



Course Description Guide

2022-23

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ignite-pathways.com

Exploratory Courses

COURSE:	Explore IGNITE Pathways/JAG
COURSE NUMBER:	806
INSTRUCTORS:	Danielle McMahon, Brain Sauter, Justin Esser
COURSE LENGTH:	Year
PREREQUISITE:	None
GRADE LEVEL:	9 - 10
CLASS CAPACITY:	15 students
HIGH SCHOOL CREDITS:	2.0
COLLEGE CREDIT:	N/A

Course Description: Introduction to career opportunities and exploring pathways. Students will get close up and hands on introductions to all of the career paths IGNITE has to offer.

Iowa Jobs for America's Graduates (iJAG) is a graduation enhancement program focusing on personal and career development and future readiness. The class will participate in a variety of classroom activities, assignments, exploration, guest speakers, mentorship, and guidance. Each member will become part of a student leadership organization and have several opportunities to further unlock and enhance their potential.

Required Textbooks: None

Supplemental Materials: Students will be required to bring a computer, a notebook and writing utensil.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Determine characteristics that lead to being a respectful, productive citizen.
- Explore various career paths.
- Ask relevant questions to learn more information.
- Research a variety of topics and report on findings.

Iowa Career and Technical Education Standards: Career Ready Practices

- CRP.10.01 Identify career opportunities within a career cluster that match personal interests, talents, goals, and preferences.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- English (2 credits); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	TradeWorks 1
COURSE NUMBER:	907
INSTRUCTOR:	Brian Sauter
COURSE LENGTH:	Year
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	2.0
COLLEGE CREDIT:	N/A

Course Description: Trade Works I is an introductory class to experience multiple trades, including construction, woodworking, electrical, plumbing, HVAC, masonry, and automotive. This class allows students to learn everything from how to measure out material to full installation in a fun and engaging way.

Required Textbooks: None

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explore various career opportunities within the trades.
- Use basic tools and demonstrate the purpose of each.
- Learn basic knowledge and skills used within each trade.
- Plan, implement, and complete steps of a project.
- Use problem solving skills to accomplish a goal or complete a task.

Iowa Career and Technical Education Standards: Applied Science [Construction]

- CON2.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON3.0 Understand the safe and appropriate use of portable power tools that are common to the residential construction industry and are appropriate to the individual student's level.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- English (2 credits); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Intro to Cosmetology: Trial and Hair
COURSE NUMBER:	903
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course introduces students to cosmetology basics. Students will have an opportunity to learn trendy hair styles as well as how to coordinate other styling techniques.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify basic styling tools in the cosmetology industry.
- Understand basic hair styling techniques.
- Understand coordinating colors on color palettes.
- Determine face shapes and hairstyles that complement each.
- Learn basic beauty and self-care techniques.

Iowa Career and Technical Education Standards: Human Services/Career Ready Practices

- 12.9 Apply design knowledge, skills, processes, and theories and oral, written, and visual presentation skills to communicate design ideas.
- CRP.10.01 Identify career opportunities within a career cluster that match personal interests, talents, goals, and preferences.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- N/A

Program of Study: Welding

COURSE:	Intro to Welding, Safety, and Health of Workers
COURSE NUMBER:	809 (IWCC # WEL-228)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDIT:	1.0

Course Description: Introduction to Welding, Safety & Health of Workers will provide students with orientation of the welding profession and will cover the basics of safety and health within the welding profession.

Required Textbooks: Welding and Metal Fabrication by Larry Jeffus. ISBN-10: 9781133483577

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify and select the proper hand and power tool appropriate for the job.
- Describe methods to maintain tools and equipment.
- Discuss the processes and steps for hazard identification, avoidance, control, and prevention.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Oxy Acetylene Arc Welding
COURSE NUMBER:	564 (IWCC # WEL-259)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDIT:	1.0

Course Description: Oxygen-Acetylene Welding covers the fundamentals and technical knowledge of the welding process on mild steel and cast iron on different thicknesses of metal. Welding safety practices are also emphasized.

Required Textbooks: Welding and Metal Fabrication by Larry Jeffus. ISBN-10: 9781133483577

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate welding safety.
- Demonstrate basic knowledge in welding print reading and welding cutting processes.
- Demonstrate basic knowledge in inspecting and testing welds.
- Demonstrate procedures and welder qualifications.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Arc Welding
COURSE NUMBER:	157 (IWCC # WEL-149)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Arc Welding covers the fundamentals and technical knowledge of arc welding in the flat position on mild steel with different rods on different thicknesses of metal. Welding safety practices are also stressed.

Required Textbooks: Welding and Metal Fabrication by Larry Jeffus. ISBN-10: 9781133483577

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify Shielded Metal Arc Welding (SMAW) equipment, components, and assemblies.
- Demonstrate correct equipment setup, maintenance, shutdown, and cleanup procedures.
- Explain SMAW process operating principles.
- Select suitable polarity, amperage settings, and materials.
- Correlate SMAW process variables to quality of welds.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Gas Metal Arc Welding
COURSE NUMBER:	156 (IWCC # WEL-256)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.5

Course Description: Gas Metal Arc Welding (GMAW) covers safety and GMAW techniques in flat, horizontal, vertical and overhead positions. This course provides a variety of hands-on-projects/experiments in the laboratory setting.

Required Textbooks: Welding and Metal Fabrication by Larry Jeffus. ISBN-10: 9781133483577

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate an understanding of basic GMAW concepts.
- Perform equipment setup and maintenance.
- Correlate process to quality of welds.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Gas Tungsten Arc Welding
COURSE NUMBER:	154 (IWCC # WEL-192)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.0

Course Description: Gas Tungsten Arc Welding (GTAW) will focus on GTAW (TIG) and other related processes. Topics such as process variation, welding in various positions, principles of operation, shielding gasses, and filler rods will be studied. Safety and practical application of these welding processes will be stressed.

Required Textbooks: Welding: Principles and Applications by Larry Jeffus.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Describe and identify GTAW equipment, components, and assemblies.
- Demonstrate correct equipment setup, maintenance, shutdown, and cleanup procedures.
- Explain GTAW operating principles including different processes and polarities.
- Select suitable processes, settings, and materials for specific applications.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Welding Print Reading
COURSE NUMBER:	108 (IWCC # WEL-192)
INSTRUCTOR:	Terry Oestmann
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.0

Course Description: Print Reading & Welding Symbol Interpretation provides instruction in interpreting elements of welding prints (drawing or sketches), focusing on measurement, American Welding Society welding symbols, and fabrication requirements. Students will understand how to prepare, assemble, and tack welding parts according to drawings or sketches, using proper materials and tools.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify basic components of blueprints.
- Read and interpret a welding blueprint and written specifications.
- Demonstrate proper use of an architectural scale.

Iowa Career and Technical Education Standards: Applied Sciences [Welding]

- WLD1: Students understand the planning and layout operations used in welding processes.
- WLD2: Students understand how materials can be processed through the use of welding tools and equipment.
- WLD3: Students understand the various types of welding assembly processes.
- WLD4: Students understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- WLD5: Students understand the purposes and processes of inspection and quality control in welding manufacturing processes.
- WLD6: Students understand various welding systems that require standard hand and machine tools.
- WLD7: Students understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems and materials resource planning.
- WLD8: Students understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Welding Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

Program of Study: Engineering and Drafting

COURSE:	DesignWorks I
COURSE NUMBER:	918
INSTRUCTOR:	Zach Ridder
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9-12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: DesignWorks I introduces students to computer-aided design and computer-aided manufacturing. Students learn to create and edit two-dimensional drawings in a software program utilized by industry to create engineering CAD drawings. Students design projects and learn to operate CNC machinery to fabricate their designs.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Utilize the commands and concepts necessary for producing drawings through computer-aided means.
- Use the concepts of geometric construction in the development of design drawings.
- Apply the processes of lettering and text editing.
- Utilize the commands and concepts necessary for editing engineering drawings.
- Use the various object-altering techniques.
- Apply dimensioning to various objects and features.
- Edit dimensions by using various editing methods.

Iowa Career and Technical Education Standards: Applied Sciences [Drafting]

- DFT1. Students recognize historical and current events related to engineering design and their effects on society.
- DFT4. Students understand the effective use of engineering design equipment.
- DFT5. Students know various object-editing techniques and CAD programs.
- DFT6. Students understand and apply proper dimensioning to drawings.
- DFT9. Students understand the methods of inserting text into a drawing.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- N/A

COURSE:	Technical Drafting and CAD
COURSE NUMBER:	170 (IWCC # CET-208)
INSTRUCTOR:	Paul Ridder
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.0

Course Description: Technical Drafting and CAD introduces students to hands-on technical drawing and computer-aided design. Students learn manual drawings and plot and edit CAD drawings in multiple software programs utilized by industry that create two-dimensional engineering CAD drawings.

Required Textbooks: Cengage Guide to Technical Drawing and Engineering Communication by David L. Goetsch and Raymond L. Rickman ISBN 978-1-285-17301-6

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain the basic concepts of drafting.
- Demonstrate a working knowledge of the Computer aided Design Software programs.
- Place and manipulate geometric elements and text in a design file utilizing multiple CAD programs.
- Practice using drawing aids such as snaps, locks, view controls and element attributes.
- Utilize multiple software to create the initial files for a detailed civil engineering design.

Iowa Career and Technical Education Standards: Applied Sciences [Drafting]

- DFT2.0/EGD2.0 Understand the effective use of engineering design equipment.
- DFT3.0/EGD3.0 Understand measurement systems as they apply to engineering design.
- DFT5.0 Know various object-editing techniques and CAD programs.
- DFT6.0 Understand and apply proper dimensioning to drawings.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Drafting and CAD Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Introduction to CAD/CAM
COURSE NUMBER:	72 (IWCC # CAD-139)
INSTRUCTOR:	Paul Ridder
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Introduction to Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM) demonstrates the integration of Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM). Students learn modern prototyping and machining methods, the use of specific software for converting 2D and 3D CAD drawing geometry directly into toolpath information used to drive numerically controlled turning and milling machines.

Supplemental Materials: Students will need to bring a notebook and writing utensil and 16+GB USB drive. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain the basic concepts of drafting.
- Demonstrate a working knowledge of the Computer aided Design Software programs.
- Place and manipulate geometric elements and text in a design file utilizing multiple CAD programs.
- Practice using drawing aids such as snaps, locks, view controls and element attributes.
- Utilize multiple software to create the initial files for a detailed civil engineering design.

Iowa Career and Technical Education Standards: Applied Sciences [Drafting/Manufacturing]

- DFT4 Students understand the effective use of engineering design equipment.
- DFT5. Students know various object-editing techniques and CAD programs.
- DFT10. Students understand the sketching process used in concept development.
- MNU6. Students understand various machining and forming manufacturing systems that require standard hand and machine tools.
- MET9. Students understand the operation and functions of machine tools in production and prototype work.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Drafting and CAD Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Engineering and Drawing Practices
COURSE NUMBER:	109 (IWCC # EGT-155)
INSTRUCTOR:	Paul Ridder
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: The focus of the course is the development of the technical knowledge and skills required for application and interpretation of technical drawings from various industries. The course will provide students with the fundamentals of drafting and technical documentation generation according to the ASTM Y14.1 (Engineering Drawing Practice) standards. Students will have exposure to Architectural, Mechanical, Electrical drawings.

Required Textbooks: Fundamentals of Modern Drafting, Paul Ross Wallach, 2nd Edition.

Supplemental Materials: You will need Grid paper and a straight edge for this course. Also, circle templates are highly recommended. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain the elements of a technical drawing.
- Interpret technical drawings from various industries.
- Complete engineering drawings using a CAD system.

Iowa Career and Technical Education Standards: Applied Sciences [Drafting]

- DFT3. Students understand measurement systems as they apply to engineering design.
- DFT6. Students understand and apply proper dimensioning to drawings.
- DFT7. Students understand sectional view applications and functions.
- DFT8. Students understand the tolerance relationships between mating parts.
- DFT9. Students understand the methods of inserting text into a drawing.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Drafting and CAD Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

Program of Study: Construction Technology

COURSE:	Construction Safety
COURSE NUMBER:	114 (IWCC # CON-266)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: OSHA 30-Hour Construction online safety course trains workers and employers on recognition, avoidance, abatement and prevention of safety and health hazards in the workplace. Identify common caught-in or -between hazards. Identify common struck-by hazards.

Required Textbook: 30 Hour Construction Outreach Study Guide PDF

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- 30-Hour Department of Labor Outreach Completion cards are awarded to students who successfully complete 30 hours of construction or general industry OSHA Outreach training.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON5.0 Understand the value and necessity of practicing occupational safety in the construction industry facility and job site.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Residential Print Reading
COURSE NUMBER:	162 (IWCC # CON-114)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Residential Print Reading presents an introduction to the fundamentals of drafting and blueprint reading applicable to residential construction. Students interpret and translate working drawings and specifications.

Required Textbooks: Understanding Construction Drawings (Huth)

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify basic components of blueprints.
- Read and interpret a building blueprint.
- Read and interpret written specifications.
- Use an architectural scale.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON1.0 Understand and apply measurement systems in the planning and layout process used in the residential construction industry.
- CON1.3 Convert scaled blueprint drawing measurements to full dimensions for a given construction project.
- CON1.4 Apply conventional construction measurement processes accurately.
- CON1.5 Know the use of conventional construction formulas to determine production requirements.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Principles of Building Construction I
COURSE NUMBER:	517 (IWCC # CON-180)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Principles of Building Construction I, provides an introduction to the building construction process. It emphasizes construction safety issues and building code requirements; characteristics, use, and selection of building materials; and selection, care, and use of hand and power tools.

Required Textbooks: Carpentry Vogt

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify job-site and shop practices.
- Identify and select hand tools appropriate for the job.
- Identify and select power tools appropriate for the job.
- Discuss the processes and steps involved in constructing a building.
- Review the building code requirements for residential and light commercial construction.
- Identify and select appropriate wood and manufactured wood products.
- Describe methods of manufacture and applications of wood products.
- Identify and select appropriate nails, fasteners, and adhesives.
- Discuss the composition of concrete and reinforcing materials.
- Estimate lumber and material needs of basic residential construction projects.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON2.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON3.0 Understand the safe and appropriate use of portable power tools that are common to the residential construction industry and are appropriate to the individual student's level.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#) and [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Building Construction Techniques I
COURSE NUMBER:	115 (IWCC # CON-170)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Year
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	2.0
COLLEGE CREDITS:	6.0

Course Description: Building Construction Techniques I provides the practical application of selected construction techniques. It covers preparation and flat concrete work as well as fundamentals of block laying and bricklaying techniques as they relate to basic construction.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate safe practices in the handling of hand and power tools and related work practices.
- Use and maintain applicable hand tools.
- Use and maintain applicable power tools.
- Use wood and manufactured wood products appropriate for the construction task/ job.
- Use nails, fasteners and adhesive appropriate for task/job.
- Demonstrate techniques in building site preparation, property dimensions, site orientation, setback, terrain, squaring a building and batter boards.
- Demonstrate proper techniques for forming foundations and flatwork.
- Demonstrate proper methods for handling and placing concrete.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON2.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON3.0 Understand the safe and appropriate use of portable power tools that are common to the residential construction industry and are appropriate to the individual student's level.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Related Trade Applications
COURSE NUMBER:	176 (IWCC # CON-244)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Related Trades Applications presents an introduction to the principles of residential wiring, heating, air conditional, and plumbing. This course addresses basic theory, related codes, techniques, and applications.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate the principles of Ohm Law as it applies to residential construction.
- Identify and select wire, anchor and support systems applicable to residential construction.
- Explain electrical devices and wiring techniques common to residential construction.
- Explain heating and cooling fundamentals, types and designs of the heating and cooling systems.
- Describe basic air distribution systems and their components.
- Describe basic types and grades of plastic/metal pipes as well as the types of fittings and joints.
- Describe the installation techniques of different plumbing materials as it applies in residential construction.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON3.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON5.1 Understand the safe use of electrical connection methods and electrical wiring procedures.
- CON6.2 Understand the processes and materials appropriate to the architectural design and residential construction.
- CON6.4 Complete the phases of residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#) and [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Commercial Print Reading
COURSE NUMBER:	175 (IWCC # CON-115)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Commercial Print Reading provides advanced skills in the interpretation of blueprints and construction drawings. Students interpret and translate working drawings and specifications for commercial construction.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Read and interpret plans, elevations and schedules (civil drawings, door and window schedules, mechanical drawings, etc).
- State the purpose of written specifications.
- Demonstrate and describe how to perform a quantity takeoff for materials.
- Convert measurements slated in feet and inches to equivalent measurements stated in decimal feet and vice versa.
- Understand and interpret shop drawings, submittals and specifications.
- Describe the major responsibilities of the carpenter relative to site layout.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON1.0 Understand and apply measurement systems in the planning and layout process used in the residential construction industry.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.
- CON5.0 Understand the value and necessity of practicing occupational safety in the construction industry facility and job site.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Principles of Building Construction II
COURSE NUMBER:	917 (IWCC # CON-181)
INSTRUCTOR:	Eric Moores
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Principles of Construction II provides fundamental theory of selected construction techniques. It explains floor systems, wall and ceiling framing, stair construction, and interior finishing techniques.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Describe various types of floor systems and related installation techniques.
- Explain various types of wall and ceiling systems and related installation techniques.
- Identify types of door and window jambs/frames and related installation techniques.
- Identify stair parts and types and explain stair dimensions and methods for rough framing.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON2.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.
- CON6.0 Understand the variety of building phases, systems and techniques used in residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Building Techniques II
COURSE NUMBER:	551
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	2.0
COLLEGE CREDITS:	6.0

Course Description: Building Construction Techniques II provides practical application of selected building techniques. Students learn construction techniques in floor, wall, and ceiling systems, stair construction and interior finishing skills.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate safety practices in the use of related hand and power tools.
- Demonstrate proper techniques in the construction, assembly, and installation of floor, wall, ceiling, insulation systems.
- Demonstrate proper techniques in the construction, assembly, and installation of stairways, door and window jambs, and frames.
- Demonstrate proper techniques in the installation of basic wiring and electrical components.
- Demonstrate proper techniques in the installation of HVAC and plumbing components.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON2.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON4.0 Understand project management procedures and processes as they occur in a construction project.
- CON6.0 Understand the variety of building phases, systems and techniques used in residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Construction Technology: Carpentry Certificate](#)
- IWCC: [Construction Technology Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

Program of Study: HVAC/R

COURSE:	Forced Air Heating Systems
COURSE NUMBER:	146 (IWCC # HCR-121)
INSTRUCTOR:	Randy Vandemark
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	2.0

Course Description: Forced Air Heating Systems covers the application of energy sources and equipment as they apply to heating, ventilation, air humidification, and filtration systems.

Required Textbooks: Refrigeration & Air Conditioning Technology 8th Ed. By Bill Whitman, Bill Johnson, John Tomczyk, & Eugene Silberstein, ISBN-10:1305578295/ISBN-13: 9781305578296

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Articulate the multiple systems used in heating, ventilation, air humidification and filtration systems.
- Examine the function, installation, and operation of forced air heating systems.
- Define industry terminology in heating equipment and essential energy sources.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON3.0 Understand the safe and appropriate use of hand tools common to the residential and commercial construction industry.
- CON5.1 Understand the safe use of electrical connection methods and electrical wiring procedures.
- CON6.2 Understand the processes and materials appropriate to the architectural design and residential construction.
- CON6.4 Complete the phases of residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [HVAC/R Maintenance Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Applied Practices I: Repair and Service
COURSE NUMBER:	155 (IWCC # HCR-201)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.0

Course Description: Applied Practices I: Repair and Service provides hands-on practice in servicing and repair of heating and cooling equipment. Students develop a basic understanding of servicing and repair practices as seen in the industry.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Proper analysis and inspection of systems.
- Identify troubleshooting techniques of heating and cooling systems.
- Identify equipment for refrigeration cycle repair.
- Exhibit repair techniques for electrical and refrigeration equipment.

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON5.1 Understand the safe use of electrical connection methods and electrical wiring procedures.
- CON6.2 Understand the processes and materials appropriate to the architectural design and residential construction.
- CON6.4 Complete the phases of residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [HVAC/R Maintenance Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Electricity for HVAC/R
COURSE NUMBER:	590 (IWCC # HCR-188)
INSTRUCTOR:	Randy Vandemark
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	4.0

Course Description: Electricity for HVAC/R teaches students basic electrical safety, electrical theory, circuit schematics, and circuit characteristics and symbols as it applies to DC and AC circuits in the HVAC/R industry. Electric motor theories, as well as specific information on HVAC/R electrical component devices are covered.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Demonstrate necessary electricity safety skills when working with HVAC/R equipment
- Explain electrical theory and motor theory as it applies to electrical components
- Distinguish schematics and circuit characteristics/symbols as it applies to DC and AC circuits in HVAC/R equipment

Iowa Career and Technical Education Standards: Applied Sciences [Construction]

- CON5.1 Understand the safe use of electrical connection methods and electrical wiring procedures.
- CON6.2 Understand the processes and materials appropriate to the architectural design and residential construction.
- CON6.4 Complete the phases of residential and commercial construction.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [HVAC/R Maintenance Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

Program of Study: Information Solutions

COURSE:	Introduction to Programming w/ Logic
COURSE NUMBER:	119 (DMACC # CIS-125)
INSTRUCTOR:	Knight Moves (Via Zoom)
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: This course provides students with a firm foundation in problem-solving methods in computer programming and facilitates the development of good structured programming skills for solving business problems. Students will define and analyze problems, design computer solution algorithms and prove the correctness of the solution.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Examine the components of computer programming.
- Produce computer algorithms.
- Design computer algorithms that demonstrate appropriate use of the selection control structure.
- Design computer algorithms that demonstrate appropriate use of the repetition control structure.
- Design computer algorithms that perform arithmetic operations.
- Design computer algorithms to process arrays.
- Create functions/methods to organize programs into manageable code modules.
- Examine class organization and objects.
- Transform computer algorithms to a computer programming language using an editor and compiler to enter source code and generate object code.
- Explore the real-world programming environment.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- N/A

Potential Core Credits:

- N/A

COURSE:	C#
COURSE NUMBER:	163 (DMAcc # CIS-169)
INSTRUCTOR:	Knight Moves (Via Zoom)
COURSE LENGTH:	Semester
PREREQUISITE:	COREQUISITE: Intro to Programming w/Logic
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: This course is an introduction to the C# language. Object-oriented programs will be developed by students

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Perform basic programming operations in Visual C#.
- Incorporate Processing Data.
- Implement Decision Making.
- Implement Loops.
- Create Modules and Methods.
- Implement Arrays and Lists.
- Implement Structures, and Enumeration.
- Incorporate Object-Oriented Principles.
- Implement Inheritance, Polymorphism and Abstraction.
- Utilize appropriate tools to manipulate data.
- Demonstrate code readability, application testing and communication to other developers.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- N/A

Potential Core Credits:

- N/A

COURSE:	Introduction to HTML and CSS
COURSE NUMBER:	169 (DMACC # WDV-101)
INSTRUCTOR:	Knight Moves (Via Zoom)
COURSE LENGTH:	Semester
PREREQUISITE:	Intro to Programming, C#
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Introduces current standards of HTML and CSS. Students will code HTML and CSS web pages, test them in browsers and publish them to a web server. Page layouts will use CSS techniques.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Plan a website application project.
- Demonstrate a basic understanding of image manipulation and presentation on a website application.
- Examine the World Wide Web Consortium.
- Demonstrate a basic understanding of the current version of HTML.
- Demonstrate a basic understanding of the current version of XHTML.
- Create or modify a website application using XHTML and HTML.
- Determine how to publish a website.
- Demonstrate a basic understanding of Cascading Style Sheets (CSS).
- Demonstrate how to use CSS to implement the following effects on a website application.
- Demonstrate the following skills using one or more website development tools.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- N/A

Potential Core Credits:

- N/A

COURSE:	Java
COURSE NUMBER:	165 (DMAcc # CIS-171)
INSTRUCTOR:	Knight Moves (Via Zoom)
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Students will learn the basic features of the Java programming language and explore the concepts of object-oriented programming, event handling, user interface programming, and graphic techniques. Gain practical experience creating and modifying GUI Java applications.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Investigate the basic concepts of programming languages.
- Create projects using the current development environment.
- Design a Java program utilizing variables and constants.
- Assess the uses of relational and logical operators.
- Evaluate Java Loops.
- Outline the various components of a Java method.
- Analyze the concept of Java classes and objects.
- Assess the array data type.
- Investigate the concept of inheritance to derive classes from one or more base classes.
- Create basic Java GUI applications.
- Integrate Java API classes provided with the Java language.
- Demonstrate code readability, application testing and communication to other developers.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- N/A

Potential Core Credits:

- N/A

COURSE:	Future Craft
COURSE NUMBER:	905
INSTRUCTOR:	Justin Esser
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Future Craft is a game-based learning classroom that builds STEM skills, unleashes creativity, and engages students in collaborative ESL skill building possibilities. Students will be able to learn about themselves and their classmates in a creative environment.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Contribute ideas and suggestions while solving problems and creating solutions.
- Collaborate with others to accomplish a common goal.
- Incorporate creative ideas while working together as a team.
- Engage in discussions, group projects, and activities.

Iowa Career and Technical Education Standards: Human Services

- 3.2 Analyze personal needs and characteristics and their effects on interpersonal relationships.
- 3.3 Demonstrate communication skills that contribute to positive relationships.
- 3.5 Demonstrate teamwork and leadership skills in the family, workplace, and community.
- 3.6 Demonstrate standards that guide behavior in interpersonal relationships.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- N/A

COURSE:	PC Support I
COURSE NUMBER:	153 (IWCC # NET-790)
INSTRUCTOR:	Tim Taylor
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: PC Support I introduces computer hardware and software concepts necessary for an entry level computer repair technician. Students learn to troubleshoot, repair, upgrade, and maintain PC hardware and software.

Required Textbooks: CompTIA A+ Guide to IT Technical Support ISBN: 978-0-357-10829-1

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify all parts of a PC.
- Discuss the functions and interactions of all PC subsystems.
- Identify and troubleshoot common PC hardware problems.
- Select quality PCs and constituent components based on performance and cost.
- Install, replace, and upgrade PC hardware components.
- Install and troubleshoot PC peripherals such as printers and modems.

Iowa Career and Technical Education Standards: Information Technology

- IT 1-Understand business concepts, tools, and creativity necessary in the workplace.
- IT 2- Understand the basic skills necessary to work in the IT industry.
- IT 3- Understand concepts, strategies, and methods needed to interact and collaborate with others.
- IT 4-Use information technology tools specific to the career cluster to access, manage, integrate, and create information.
- IT 6-Understand hardware and software issues that affect the company.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Cyber Security Certificate](#) and [Network Administration Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Operating Systems
COURSE NUMBER:	307 (IWCC # CSC-121)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Operating Systems is a hands-on course introducing the concepts of operating systems, including process, memory and storage management, protection, security and distributed systems. Students learn basic command line tools, scripting, file management and commands for several different operating systems.

Required Textbooks: Linux+ and LPIC-1 Guide to Linux Certification, 5th Edition Jason Eckert ISBN-13: 9781337569798 and CompTIA A+ Core 2 Exam: Guide to Operating Systems and Security, 10th Edition Jean Andrews | Joy Dark | Jill West ISBN-13: 9780357108505

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Describe the basic components of an operating system; processes, memory and file management.
- Demonstrate how a shell works within multiple operating systems.
- Install and configure various contemporary operating systems.
- Demonstrate basic Linux commands.

Iowa Career and Technical Education Standards: Information Technology

- IT 1-Understand business concepts, tools, and creativity necessary in the workplace.
- IT 2- Understand the basic skills necessary to work in the IT industry.
- IT 3- Understand concepts, strategies, and methods needed to interact and collaborate with others.
- IT 4-Use information technology tools IT specific to the career cluster to access, manage, integrate, and create information.
- IT 6-Understand hardware and software issues that affect the company.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Cyber Security Certificate](#) and [Network Administration Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Fundamentals of Network Security
COURSE NUMBER:	166 (IWCC # NET-612)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Fundamentals of Network Security provides a fundamental understanding of network security principles and implementation. Understanding of network security principles and implementation. Students examine the technologies used and principles involved in creating a secure computer networking environment.

Required Textbooks: Book – CompTIA Security+ Guide to Network Security Fundamentals, 6th Edition, Mark Ciampa, ISBN-10: 1-337-28930-2, ISBN-13: 978-1-337-28930-6

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify fundamental network security principles and implementation processes.
- Identify technologies used and principles involved in creating a secure computer networking environment.
- Describe the types of attacks and malicious code that may be used against your network, the threats and countermeasures for email, Web applications, remote access, and file and print services.
- Install intrusion detection systems, firewalls, and describe physical security concepts.

Iowa Career and Technical Education Standards: Information Technology

- IT 1-Understand business concepts, tools, and creativity necessary in the workplace.
- IT 2- Understand the basic skills necessary to work in the IT industry.
- IT 3- Understand concepts, strategies, and methods needed to interact and collaborate with others.
- IT 4-Use information technology tools IT specific to the career cluster to access, manage, integrate, and create information.
- IT 6-Understand hardware and software issues that affect the company.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Cyber Security Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Network Information and Security Basics
COURSE NUMBER:	307 (IWCC # CIS-616)
INSTRUCTOR:	Tim Taylor
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Network and Information Security Basics is a survey of network and information security. Topics include threat assessment, risk management, establishing and managing network security policy, user training, security models, objectives, architectures, and the investigative process. It covers information security topics, such as constitutional issues, applicable laws, and rights and rules of evidence. Students also discuss confidentiality, integrity, availability, accountability, and auditing.

Required Textbooks: Book – CompTIA Security + Guide to Network Security Fundamentals, 6th Edition, Mark Ciampa, ISBN-10: 1-337-28930-2, ISBN-13: 978-1-337-28930-6

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Recognize basic network topology.
- Identify cyber security threats.
- Demonstrate threat assessment and security policy best practices.
- Describe situations, laws, rules for evidence, and data governance as it relates to cyber security.

Iowa Career and Technical Education Standards: Information Technology

- IT 1-Understand business concepts, tools, and creativity necessary in the workplace.
- IT 2- Understand the basic skills necessary to work in the IT industry.
- IT 3- Understand concepts, strategies, and methods needed to interact and collaborate with others.
- IT 4-Use information technology tools specific to the career cluster to access, manage, integrate, and create information.
- IT 6-Understand hardware and software issues that affect the company.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Cyber Security Certificate](#) and [Network Administration Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

Program of Study: Agriculture

COURSE:	Crop Production
COURSE NUMBER:	117
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Overview of crops and cropping systems in the context of global and US agriculture. Focus on agronomic principles, constraints, and opportunities as they apply to various locations in Iowa, the United States, and the world.

Required Textbooks: None.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Describe the growth and development of corn, soybeans, small grains and forages and recognize how the stage of growth influences management decisions.
- Apply crop management principles to real-world production situations.
- Select strategies that optimize inputs and conserve natural resources needed to produce high-quality, high-yielding crops.
- Evaluate the impact management decisions have on crop growth and yield.

Iowa Career and Technical Education Standards: Agriculture

- PS.01 Develop and implement a crop management plan for a given production goal that accounts for environmental factors.
- PS.02 Apply principles of classification, plant anatomy, and plant physiology to plant production and management.
- PS.03 Propagate, culture, and harvest plants and plant products based on current industry standards.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Plant and Soil Science I

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Animal Science
COURSE NUMBER:	589
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 10
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course will introduce students to fundamental principles of both companion and production animal science, including but not limited to anatomy, physiology, reproduction, nutrition, health, and animal products. Students will gain knowledge and skills through a wide variety of hands-on and practical learning approaches.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Provide proper rations utilizing efficient feedstuffs for production and companion animals.
- Utilize principles of reproduction to achieve desired outcomes in various animal systems.
- Classify and evaluate animals for breeding and production.
- Identify and select best practices for animal health care.

Iowa Career and Technical Education Standards: Agriculture

- AS.01 Analyze historic and current trends impacting the animal systems industry.
- AS.03 Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production.
- AS.04 Apply principles of animal reproduction to achieve desired outcomes for performance, development, and/or economic production.
- AS.06 Classify, evaluate and select animals based on anatomical and physiological characteristics.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exams: Animal Science I

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Animal Care and Wellness
COURSE NUMBER:	584
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 10
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course dives into the specifics of caring for both small and large animals on an introductory veterinary level. General knowledge from Animal Science is required for this class. This class focuses on careers in veterinary medicine.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Diagnose and successfully select treatment for given animal diseases.
- Identify and utilize appropriate veterinary tools and equipment needed to properly care for animals.
- Utilize safe handling techniques for both healthy and stressed animals.
- Explore various careers within the veterinary industry.

Iowa Career and Technical Education Standards: Agriculture

- AS.02 Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.
- AS.05 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
- AS.07 Apply principles of effective animal health care.
- AS.08 Analyze environmental factors associated with animal production.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Vet Assistant I

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Animal Handling
COURSE NUMBER:	914
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Year
PREREQUISITE:	None
GRADE LEVEL:	10-12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course is designed to allow students hands-on access at further developing their animal handling and management skills. The students will independently research inputs and facilities to best care for both large and small animals.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Prerequisites: Animal Science

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Complete BQA certification for proper animal handling.
- Custom design a modern facility for multiple species.
- Develop and utilize an independent animal input research project.

Iowa Career and Technical Education Standards: Agriculture

- AS.06 Classify, evaluate, and select animals based on anatomical and physiological characteristics.
- AS.07 Apply principles of effective animal health care.
- AS.08 Analyze environmental factors associated with animal production.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exams: Animal Science II
- BQA Certification

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Introduction to Agriculture
COURSE NUMBER:	116
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 10
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course will introduce students to a broad range of agricultural topics and career options. Students will utilize community resources and experts to explore local agricultural businesses and operations.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify various agricultural careers and future options.
- Explore local production operations in both crop and animal industries.
- Connect how soils and natural resources are integrated into production agriculture.
- Analyze how energy and technology can be used to create sustainable agriculture systems.

Iowa Career and Technical Education Standards: Agriculture

- CRP.01 Act as a responsible and contributing citizen and employee.
- CRP.1d Plan education and career path aligned to personal goals.
- CS.01 Analyze how issues, trends, technologies, and public policies impact systems in AFNR chapter.
- CS.05 Describe career opportunities and means to achieve those opportunities in each AFNR partner.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Agricultural Science I

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Crop Production
COURSE NUMBER:	117
INSTRUCTOR:	Justin Mills
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 10
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Overview of crops and cropping systems in the context of global and US agriculture. Focus on agronomic principles, constraints, and opportunities as they apply to various locations in Iowa, the United States, and the world.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Describe the growth and development of corn, soybeans, small grains and forages and recognize how the stage of growth influences management decisions.
- Apply crop management principles to real-world production situations.
- Select strategies that optimize inputs and conserve natural resources needed to produce high-quality, high-yielding crops.
- Evaluate the impact management decisions have on crop growth and yield.

Iowa Career and Technical Education Standards: Agriculture

- CRP.01 Act as a responsible and contributing citizen and employee.
- CRP.1d Plan education and career path aligned to personal goals.
- CS.01 Analyze how issues, trends, technologies, and public policies impact systems in AFNR chapter.
- CS.05 Describe career opportunities and means to achieve those opportunities in each AFNR partner.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Plant and Soil Science I

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

Program of Study: Automotive

COURSE:	Heavy Machinery I
COURSE NUMBER:	613
INSTRUCTOR:	Greg Kelley
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Heavy Machinery I focuses on the troubleshooting and repair of various farm equipment and implements.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Understand general safety procedures when using wagons, trailers, auger carts, loaders, and combines.
- Understand basic operations of various pieces of equipment.
- Use general equipment in inspection, service, and maintenance of various construction and agricultural equipment.

Iowa Career and Technical Education Standards: Agriculture

- PST.02. Operate and maintain AFNR mechanical equipment and power systems.
- PST.02.02. Operate machinery and equipment while observing all safety precautions in AFNR settings.
- PST.03. Service and repair AFNR mechanical equipment and power systems.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Agricultural Mechanics

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Heavy Machinery 2
COURSE NUMBER:	620
INSTRUCTOR:	Greg Kelley
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Heavy Machinery II focuses on the troubleshooting and repair of various farm equipment and implements of the planting season.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Understand general safety procedures when using wagons, trailers, auger carts, loaders, and combines.
- Understand basic operations of various pieces of equipment.
- Use general equipment in inspection, service, and maintenance of various construction and agricultural equipment.

Iowa Career and Technical Education Standards: Agriculture

- PST.02. Operate and maintain AFNR mechanical equipment and power systems.
- PST.02.02. Operate machinery and equipment while observing all safety precautions in AFNR settings.
- PST.03. Service and repair AFNR mechanical equipment and power systems.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Precision Exam: Agricultural Machinery Technology

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Intro to Automotive
COURSE NUMBER:	581
INSTRUCTOR:	Paul Kelley, David Borg
COURSE LENGTH:	Semester
PREREQUISITE:	Instructor recommendation
GRADE LEVEL:	11 - 12
CLASS CAPACITY:	6 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This is an entry-level course to automotive repair and maintenance. Students will learn the basics of car repair and maintenance with some hands-on experiences. In this course, students will learn about the subsystems in automobiles. Students will have opportunities to explain, trouble shoot, and repair various systems in automobiles.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Complete basic car inspections.
- Conduct electrical tests.
- Identify all major parts of the car.
- Identify different types of car designs.
- Know different powertrain systems.

Iowa Career and Technical Education Standards: STEM [Automotive]

- AUT2. Students understand the safe and appropriate use of tools, equipment, and work processes.
- AUT3. Students understand the scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems.
- AUT4. Students perform and document maintenance procedures in accordance with the recommendation of the manufacturer.
- AUT5. Students understand the application, operation maintenance, and diagnosis of engines, including but not limited to, two- and four-stroke and supporting subsystems.
- AUT6. Students understand the function, principles and operation of electrical and electronic systems using manufacturer and industry standards.
- AUT7. Students understand the function and principles of automotive drivetrain, steering and suspension, brake and tire and wheel components and systems in accordance with national industry standards.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- ASE: Maintenance and Light Repair (MLR) Certification

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit); Applied Math (1 credit)

COURSE:	Automotive Mechanics
COURSE NUMBER:	801
INSTRUCTOR:	Paul Kelley, David Borg
COURSE LENGTH:	Semester
PREREQUISITE:	Instructor recommendation
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: In this course, students will learn about the subsystems in automobiles. Students will have opportunities to explain, trouble shoot, and repair various systems in automobiles. Students will investigate and learn more into automotive theory and repair.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Complete basic car inspections.
- Conduct electrical tests.
- Know all major parts of the car.
- Identify different types of car designs.
- Know different powertrain systems.
- Understand steering and suspension systems.
- Explain how to change brake pads.
- Examine heating and air conditioning systems.
- Determine the importance of engine performance.

Iowa Career and Technical Education Standards: STEM [Automotive]

- AUT2. Students understand the safe and appropriate use of tools, equipment, and work processes.
- AUT3. Students understand the scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems.
- AUT4. Students perform and document maintenance procedures in accordance with the recommendation of the manufacturer.
- AUT5. Students understand the application, operation maintenance, and diagnosis of engines, including but not limited to, two- and four-stroke and supporting subsystems.
- AUT6. Students understand the function, principles and operation of electrical and electronic systems using manufacturer and industry standards.
- AUT7. Students understand the function and principles of automotive drivetrain, steering and suspension, brake and tire and wheel components and systems in accordance with national industry standards.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- ASE: Maintenance and Light Repair (MLR) Certification

Potential Core Credits: English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	Entry-Level Driver Training: ELDT
COURSE NUMBER:	617
INSTRUCTOR:	Denny Kriedet
COURSE LENGTH:	Semester
PREREQUISITE:	Must be 18 years of age.
GRADE LEVEL:	12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course will cover a standard curriculum in five areas of instruction: Basic Operation, Safe Operating Procedures, Advanced Operating Practices, Vehicle Systems and Reporting Malfunctions, and Non-Driving Activities.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Complete Theory curriculum portion of the course.
- Complete Behind the Wheel training portion of the course.

Iowa Career and Technical Education Standards: STEM [Automotive]

- AUT3. Students understand the scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems.
- AUT4. Students perform and document maintenance procedures in accordance with the recommendation of the manufacturer.
- AUT7. Students understand the function and principles of automotive drivetrain, steering and suspension, brake and tire and wheel components and systems in accordance with national industry standards.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to passing the following tests:

- Theory/Knowledge Test
- Road/Skills Test

Potential Core Credits:

- N/A

Program of Study: Aviation

COURSE:	Launching into Aviation
COURSE NUMBER:	592
INSTRUCTOR:	Curtis Lee
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Students will look at the problem-solving practices and innovative leaps that transformed space exploration from the unimaginable to the common in a single generation. Students will also gain historical perspective, starting from the earliest flying machines and leading to the wide variety of modern aircraft and the integral role they play in making today's world work.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify basic elements associated with aviation.
- Discover early aviation innovations.
- Analyze the rapid developments in powered flight.
- Learn about jet and space travel.
- Explore the future of aviation.

Iowa Career and Technical Education Standards: Engineering/STEM

- IND1. Students will examine how engineering and technology helps improve, manage and control natural and engineered environments.
- IND2. Students will investigate the evolution of engineering, technology and trade and industry on products, structures, and systems.
- IND3. Students apply safety practices in the lab and worksites.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE.
- Meet appropriate core requirements.

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	Introduction to Flight
COURSE NUMBER:	593
INSTRUCTOR:	Curtis Lee
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: In the Introduction to Flight Course, students pursuing the pilot and UAS tracks will take a closer look at the aircraft they may one day operate. Students will begin with an exploration of the types of aircraft in use today before going on to learn how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials. They will gain an in-depth understanding of the forces of flight—lift, weight, thrust, and drag—including how to make key calculations. They will then touch on aircraft design, looking at stability, aircraft controls, and maneuvering flight. The course will conclude with a focus on career skills related to these topics.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify parts of the airplane and functions of each.
- Examine how aircrafts are made.
- Understand air and how aircrafts fly.
- Determine the forces of flight
- Explain aircraft stability and control.
- Explore aviation careers.

Iowa Career and Technical Education Standards: Engineering/STEM

- CRP.10.01 Identify career opportunities within a career cluster that match personal interests, talents, goals, and preferences.
- CRP.11.02 Evaluate personal and organizational risks of technology use and take actions to prevent or minimize the risks in the workplace and community.
- IND3. Students apply safety practices in the lab and worksites.
- IND4. Students apply and adapt appropriate workplace behaviors and characteristics to prepare for careers.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	Pilot Pathway
COURSE NUMBER:	807
INSTRUCTOR:	Curtis Lee
COURSE LENGTH:	Year
PREREQUISITE:	Launching into Aviation, Introduction to Flight
GRADE LEVEL:	11 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description:

SEM 1: After having prepared for the Private Pilot Knowledge Test and Part 107 Remote Pilot Test in the previous year, students will examine advanced aviation topics and aviation career options. Instrument flight, commercial aviation, and advanced aircraft systems begin the semester. Looking into the future, students will then explore new horizons in the aerospace industry. What might aviation look like five, ten, or 20 years into the future? The focus then turns to business development opportunities in aviation. Finally, students will learn about and conduct different types of research in preparation for their capstone project in the second semester.

SEM 2: The capstone course is the culmination of the student learning experience. The students will work as individuals or in small groups to study and report on an approved aviation topic of their choosing. The goal of this capstone course is to allow students to demonstrate an understanding of a contemporary topic in aviation as it relates to flying. The curriculum will include presentations and activities to help guide student research and project development as well as suggestions for topics or projects that can be adapted to match available resources.

Prerequisite: Launching into Aviation or Introduction to Flight

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify advanced aviation systems and technologies.
- Explore and describe the future of aviation.
- Examine the business aspects of aviation.
- Conduct research projects in the field of aviation.
- Create formal proposals, collect data and record research, and communicate the findings.

Iowa Career and Technical Education Standards: Engineering/STEM

- EGD4. Students understand how the principles of force, work, rate, power, energy and resistance relate to mechanical, electrical, fluid, and thermal engineering systems.
- EGD5. Students understand the effective use of engineering design equipment.
- PST.02.01 Perform preventative maintenance and scheduled service to maintain equipment, machinery, and power units used in AFNR settings.
- PST.02.02 Operate machinery and equipment while observing all safety precautions in AFNR settings.
- PST.03.02 Service electrical systems and components of mechanical equipment and power systems using a variety of troubleshooting and/or diagnostic methods.
- IND3. Students apply safety practices in the lab and worksites.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to successful completion of:

- Private Pilot Knowledge Test
- Part 107 Remote Pilot Test

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

Program of Study: Health Science

COURSE:	Medical Terminology
COURSE NUMBER:	562 (IWCC # HSC-113)
INSTRUCTOR:	Amanda Stamp
COURSE LENGTH:	Semester
PREREQUISITE:	Anatomy & Physiology
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	2.0

Course Description: Medical Terminology studies terms used in medicine. This course gives students a working knowledge of the roots, prefixes and suffixes of commonly used medical terms. Emphasis centers on the correct spelling and pronunciation of the vocabulary.

Required Textbooks: This is a web-based course. The student will read the textbook, complete homework assignments, participate in discussions, and complete tasks.

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Define basic word parts, prefixes, suffixes, roots, and combining forms used in medical vocabulary.
- Define medical terms and abbreviations related to all major body systems.
- Use correct medical vocabulary and spelling, definitions, and pronunciation in written and/or verbal communication.

Iowa Career and Technical Education Standards: Health Science

- 2.2.1 Use standardized roots, prefixes, suffixes for healthcare related communications.
- 2.2.2 Use standardized medical abbreviations, when appropriate, to communicate information.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

IWCC: [Nursing: Nurse Aide Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	Nurse Aide
COURSE NUMBER:	145 (IWCC # HSC-172)
INSTRUCTOR:	Amanda Stamp
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 and 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Nurse Aide is the 75 hour Certified Nurse Aide (CNA) course. It will allow students to meet the training requirements of the Omnibus Budget Reconciliation Act of 1987 (OBRA) for nurse aides working in nursing facilities and skilled nursing facilities. Emphasis in the course is on achieving a basic level of knowledge and demonstrating skills to provide safe and effective resident care.

Required: Must be 16 years of age. A background check form and a 2-step TB test must be submitted before the first day of class. See councilor for form. Clinical takes place in the last six weeks with sites and times to be announced. Clinical may involve evenings and weekends.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Communicate effectively with professional staff, patients/residents and their families.
- Compare and contrast normal and aging related normal physiology.
- Demonstrate the understanding and appropriate integration of ethical/legal principles in providing care and fulfilling job responsibilities.
- Practice safety measures in providing patient/resident care.
- Describe and give examples of the responsibilities and role of the nurse aide.

Iowa Career and Technical Education Standards: Health Science

- 6.2.1 Apply procedures for reporting activities and behaviors that affect the health, safety, and welfare of others.
- 7.3.1 Apply safety techniques in the work environment.
- 8.1.1 Understand roles and responsibilities of team members.
- 10.1.1 Apply procedures for measuring and recording vital signs including the normal ranges.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications: IWCC: [Nursing: Nurse Aide Certificate](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	HealthWorks I
COURSE NUMBER:	142
INSTRUCTOR:	Amanda Stamp
COURSE LENGTH:	Year
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	2.0
COLLEGE CREDITS:	N/A

Course Description: Health Works I is an introductory course that will introduce students to various careers in healthcare. This course will offer a variety of information on health professions including doctors, nurses, EMT, technicians, and therapists. Guest speakers, field trips, and hands-on activities will bring learning to life for students.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify various careers in healthcare.
- Explore characteristics, requirements, and responsibilities related to healthcare professions.
- Evaluate the effectiveness and impact of healthcare careers.
- Determine how the healthcare industry can affect one's life.

Iowa Career and Technical Education Standards: Health Science

- 3.1.3 Explore the roles and responsibilities of the provider and support personnel in healthcare delivery systems.
- 4.3.1 Discuss levels of education, credentialing requirements, and employment trends in healthcare.
- 4.3.2 Compare careers within the health science career pathways.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- English (2 credits); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Nutrition
COURSE NUMBER:	805
INSTRUCTOR:	Amanda Stamp
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: In this course, students will understand and implement present day knowledge of nutrition. The role of nutrition in health and well-being of the individual and family will be explored.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Know what constitutes a healthy diet as defined by U.S. dietary guidelines and other authoritative sources;
- Recognize how diet and lifestyle choices you make today impact your health and wellness now and in the future;
- Evaluate your diet and be able to modify it to protect and optimize your health and wellness;
- Navigate conflicting nutrition information and controversies in the news and social media; locate the best sources of information when asking questions about your health and nutrition;
- Be an informed consumer of food products and dietary supplements who is not swayed by misleading advertising.

Iowa Career and Technical Education Standards: Human Services [Nutrition]

- 11.1 Demonstrate food safety and sanitation.
- 11.3 Evaluate nutrition principles, food plans, preparation techniques and specialized dietary plans.
- 11.4 Demonstrate menu planning principles and techniques based on standardized recipes to meet customer needs.
- 11.9 Demonstrate use of science and technology advancements in food product development and marketing.
- 11.10 Demonstrate food science, dietetics, and nutrition management principles and practices.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit); Unified Science (1 credit)

COURSE:	Jiu-Jitsu
COURSE NUMBER:	804
INSTRUCTOR:	Michael Jensen
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	12 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This class will teach students different options to utilize in situations where defending themselves may be necessary. Thereby increasing the students' confidence in stressful situations helping to make it possible for them to think rather than panic.

Required Textbooks: None

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Defend: Minimize the damage that your attacker can inflict.
- Escape: Find a way to break free.
- Control: Once free, establish and maintain control.
- Submit: Once in control, make your opponent submit.

Iowa Career and Technical Education Standards: Health Science

- 9.1.1 Apply behaviors that promote health and wellness.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- N/A

Program of Study: Early Childhood Education

COURSE:	Introduction to Early Childhood Education
COURSE NUMBER:	408 (IWCC # ECE: 103)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Introduction to Early Childhood Education gives students a historical and philosophical foundation of the field of early childhood education. The course includes an overview of assessment and evidence-based practices and addresses the influences of family centered practice, inclusion, culture and language. Students will explore early childhood careers.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain the roles of an early childhood professional and various careers.
- Analyze current issues and trends relevant to early childhood professionals.
- Describe philosophers and theorists and how they influence early childhood today.
- Explain best practice and the application in various settings.

Iowa Career and Technical Education Standards: Human Services [Education and Training]

- 13.0 Integrate knowledge, skills, and practices required for careers in early childhood education and services.
- 13.1 Analyze developmentally appropriate and culturally responsive practices to plan for early childhood, education, and services.
- 13.1.2 Analyze child development theories and their implications for educational and childcare practices.
- 13.2.1 Analyze a variety of curriculum and instructional models.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Early Childhood: Child Development Certificate](#)
- IWCC: [Early Childhood Studies, A.A.S.](#)
- IWCC: [Early Childhood Studies Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Infant/Toddler Care and Education
COURSE NUMBER:	902 (IWCC # ECE: 221)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Infant/Toddler Care and Education includes the components of quality care and education for young children from birth to age three. Individual differences, cultural differences, developmental stages, and health, safety and licensing regulations for group care are explored.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain emerging physical, cognitive, social and emotional skills in infants and toddlers.
- Explain appropriate infant caregiver interaction in various situations.
- Demonstrate effective strategies in facilitating a positive classroom environment.
- Discuss positive evidence-base guidance theories strategies, assessment and to.
- Demonstrate the importance of intentionality when teaching social skills.

Iowa Career and Technical Education Standards: Human Services [Education and Training]

- 13.1.3 Explore assessment tools and methods to observe and interpret children’s growth and development and apply to assess growth and development across the lifespan.
- 13.1.4 Analyze cultural and environmental influences when assessing development of children.
- 13.5.3 Implement federal, state, and local standards, policies, regulations, and laws that affect programs for children.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Early Childhood: Child Development Certificate](#)
- IWCC: [Early Childhood Studies, A.A.S.](#)
- IWCC: [Early Childhood Studies Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Child Health, Safety, and Nutrition
COURSE NUMBER:	901 (IWCC # ECE: 133)
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: Child Health, Safety, and Nutrition focuses on evidence-based concepts in relationship to the growth and development of the young child ages birth-age 8. The course blends current theory with problem-solving, practical applications, and assessments. Students will explore collaboration with families and assess the role of culture, language, and ability on health, safety, and nutrition decisions in early childhood settings.

Required Textbooks: TBD

Supplemental Materials: A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Explain health care practices in early childhood settings.
- Explain safety practices in early childhood settings.
- Describe the health, safety, and nutrition regulations in early care and education.
- Explain the signs of child abuse and the social implications.
- Develop a nutrition plan to meet the needs of young children.

Iowa Career and Technical Education Standards: Human Services [Education and Training]

- 13.3 Demonstrate a safe and healthy learning environment for children, youth, and adults.
- 13.3.1 Manage physical space to maintain a learning environment that is safe and healthy and encourages physical activity.
- 13.3.2 Apply safe and healthy practices that comply with local, state, and federal regulations to assure learners' safety.
- 13.5.3 Implement strategies to teach health, safety, and sanitation habits.
- 13.5.4 Plan safe and healthy meals and snacks that meet USDA Standards.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- IWCC: [Early Childhood: Child Development Certificate](#)
- IWCC: [Early Childhood Studies, A.A.S.](#)
- IWCC: [Early Childhood Studies Diploma](#)

Potential Core Credits:

- English (1 credit); US History (1 credit), World History (1 credit), Government (1 credit), Sociology (1 credit)

COURSE:	Child Care Certifications
COURSE NUMBER:	904
INSTRUCTOR:	Danielle McMahon
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This educational series offers all the pre-certification training required to start as a child care center staff or start a home child care business.

Required Textbooks: TBD

Supplemental Materials: N/A

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify key child development health and safety topics
- Learn how to create a safe child care environment to prevent injuries
- Reduce the spread of germs and infectious disease
- Learn how to identify the signs of child abuse and the steps needed to report incidents
- If an emergency should arise, students will have knowledge of CPR and first aid, allowing them to act quickly and may even save a life.
- Learn what can be done to protect the children in their care from the spread of germs and disease.

Iowa Career and Technical Education Standards: Human Services [Education and Training]

- 13.3.5 Document symptoms of abuse and neglect and use appropriate procedures to report suspected abuse or neglect to the designated authorities.
- 13.3.6 Implement basic health practices and prevention procedures for workers and learners regarding illness, communicable diseases, accidents, and trauma.
- 13.3.7 Demonstrate security and emergency procedures.
- 13.5.1 Explore opportunities for continuing training and education.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Universal Precautions for Iowa Early Childhood and School-age Professionals
- Essentials Child Care Preservice
- Mandatory Child Abuse Reporter DS 169
- Mandatory Adult Abuse Reporter
- CPR/First Aid-infant/toddler first aid with management of a blocked airway and mouth-to-mouth resuscitation

Potential Core Credits:

- N/A

Program of Study: Social Media and Marketing

COURSE:	Social Media 1
COURSE NUMBER:	298
INSTRUCTOR:	Teresa Coenen
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Social Media Marketing introduces students to marketing, brand basics, content creation, analytics and ethics that relate to social media and the current trends inside the industry. Students get real-world experiences by working with businesses and organizations on all aspects of social media marketing.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Apply and display knowledge of 8 P's of marketing
- Apply and display principles of brand management
- Demonstrate an understanding of major social media platforms and the role they play in marketing
- Manage social media content using real world data
- Craft compelling and effective visuals and content for social media ads
- Evaluate and optimize social media campaigns across multiple platforms

Iowa Career and Technical Education Standards: Business, Finance, Marketing and Management

- 2.1 Interpret meaning from written material and apply the information to a task.
- 2.4 Record information to maintain and present a report of business activities.
- 2.5 Write internal and external business correspondence to convey and obtain information effectively.
- 2.7 Utilize a variety of social media outlets to communicate with a business's stakeholders.
- 3.2 Resolve conflicts with/for customers to encourage repeat business.
- 3.3 Reinforce the company's image to exhibit the company's brand promise.
- 4.5 Analyze cost/profit relationships to guide business decision-making.
- 5.2 Develop personal traits to foster career advancement.
- 5.8 Implement teamwork techniques to accomplish goals.
- 5.9 Demonstrate leadership skills to achieve workplace objectives.
- 5.10 Manage internal and external business relationships to foster positive interactions.
- 7.2 Analyze financial needs and goals to determine financial requirements.
- 9.3 Utilize information technology tools to manage and perform work responsibilities.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE requirements.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Students have the option to focus their study on certification preparation for Facebook, Instagram, Google, Hootsuite, Blogspot, and/or YouTube.

Potential Core Credits:

- English (1 credit); American History (1 credit); Applied Math (.5 credit)

COURSE:	Social Media 2
COURSE NUMBER:	910
INSTRUCTOR:	Teresa Coenen
COURSE LENGTH:	Semester
PREREQUISITE:	Social Media 1
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This class advances student skills in marketing, brand basics, content creation, analytics and ethics that relate to social media and the current trends inside the industry. Students continue real-world experiences by working with businesses and organizations on all aspects of social media marketing.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Consistently demonstrate knowledge of 8 P's of marketing
- Consistently demonstrate principles of brand management as it relates to a business partner account
- Demonstrate an understanding of major social media platforms and the role they play in marketing
- Manage social media content using real world data
- Craft compelling and effective posts for a business partner
- Demonstrate functions of social media ambassador
- Evaluate and optimize social media campaigns across multiple platforms

Iowa Career and Technical Education Standards: Business, Finance, Marketing and Management

- 2.1 Interpret meaning from written material and apply the information to a task.
- 2.4 Record information to maintain and present a report of business activities.
- 2.5 Write internal and external business correspondence to convey and obtain information effectively.
- 2.7 Utilize a variety of social media outlets to communicate with a business's stakeholders.
- 3.2 Resolve conflicts with/for customers to encourage repeat business.
- 3.3 Reinforce the company's image to exhibit the company's brand promise.
- 4.5 Analyze cost/profit relationships to guide business decision-making.
- 5.2 Develop personal traits to foster career advancement.
- 5.8 Implement teamwork techniques to accomplish goals.
- 5.9 Demonstrate leadership skills to achieve workplace objectives.
- 5.10 Manage internal and external business relationships to foster positive interactions.
- 7.2 Analyze financial needs and goals to determine financial requirements.
- 9.3 Utilize information technology tools to manage and perform work responsibilities.
- 10.1 Understand marketing's role and function in business to facilitate economic exchanges with customers.
- 11.5 Utilize project management skills to improve workflow and minimize costs.
- 12.1 Acquire self-development skills to enhance relationships and improve efficiency in the work environment.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Students have the option to focus their study on certification preparation for Facebook, Instagram, Google, Hootsuite, Blogspot, and/or YouTube.

Potential Core Credits: English (1 credit); American History (1 credit); Applied Math (.5 credit)

COURSE:	Media Writing
COURSE NUMBER:	297
INSTRUCTOR:	Teresa Coenen
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course provides a framework for writing for social media by focusing on purpose, content and audiences, helping students be more effective at using powerful platforms to deliver social media messages.

Required Textbooks: None

Supplemental Materials: None

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify different audience types and communication strategies
- Customize content for the specific audience and delivery method
- Utilize effective online writing strategies
- Communicate effectively in an online environment.

Iowa Career and Technical Education Standards: Business, Finance, Marketing and Management

- 2.1 Interpret meaning from written material and apply the information to a task.
- 2.4 Record information to maintain and present a report of business activities.
- 2.5 Write internal and external business correspondence to convey and obtain information effectively.
- 2.7 Utilize a variety of social media outlets to communicate with a business's stakeholders.
- 3.3 Reinforce the company's image to exhibit the company's brand promise.
- 5.8 Implement teamwork techniques to accomplish goals.
- 5.9 Demonstrate leadership skills to achieve workplace objectives.
- 9.3 Utilize information technology tools to manage and perform work responsibilities.
- 11.5 Utilize project management skills to improve workflow and minimize costs.
- 12.1 Acquire self-development skills to enhance relationships and improve efficiency in the work environment.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- In conjunction with other courses in this field of study, students may choose to focus their study on certification preparation for Facebook, Instagram, Google, Hootsuite, Blogspot, and/or YouTube.

Potential Core Credits: English (1 credit)

COURSE:	Digital Imagery
COURSE NUMBER:	801
INSTRUCTOR:	Teresa Coenen
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This class teaches students how to plan, shoot and edit photographs and videos that capture audiences and tell a story. Students will fine tune their skills using cell phones, DSLR and video equipment. They will perfect the quality of their work with apps and software like Canva, Photoshop and Lightroom.

Required Textbooks: None

Supplemental Materials: None

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Develop crisp, clean, quality imagery relevant to the post
- Select stock images relevant to the post
- Incorporate logos and branded images that reflect the business's brand
- Develop production-quality videos showing demonstrations of products or services, Q&As, behind the scenes, announcements, interviews, and more.

Iowa Career and Technical Education Standards: Business, Finance, Marketing and Management

- 2.7 Utilize a variety of social media outlets to communicate with a business's stakeholders.
- 3.3 Reinforce the company's image to exhibit the company's brand promise.
- 5.2 Develop personal traits to foster career advancement.
- 5.8 Implement teamwork techniques to accomplish goals.
- 5.9 Demonstrate leadership skills to achieve workplace objectives.
- 9.3 Utilize information technology tools to manage and perform work responsibilities.
- 10.1 Understand marketing's role and function in business to facilitate economic exchanges with customers.
- 11.5 Utilize project management skills to improve workflow and minimize costs.
- 12.1 Acquire self-development skills to enhance relationships and improve efficiency in the work environment.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- Students may choose to focus their study on certification preparation for industry applications such as Photoshop, Premier Pro, Adobe Illustrator, Canva and others.

Potential Core Credits:

- English (1 credit)

COURSE:	Social Media Ambassador
COURSE NUMBER:	802
INSTRUCTOR:	Teresa Coenen
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This class teaches students how to effectively incorporate a brand ambassador program as a type of social marketing strategy that utilizes company message, content, and particular influencers to improve areas of the business like sales, brand recognition, and corporate reputation.

Required Textbooks: None

Supplemental Materials: None

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Identify the basic tenets of a brand ambassador program.
- Identify types of brand ambassador programs.
- Identify the benefits of a brand ambassador program.
- Demonstrate steps of developing a brand ambassador program.
- Demonstrate brand ambassador best practices.
- Demonstrate a variety of examples of brand ambassador programs for business partners.

Iowa Career and Technical Education Standards: Business, Finance, Marketing and Management

- 2.1 Interpret meaning from written material and apply the information to a task.
- 2.4 Record information to maintain and present a report of business activities.
- 2.5 Write internal and external business correspondence to convey and obtain information effectively.
- 2.7 Utilize a variety of social media outlets to communicate with a business's stakeholders.
- 5.2 Develop personal traits to foster career advancement.
- 5.8 Implement teamwork techniques to accomplish goals.
- 5.9 Demonstrate leadership skills to achieve workplace objectives.
- 9.3 Utilize information technology tools to manage and perform work responsibilities.
- 11.5 Utilize project management skills to improve workflow and minimize costs.
- 12.1 Acquire self-development skills to enhance relationships and improve efficiency in the work environment.

Instructional Techniques and Practices: Techniques utilized will include lecture, individual and group discussions, and lab exercises. Virtual options may also be utilized.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE credit.
- Meet appropriate core requirements.

Completion of course could lead to certifications:

- In conjunction with other courses in this field of study, students may choose to focus their study on certification preparation for Facebook, Instagram, Google, Hootsuite, Blogspot, and/or YouTube.

Potential Core Credits: English (1 credit)

COURSE:	Intro to Marketing
COURSE NUMBER:	916
INSTRUCTOR:	Danielle McMahon
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	10 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: This course prepares students for successful career pathways in various aspects of business, entrepreneurship and marketing. Students interested in this career have the ability to learn management, banking & finance, marketing & sales, entrepreneurship, human resource management, and customer service skills.

Students will have student-led store projects with the choice to be responsible for the management of a community service project which could include fundraising, volunteer committees, local organizations, student clubs and the growth of IGNITE Pathways . The goal of this course is to create a well-rounded marketing student who intends to pursue a bachelor's degree in business or marketing or enter a Registered Apprenticeship. Independent study is available and encouraged in this program. Students in this course will work as both a member of a team and independently. Students will move at their own pace and are encouraged to find hands-on learning opportunities that will impact the community and their learning.

Supplemental Materials: Provided reading, handouts, and content in Headrush

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Create a business plan and operational manual
- Explain the difference between cost and profit.
- Identify components of marketing.
- Refine customer service by waiting on customers.
- Make a positive change in the community and school.
- Order and check in merchandise.
- Apply accounting skills by working on real records and understanding sales tax.
- Determine the importance of advertising.

Iowa CTE Standards: Business, Finance, Marketing and Management

- 10.1 Understand marketing's role and function in business to facilitate economic exchange with customers.
- 10.1.1 Explain marketing and its importance in a global economy.
- 10.1.2 Describe marketing functions and related activities.
- 10.1.3 Demonstrate socially responsible marketing practices.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE.
- Meet appropriate core requirements.

Potential Core Credits:

- English (1 credit); Math (1 credit)

Independent Study Courses

COURSE:	Independent Study
COURSE NUMBER:	909
INSTRUCTOR:	TBD
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	9 - 12
CLASS CAPACITY:	10 students
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDIT:	N/A

Course Description: This course provides students with the opportunity to explore a topic of interest under the close supervision of a faculty member. The course may include directed readings, applied work, carrying out an independent research project, or other activities deemed appropriate.

Required Textbooks: None

Supplemental Materials: Students will be required to bring a notebook and writing utensil along with the required textbook or subscription. A technology fee will be assessed to cover technology related requirements for this course.

Course Learning Outcomes and Course Competencies: Upon successful completion of this course, the student will be able to:

- Practice the process of learning.
- Set individual goals and monitor progress towards the goal.
- Establish a purpose and communicate findings with others.
- Develops self-motivation, concentration, and discipline.
- Identify a problem, gather data, and take responsibility for conclusions.

IGNITE Pathways Expectations:

- Demonstrate proficiency by all modules identified by CTE course and instructor.
- Meet all lab requirements associated with CBE and IWCC credit.
- Meet appropriate core requirements.

Potential Core Credits:

- May align independent study with core credit(s) of the student's choice. This must be approved by the validating teacher prior to beginning the course.

Courses Offered at the Boyer Valley Campus

COURSE:	Intro to Business
COURSE NUMBER:	800
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Have you ever thought about how cool it would be to *be your own boss*, set your own hours, keep all the profits you make, and live the life you want to live? Take Introduction to Business and Entrepreneurship to find out how to make this happen! Introduction to Business will take a closer look at business types, will cover the basics of all aspects of business (marketing, ethics, economics, business law, and the like), and will provide practical applications to today's ever-changing business world. (By the way, if you want to be your own boss, you need to be able to handle money too, so plan to take Accounting at some point as well!)

COURSE:	Ag Business
COURSE NUMBER:	553
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Agribusiness Management courses provide students with the information and skills necessary for success in agribusiness and in operating entrepreneurial ventures in the agricultural industry. These courses may cover topics such as economic principles, budgeting, risk management, finance, business law, marketing and promotion strategies, insurance, and resource management. Other possible topics include developing a business plan, employee/employer relations, problem-solving and decision-making, commodities, and building leadership skills. These courses may also incorporate a survey of the careers within the agricultural industry.

COURSE:	Farm Business Management
COURSE NUMBER:	563 (IWCC)
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: A study of the use of the principles of farm management in developing a farm or farm business operation. Laboratory work will be used to increase the understanding of key concepts.

COURSE:	Survey of the Animal Industry
COURSE NUMBER:	560 (IWCC)
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: The course explores issues impacting the United States and the international animal industry. The main emphasis of the course is on the animal industry in the global market, animal production management, anatomy and physiology, and marketing of farm animals. The animals of focus include beef and dairy cattle, companion animals, horses, poultry, sheep, swine and their products.

COURSE:	Vet Science
COURSE NUMBER:	554
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	N/A

Course Description: Veterinary Science courses impart information about the causes, diagnosis, and treatment of diseases and injuries of animals, typically emphasizing domestic and farm animals. Course topics focus on anatomy and physiology, nutrition, behavior, and reproduction, but may also include other areas of study as appropriate.

Courses Offered at the Denison/WIT Campus

COURSE:	Intro to Criminal Justice - WIT
COURSE NUMBER:	572
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: This course introduces criminal justice as the study of crime prevention, investigation, and correctional procedure. Students gain an understanding of legal systems and the various infrastructures dedicated to criminal reform.

COURSE:	Introduction to Ethics - WIT
COURSE NUMBER:	142
COURSE LENGTH:	Semester
PREREQUISITE:	None
GRADE LEVEL:	11 - 12
HIGH SCHOOL CREDITS:	1.0
COLLEGE CREDITS:	3.0

Course Description: This course introduces fundamental theories of moral behavior and examines important concepts and arguments used in moral reasoning, and applies ethical theories to contemporary personal and social issues.

Competency Based Education (CBE)

A) Competency-Based Education: A system of education in which learners advance through content or earn credit based on demonstration of proficiency on competencies. Some students may advance through more content or earn more credit than in a traditional school year while others might take more than a traditional school year to advance through the same content or to earn credit. Credit may also be earned for out-of-school experiences and/or accomplishments. Students at all grade levels are afforded opportunities for more explicit or intensive instruction or enrichment within the content.

B) Proficiency: Demonstrated skill or knowledge required to advance to and be successful in higher levels of learning in that content area or using that content. Schools and programs participating in competency-based education will determine proficiency levels and appropriate assessments to ensure all students being awarded credit toward high school graduation or advanced through content at any level have demonstrated the skills and knowledge required to be successful at the next level of advanced learning in the content or related areas as appropriate.

C) Expectation for how proficiency will be demonstrated and assessed.

Proficiency will be demonstrated within (Career and Technical Education) CTE courses as well as through the completion of performance tasks within each competency. Learning outcomes will be aligned to the year-long capstone projects aligned with each CBE pathway. Proficiency rubrics will be used to assess the learning outcomes in identified essential standards.

(D) Credit: A unit awarded toward high school graduation. Credit awarded toward high school graduation should be the same for students demonstrating proficiency on standards through competency-based pathways as for those working through the same standards in a traditional time-based pathway or other nontraditional pathways such as online learning. PK-8th grade students advance through content independent of units of credit.

Competency-Based Education (CBE) Courses

These are the courses that will be embedded into the Ignite Pathways programs of study as a way for students to earn Core Credits through Career and Technical Education experiences and coursework.

Language Arts - Competency Based Education (CBE)

Course Title: CBE English 12
Course Number: 301
Prerequisite: English 11
Duration: Year

Grade Level: 12
Credits: 2

Required or Elective: Elective

CBE Pathway: English 12

This year-long course is designed as a competency-based pathway for students to earn two English credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Students will become more effective communicators, critical thinkers, collaborators, and creators in order to show what they know and can do in their CTE course(s). Course participants will collaborate in-person or virtually with their CTE and English teachers to apply the necessary reading, writing, listening, speaking, and viewing skills and strategies within and across courses in order to earn credit in multiple disciplines at the same time. Students will influence thoughts and actions to control outcomes, create solutions to a complex issue, integrate and elaborate on ideas, and explore a problem from multiple perspectives through their hands-on demonstration of learning.

Course Title: CBE English 11
Course Number: 300
Prerequisite: English 10
Duration: Year

Grade Level: 11
Credits: 2

Required or Elective: Required

CBE Pathway: English 11

This year-long course is designed as a competency-based pathway for students to earn two English credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Students will become more effective communicators, critical thinkers, collaborators, and creators in order to show what they know and can do in their CTE course(s). Course participants will collaborate in-person or virtually with their CTE and English teachers to apply the necessary reading, writing, listening, speaking, and viewing skills and strategies within and across courses in order to earn credit in multiple disciplines at the same time. Students will exchange complex information, drive the process of research through questioning, investigate relevant issues, and produce information and/or products through their hands-on demonstration of learning.

Course Title: CBE English 10
Course Number: 641
Prerequisite: English 9
Duration: Year

Grade Level: 10
Credits: 2

Required or Elective: Required

CBE Pathway: English 10

This year-long course is designed as a competency-based pathway for students to earn two English credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Students will become more effective communicators, critical thinkers, collaborators, and creators in order to show what they know and can do in their CTE course(s). Course participants will collaborate in-person or virtually with their CTE and English teachers to apply the necessary reading, writing, listening, speaking, and viewing skills and strategies within and across courses in order to earn credit in multiple disciplines at the same time. Students will maximize the exchange of ideas, anticipate the intended and unintended consequences of actions or inaction, make a case that challenging assumptions/perceptions leads to change through their hands-on demonstration of learning.

Course Title: CBE English 9
Course Number: 640
Prerequisite: None
Duration: Year

Grade Level: 9
Credits: 2

Required or Elective: Required

CBE Pathway: English 9

This year-long course is designed as a competency-based pathway for students to earn two English credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Students will become more effective communicators, critical thinkers, collaborators, and creators in order to show what they know and can do in their CTE course(s). Course participants will collaborate in-person or virtually with their CTE and English teachers to apply the necessary reading, writing, listening, speaking, and viewing skills and strategies within and across courses in order to earn credit in multiple disciplines at the same time. Students will explore complex communication, examine solutions to a problem, collaborate with others, and analyze the interconnectedness of multiple viewpoints across media through their hands-on demonstration of learning.

Math - Competency Based Education (CBE)

Course Title: CBE Applied Math
Course Number: 290
Prerequisite: Integrated Math I
Duration: Full Year

Grade Level: 11/12
Credits: 2

Required or Elective: Required

CBE Pathway: Applied Mathematics

This course is designed as a competency-based pathway for students to earn two math credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and math teachers to explore multiple representations and technologies to make informed decisions, optimize scenarios with changing parameters, and construct a viable argument through modeling to predict future outcomes within and beyond their CTE course(s) in order to earn credit in multiple disciplines at the same time.

Science - Competency Based Education (CBE)

Course Title: CBE Unified Science
Course Number: 303
Prerequisite: Biology
Duration: Full Year

Grade Level: 11/12
Credits: 2

Required or Elective: Required

CBE Pathway: Unified Science

This course is designed as a competency-based pathway for students to earn two elective science credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and science teachers to ask questions and define problems, develop and use models, plan and carry out investigations, and analyze and interpret data within and beyond their CTE course(s) in order to earn credit in multiple disciplines at the same time. Students will seek additional information to explore an engineering problem, predict and show relationships among variables between systems and their components in the natural and designed worlds, expose an issue or question they would be unlikely to explore on their own, and make valid and reliable scientific claims or determine an optimal design solution.

Social Studies - Competency Based Education (CBE)

Course Title: CBE World History
Course Number: 324
Prerequisite: None
Duration: Semester

Grade Level: 9/10
Credits: 1

Required or Elective: Required

CBE Pathway: World History

This semester-long course is designed as a competency-based pathway for students to earn two elective social studies credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and social studies teachers to apply civic virtues and democratic principles along with necessary skills and strategies within and across courses, including but not limited to researching a shift in governmental philosophy throughout history and exploring the effects of industrialization throughout the world.

Course Title: CBE American History
Course Number: 291
Prerequisite: None
Duration: Full Year

Grade Level: 9-12
Credits: 2

Required or Elective: Required

CBE Pathway: US History

This year-long course is designed as a competency-based pathway for students to earn two elective social studies credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and social studies teachers to apply civic virtues and democratic principles along with necessary skills and strategies within and across courses, including but not limited to taking various perspectives, advocating for social change, and comparing and contrasting geographical and historical information within and across courses in order to earn credit in multiple disciplines at the same time. Students will create passion for social change, participate in engaged citizenry to demonstrate that individuals can spark change in society, and help develop problem solving skills in order to deduce how and why certain outcomes occur.

Course Title: CBE Government
Course Number: 325
Prerequisite: None
Duration: Semester

Grade Level: 9-12
Credits: 1

Required or Elective: Required

CBE Pathway: Government

This semester-long course is designed as a competency-based pathway for students to earn two elective social studies credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and social studies teachers to apply civic virtues and democratic principles along with necessary skills and strategies within and across courses, including but not limited to engaging as an active citizen in our American democracy and discerning how the political process of the United States works.

Course Title: CBE Economics
Course Number: 912
Prerequisite: None
Duration: Semester

Grade Level: 9-12
Credits: 1

Required or Elective: Elective

CBE Pathway: Economics

This semester-long course is designed as a competency-based pathway for students to earn two elective social studies credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and social studies teachers to apply civic virtues and democratic principles along with necessary skills and strategies within and across courses, including but not limited to examining the basic principles of economics and understanding how various economies work.

Course Title: CBE Sociology
Course Number: 913
Prerequisite: None
Duration: Semester

Grade Level: 9-12
Credits: 1

Required or Elective: Required

CBE Pathway: Sociology

This semester-long course is designed as a competency-based pathway for students to earn two elective social studies credits while taking one or more career and technical education (CTE) courses within IGNITE Pathways. Course participants will collaborate in-person or virtually with their CTE and social studies teachers to apply civic virtues and democratic principles along with necessary skills and strategies within and across courses, including but not limited to evaluating different parts of society and discovering inequalities in society.