Cooperative Education is a capstone course designed to assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students’ abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.

CTE Program: Cooperative Education

STEP Work Exp I

Course Number: 881101R / 881102R
Course Level: Regular
Number of Credits Earned: 2.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: Double period, 2 semesters

COURSE DESCRIPTION:
Cooperative Education is a capstone course designed to assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students’ abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.
Career & Technical Education

Course Descriptions

CTE Program: Cooperative Education

**STEP Work Exp II**

**Course Number:** 881201R / 881202R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters  

**COURSE DESCRIPTION:**
Cooperative Education is a capstone course designed to assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students’ abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.

CTE Program: WECEP

**WECEP Exp**

**Course Number:** 741101R / 741102R  
**Course Level:** Regular  
**Number of Credits Earned:** 2.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** Double period, 2 semesters  

**COURSE DESCRIPTION:**
Dropout Prevention Program courses vary widely, but typically are targeted at students who have been identified as being at risk of dropping out of or failing in school. Course content may include study skills and individual tutorials; job preparation, readiness, application, or interview skills; communication skills; personal assessment and awareness activities; speaker presentations; and small group seminars.

CTE Program: WECEP

**WECEP Rel**

**Course Number:** 740101R / 740102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**
Dropout Prevention Program courses vary widely, but typically are targeted at students who have been identified as being at risk of dropping out of or failing in school. Course content may include study skills and individual tutorials; job preparation, readiness, application, or interview skills; communication skills; personal assessment and awareness activities; speaker presentations; and small group seminars.

CTE Program: Elective

**Accounting-I**

**Course Number:** 713101R / 713102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters  

**COURSE DESCRIPTION:**
Accounting I is a course assists students pursuing a career in business, marketing, and management. This course includes planned learning experiences that develop initial and basic skills used in systematically computing, classifying, recording, verifying and maintaining numerical data involved in financial and product control records including the paying and receiving of money. Instruction includes information on keeping financial records, summarizing them for convenient interpretation, and analyzing them to provide assistance to management for decision making. Accounting computer applications should be integrated throughout the course where applicable. In addition to stressing basic fundamentals and terminology of accounting, instruction should provide initial understanding of the preparation of budgets and financial reports,
operation of related business machines and equipment, and career opportunities in the accounting field. Processing employee benefits may also be included.

CTE Program: Elective

**Col Car Ready Found**

**Course Number:** 890101R / 890102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
The 4-module course will integrate development of technology skills in all modules and be aligned to Illinois Learning Standards and SCANS workplace standards. The curriculum is comprised of the following modules and related skill assessments:
- Basic Technology Skills
- College & Career Exploration
- Basic Financial Literacy
- College & Career Readiness / Employability

CTE Program: Elective

**Comp Info Tech II**

**Course Number:** 719201R / 719202R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters

**COURSE DESCRIPTION:**  
This course will provide an overview of all aspects of business marketing and management, including the concepts, functions, and skills required for meeting the challenges of operating a business in a global economy. Topics covered will include the various forms of business ownership, including entrepreneurship, as well as the basic functional areas of business (finance, management, marketing, administration and production). Students will be introduced to a wide range of careers in fields such as accounting, financial services, information technology, marketing, and management. Emphasis will be placed on using the computer while studying applications in these careers along with communication skills (thinking, listening, composing, revising, editing, and speaking), math and problem solving. Business ethics as well as other workplace skills will be taught and integrated within this course.

CTE Program: Elective

**Culinary Arts -I**

**Course Number:** 803101R / 803102R  
**Course Level:** Regular  
**Number of Credits Earned:** 1.0  
**Type of Graduation Credit Earned:** Career Ed; Elective  
**Recommended Course Duration:** 2 semesters
Course Descriptions

**Career & Technical Education**

**COURSE DESCRIPTION:**
This course includes classroom and laboratory experiences needed to develop a knowledge and understanding of culinary principles and nutrition for people of all ages. Course content encompasses: food service and preparation management using the decision-making process; meeting basic needs by applying nutrition concepts; meeting health, safety, and sanitation requirements; maximizing resources when planning/preparing/preserving-serving food; applying hospitality skills; analyzing nutritional needs in relation to change; and careers in nutrition and culinary arts, including entrepreneurship investigation.

**Course Number:**
603101R / 603102R

**Course Level:**
Regular

**Number of Credits Earned:**
1.0

**Type of Graduation Credit Earned:**
Fine Arts-Visual; Career Ed; Elective

**Recommended Course Duration:**
2 semesters

**CTE Program:**
Elective

**Digital Media -I**

**Course Number:**
603101R / 603102R

**Course Level:**
Regular

**Number of Credits Earned:**
1.0

**Type of Graduation Credit Earned:**
Fine Arts-Visual; Career Ed; Elective

**Recommended Course Duration:**
2 semesters

**COURSE DESCRIPTION:**
This course will teach students to use artistic techniques to effectively communicate ideas via illustration and other forms of digital or printed media. Topics covered may include concept design, layout, paste-up and techniques such as engraving, etching, silkscreen, lithography, offset, drawing, collage and computer graphics.

**CTE Program:**
Elective

**Drafting Orientation**

**Course Number:**
625101R / 625102R

**Course Level:**
Regular

**Number of Credits Earned:**
1.0

**Type of Graduation Credit Earned:**
Fine Arts – Visual Art; Career Ed; Elective

**Recommended Course Duration:**
2 semesters

**COURSE DESCRIPTION:**
Beginning Drafting is an introductory level drafting course. During this course students will learn the basic fundamentals of drafting and/or computer aided drafting (CAD). The instruction will include the care and use of drafting equipment, freehand sketching, orthographic projection, lettering techniques, dimensioning standards, pictorial drawings, drawing reproduction, and an introduction to CAD.

**CTE Program:**
Elective

**Small Business Ownership**

**Course Number:**
713121R / 713122R

**Course Level:**
Regular

**Number of Credits Earned:**
1.0

**Type of Graduation Credit Earned:**
Career Ed; Elective

**Recommended Course Duration:**
2 semesters

**COURSE DESCRIPTION:**
Entrepreneurship courses acquaint students with the knowledge and skills necessary to own and operate their own businesses. Topics from several fields typically form the course content: economics, marketing principles, human relations and psychology, business and labor law, legal rights and responsibilities of ownership, business and financial planning, finance and accounting, and communication. Several topics surveyed in Business Management courses may also be included.

**Post-Secondary Employment Preparation (PEP) 1/2 Day**

**Course Number:**
082101N / 082102N

**Course Level:**
Non Level

**Prerequisites:**
Completion of Carnegie credits & Student must have an IEP or 504

**Number of Credits Earned:**
0

**Type of Graduation Credit Earned:**
None

**Recommended Course Duration:**
2 semesters

**Teacher Certification Required:**
Type 10 Teaching Certificate

**COURSE DESCRIPTION:**
The Post-Secondary Employment Preparation (PEP) course is designed to provide students with disabilities the knowledge, skills, and experience necessary to succeed in today’s global workforce. This course consists of a half day of community based instructional activities focused on the development of job readiness skills. Training
Post-Secondary Employment Preparation (PEP)
Full Day

Course Number: 082201N / 082202N
Course Level: Non Level
Prerequisites: Completion of Carnegie credits & Student must have an IEP or 504
Number of Credits Earned: 0
Type of Graduation Credit Earned: None
Recommended Course Duration: 2 semesters
Teacher Certification Required: Type 10 Teaching Certificate

COURSE DESCRIPTION:
The Post-Secondary Employment Preparation (PEP) course is designed to provide students with disabilities the knowledge, skills, and experience necessary to succeed in today's global workforce. This course consists of a full day of community based instructional activities focused on the development of job readiness skills. Training sites will be determined based upon availability and matched to student's interests as feasible. Throughout the course, supervisory supports will be transferred from school staff (employer, co-worker, mentor etc.) to natural supports to promote independence. The goal of the PEP program is that the student will be able to perform activities independently without school staff present. Activities, training and student responsibilities will be determined based on requirements of the training site. All course content can be implemented in classroom and/or community settings.

Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is dedicated to providing urban students with the resources, support and networks that make higher education a reality.

CTE Program: Elective

US Empowered II

Course Number: 891201R / 891202R
Course Level: Regular
Number of Credits Earned: 1.0
Type of Graduation Credit Earned: Career Ed; Elective
Recommended Course Duration: 2 semesters

COURSE DESCRIPTION:
This course is dedicated to providing urban students with the resources, support and networks that make higher education a reality.

CTE Program: Elective