



# Career & Technical Education Academy



4700 W Career Circle

Sioux Falls, SD 57107

Updated July 2023







## A Message from Superintendent Dr. Jane Stavem:

Dear Students and Families,

Welcome to the Career and Technical Education (CTE) Academy! We are glad you are considering real-world, hands-on courses in the many exciting programs offered here.

Since opening its doors in 2010, the CTE Academy has become a leader in providing high-quality learning opportunities for high school students in the region. The curriculum, equipment, and real-world experience are second to none. From Biomedical Sciences to Welding to Culinary Arts, Aviation, and more - the CTE Academy is a state-of-the-art facility where students are encouraged to explore career paths prior to bearing the burden of college or post-secondary tuition.

With unwavering support from the business community, the CTE Academy is a long-term workforce development tool and, ultimately, adds to the vibrancy and cutting-edge mentality of our school district and the Sioux Falls community.

So, whatever your future holds - a two-year technical institute, a four-year college or university, the military, or entry into the workforce - you can be certain your experience at CTE will set you apart from others and offer and unmatched educational advantage.

Best wishes as you make plans for your future!

Sincerely,

Dr. Jan Stavem, Superintendent



## A Message from CTE Academy Principal Josh Hall:

Dear Students and Families,

Thank you for your interest in the Career & Technical Education Academy. We are very excited about the opportunities offered to students in Sioux Falls and the surrounding area. The courses offered at the CTE Academy provide students with relevant, project-based, career-oriented learning that aligns with each individual student's future career plans.

The facility, located at I-29 and Madison Street, is filled with state of the art equipment. The school offers over 40 state approved CTE courses in 15 different career focused programs. Our highly qualified staff members are eager to work with students in the classroom, laboratory settings, and out in our workforce community through internships; where students utilize their skills and knowledge to solve problems, work as teams on projects, and prepare for the 21st century.

I encourage you to look over the course offerings and welcome you to join us for part of your school day next school year.

Sincerely,

Josh Hall, Principal

**Cover Designed By:**

**Tiffany Jackson – LHS/Youth Internship Capstone in Media Arts**  
**Salina Keleta-WHS/Introduction to Arts A/V Tech**

## Career & Technical Education (CTE) Academy Program

The Sioux Falls School District provides hands-on, relevant learning opportunities for public high school students, and to those in surrounding school districts, at the Career and Technical Education Academy.

This state-of-the-art Academy offers a continuum of courses from introductory level to highly advanced.

The CTE Academy serves students of all learning levels through the range of traditional, hands-on technical programs to the highly-advanced courses such as Biomedical Sciences and Engineering.

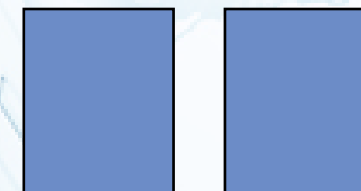
Students attend their home high school to take core academic classes such as English, math and science. They attend the Academy for a block of time each school day to receive their specialized training. Transportation is provided for Sioux Falls School District students.

The CTE Academy welcomes input from business leaders in the greater Sioux Falls area who wish to assist with curriculum recommendations, placement of students in workplace experiences and equipment, material, and supply needs.

Interested students should contact their school counselor for registration information. Check our classes out on the school website, Facebook, or our YouTube Channel. Any interested students can also find CTE specific scholarships on the school website.

### Table of Contents

• Academy of Finance .....	Page 4
• Aviation .....	Page 4
• Agriculture .....	Page 5
• Architecture & Construction .....	Page 6
• Exploratory .....	Page 6
• Computer Science ~ Information Tech .....	Page 7
• Arts, A/V Technology & Communications .....	Page 8
• Health Science .....	Page 9
• Hospitality & Tourism ~ Culinary Arts .....	Page 10
• Human Services .....	Page 10
• Integrated English ~ Core Content Courses .....	Page 11
• 9th Grade Courses .....	Page 11
• Science, Technology, Engineering & Math .....	Page 12
• Robotics .....	Page 13
• Transportation ~ Auto Body/Collision Repair .....	Page 13
• Transportation ~ Auto Technology .....	Page 14
• Welding .....	Page 15
• Capstone ~ Internship .....	Page 15
• Frequently Asked Questions .....	Page 16
• Contact Information .....	Page 17
• Graduation Requirements .....	Page 17
• South Dakota Opportunity Scholarship .....	Page 17
• Schedule .....	Page 18
• Social Media Links.....	Page 18
• CTE Academy Courses at a Glance .....	Page 19



# Academy of Finance

*This two or three year national program is designed to prepare students with practical skills to enter the world of business and finance. Earn up to 19 college credits. Register during freshman, sophomore, or junior year for this program that is sponsored by the National Academy Foundation. Financial support is provided by Citibank and numerous local internship sponsors.*

## Sophomore Year

**Fall Semester:** Accounting I (ACBA4010)

**Spring Semester:** Accounting II (ACBA4020)

## Junior/Senior Year

**Fall Semester:** Accounting I (ACBA4010)

**Spring Semester:** Accounting II (ACBA4020) **or**

Intro to Financial Services (ACBA4070) **and** Banking & Credit (ACBA4050)

## Summer Internship (ACBA4040)

## Senior Year

**Spring Semester:** Accounting II (ACBA4020)

# Aviation

## Aviation I (CTF-3000)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

This course provides students with an understanding of aviation history and possible career paths within the aviation industry. It also covers the basic introduction to relationships of weight and balance, principles of navigation and flight control, ground and airport operations and services, and Federal Aviation Agency regulations.

## Aviation II (CTF-3010)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: Aviation I, Open to 9-12 grade

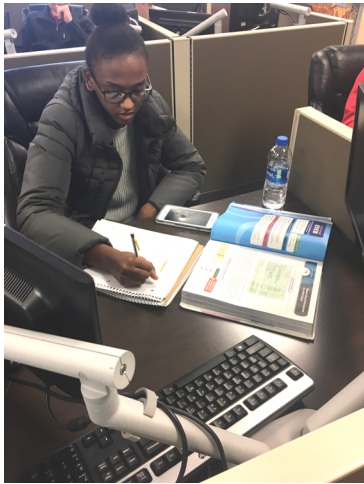
The course provides students with the first step towards a Private Pilot's license or Part 107-Drone Certification. Students will learn basic history of aviation, aircraft type/design, air density, forces of flight, propulsion, airframes, avionics/flight instruments, possible career paths within the aviation industry, and Federal Aviation Agency regulations.

## Aviation III (CTF-3020)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: Aviation I, Open to 10-12 grade

This course provides students with the final step towards a Private Pilot's license or Part 107-Drone Certification. Students will learn about the flight environment, weather in aviation, airports, navigation/aeronautical charts, aircraft performance, flight medical issues, possible career paths within the aviation industry, and Federal Aviation Agency regulations.

**Accountant**  
**Controller**  
**Financial Manager**  
**Management Consultant**  
**CPA**  
**Tax Accountant**  
**Financial Analyst**



**Pilots**  
**A&P Mechanics**  
**Avionics Technician**  
**Military Pilots**  
**Sheet Metal Technicians**  
**Engineers**  
**Flight Medical Crews**  
**Air Traffic Controllers**  
**Flight Instructors**  
**Dispatchers**  
**Airport Ground Crew**  
**Cabin Crew**  
**Meteorologist**

**Agriculture teacher**  
**Florist**  
**Game Warden**  
**Agronomist**  
**Cattle Buyer**  
**Veterinarian**  
**Vet Tech**  
**Agriculture Market Analysis**  
**Greenhouse Manager**  
**Fisherman**  
**Zoo Keeper**  
**Botanist**  
**Meat Inspector**  
**Butcher**  
**USDA Worker**



# Agriculture

## Natural Resources (CTG-3010)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Natural Resources will give students exposure to our unique prairie pothole ecosystem including plants, fish, wildlife, soils, water, habitat, sustainable agriculture, and renewable resources.

## Plant Science/Horticulture (CTF-3020)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Plant Science/Horticulture is a multi-faceted class that will focus the sustainable use of plants to generate healthy foods, protect the environment, and create attractive landscapes. Topics will include plant anatomy, plant identification, plant reproduction, growing operations, weed and pest management, and harvesting horticultural plants.

## Small Animal Science (CTF-3030)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Small Animal Science will provide students with comprehensive knowledge of companion animal management and care. The course will focus on dogs, cats, rabbits, birds, rodents, and fish. This class is for the pet owner or an aspiring animal related professional.

## Large Animal Science (CTG-3040)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Large Animal Science is a class that covers farm animal production, horse/equine science, poultry production, dairy, and exotic/zoo animals. Students will receive a rich foundation and hands-on experience with feeding, breeding, health, and the processing of food products derived from animals.

## Agriculture Leadership (CTF-3050)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Effective communication, team building, citizenship and organizational skills will be learned and practiced through FFA activities. Students will be involved in fall FFA contests that involve ag issues, ag sales, employment skills, ag broadcasting, ag communications, parliamentary procedure, extemporaneous speaking, and prepared public speaking. Students will continue to develop leadership skills through the study of and interaction with Sioux Falls leaders.

## Agriculture Bio-Technology (CTF-3060)

Length/Credit: One Semester, Two Hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

Students will experience the fast-paced evolution of technology in growing food. The processes and products of biomaterials and biofuels, technology tools for agriculture efficiency, complex agriculture issues such as pest management, controlling livestock environments, and the demand for food that is locally or organically produced will be featured in this class.



# Architecture & Construction

## Carpentry I (CTC-3061/3062)

Length/Credit: One Year, Two hour block, 1 credit per semester  
Prerequisite: None, Open to 10-12 grade

Successful carpenters need to know more than just how to operate equipment. Learn the basics of this career and the value of doing quality work by constructing two homes from the foundation to the rafters to near completion.

## Carpentry II (CTC-3081/3082)

Length/Credit: One Year, Two hour block, 1 credit per semester  
Prerequisite: Carpentry I, Open to 10-12 grade

In this continuation of Carpentry I, young carpenters learn leadership qualities while building a home at the CTE Academy, gain an increased understanding of specialty products and materials, and learn project cost-estimating and blueprint reading.

## Advanced Woodworking & Cabinet Making Part 1 (CTC-3090)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade

This class will teach both basic and advanced skills that will allow students to create beautiful projects that they will keep forever. Whether one has experience in woodworking or are a beginner, students can design, draw, or create a project of which you will be proud.

## Advanced Woodworking & Cabinet Making Part 2 (CTC-3092)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade

Learn advanced woodworking skills, including building and installation of cabinets while developing workplace connections and exploring

# Computer Science ~ Information Technology

The CyberAcademy at CTE is designed to give students the experience of taking entry level college courses similar to first year students at Dakota State University or Southeast Technical College. These courses are great for students who want to learn more about cybersecurity as well as student planning on majoring in Cybersecurity or Information Technology. Students meeting the requirements set by the SD Board of Regents for Juniors or Seniors can take the courses for college credit. Students are not required to take the post secondary credit but it is recommended students should be Juniors or Seniors to take advantage of the opportunity.

## Cybersecurity™ PLTW (CTN-3030)

Length/Credit One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to grade 9-12 Location: Offered at the CTE Academy only Concurrent credit available for this course.  
Location: Offered at the CTE Academy only Concurrent credit available for this course.

Cyber Security will explore the field of computer security. It covers fundamental issues and first principles of security and information assurance. The course will look at the security policies, models and mechanisms related to confidentiality, integrity, authentication, identification, and availability issues related to information and information systems. Other topics covered include basics of cryptography (e.g., digital signatures) and network security (e.g., intrusion detection and prevention), risk management, security assurance and secure design principles, as well as e-commerce security. Issues such as organizational security policy, legal and ethical issues in security standards and methodologies for security evaluation and certification will also be covered. Students meeting requirements and applying for Dual Credit within the first week can receive college credit.

## Computer Hardware & Software (CTN-3010)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade.  
Location: Offered at the CTE Academy only Concurrent credit available for this course.

Imagine building a computer then connecting it securely to a network. This exciting first step could lead to a rewarding IT career. Because a sure way to excel– no matter which area of IT you choose– is to learn the right computer fundamentals. IT Essentials covers this area well as shares the career skills needed for entry-level IT jobs. You'll enjoy working with Cisco Networking Academy advanced simulation tools and having multiple hands-on labs that hone your troubleshooting skills. Students meeting requirements and applying for Dual Credit within the first week can receive college credit.

## Network Technologies (CTN-3020)

Length/Credit: One Semester, Two hour block, 1 credit per semester  
Prerequisite: Computer Hardware & Software, Open to 10-12 grade  
Location: Offered at the CTE Academy only Concurrent credit available for this course.

Begin preparing for a new networking career with this introduction to how networks operate. This course introduces architectures, models, protocols, and networking elements– functions needed to support the operations and priorities of Fortune 500 companies to small innovative retailers. You'll even get the chance to build simple local area networks (LANs) yourself. You'll have a working knowledge of IP addressing schemes, foundational network security, and be able to perform basic configurations for routers and switches. Students meeting requirements and applying for Dual Credit within

**Cyber Crime Investigator**

**Software Developer**

**Cyber Legal Advisor**

**Pen Tester**

**Technical Support Specialist**

**Chief Information Security Officer**

**Threat & Warning Analyst**

**Cyber Forensics Expert**

**Encryption Expert**

**Network Administrator**

**Systems Administrator**

**IT Project Manager**

**Cyber Security Engineer**

**Architect**  
**Carpenter**  
**Civil Engineer**  
**Construction Manager**  
**Contractor**  
**Drafter**  
**Drywall Installer**  
**Electrician**  
**Heating, Vent., AC & Refrigeration**  
**Mason**  
**Painter**  
**Plumber**  
**Project Inspector**  
**Roofer**

## CTE Academy Exploration

### CTE Academy Exploration (CTV-3010)

Length/Credit: One Semester, Two hour block, 1 credit per semester  
Prerequisite: None, Open to 9-11 grade

Career & Technical Education (CTE) Academy Exploration is an exploratory course that helps students identify their skills and interests within CTE course areas, while also providing direction towards possible career choices within the CTE career cluster options. Through this course students will engage in hands-on learning activities in the areas of Media Arts, Biomedical Science, Health Careers, Auto Body Technology, Agriculture, Information Technology, Engineering, Carpentry, Culinary Arts, Automotive Technology, Cabinetry, Human Services, Welding, Aviation, and the Academy of Finance.





# Arts, A/V Technology & Communications

## Intro to Media Arts, A/V Technology & Communications (CTA - 3010)

Length/Credit: One Semester, Two hour block, 1 credit  
**Fulfills Fine Arts Graduation Requirement OR a CTE Graduation Requirement**  
Prerequisite: None, Open to 9-12 grade

Lights, Camera, Action! Be your own director. Write and produce audio and video projects that inform, demonstrate, persuade and even entertain! Students get hands-on experience using the same digital technology used in world renowned video and film production companies.

## A/V Production & Digital Film Making (CTA-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Intro to Arts/A/V Technology & Communications, Open to 9-12 grade

Develop advanced skills in writing and production of audio and video projects. Make work accessible on the internet and see students' quality work proudly displayed on the District's cable access channel, KLRN-TV.

## Broadcast Production (CTA-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Intro to Arts/A/V Technology & Communications, Open to 9-12 grade

Produce video and audio projects and pieces for the KLRN Klassroom TV show, as well as off-site remote broadcasts. This course is designed to prepare high school students for professional employment and/or further education in television news, sports, and digital video production.

## Digital Music Production (CTA-3040)

Length/Credit: One Semester, Two hour block, 1 credit  
Recommended: Intro to Arts/A/V Technology & Communications, Open to 9-12 grade

Develop knowledge of the music business, music copyright, and the use of electronic music in the entertainment business, computer gaming, Internet technology, and music production fields.

## Digital Animation (CTA-3050)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Intro to Arts/A/V Technology & Communications, Open to 9-12 grade

Manipulate images, music, and graphics to create animated projects. Animation is seen in advertisements on television, on computer screens, and on many other things that appear on the Internet.

**Actor**  
**Art Therapist**  
**Audio-Video Designer and Engineer**  
**Broadcast Technician**  
**Commercial Artist**  
**Computer Animator**  
**Digital Illustrator**  
**Disc Jockey (DJ)**  
**Editor**  
**Film Director**  
**Graphic Designer**  
**Journalist**  
**Musician/Music Composer**  
**Music Therapist**  
**Radio/TV Announcer**  
**Radio/TV Program Writer**  
**Stagehand**  
**Stunt Performer**  
**Teacher (Art, Music, Drama)**  
**Telecommunication Technician**  
**TV Producer**  
**Video Systems Technician**  
**Videographer**  
**Visual Merchandising Designer**



**Athletic Trainer**  
**Audiologist**  
**Biochemist**  
**Biostatistician**  
**Certified Nursing Assistant (CNA)**  
**Chiropractor**  
**Dental Assistant/Hygienist**  
**Dentist/Orthodontist**  
**Doctor/Physician**  
**EMT/Paramedic**  
**Geneticist**  
**Health Information Coder**  
**Home Health Aide**  
**Industrial Hygienist**  
**Lab Technician**  
**Massage Therapist**  
**Medical Assistant**  
**Registered Nurse**  
**Nutritionist/Dietician**  
**Occupational Therapist**  
**Optometrist/Optometric Assistant**  
**Pharmacist**  
**Phlebotomist**  
**Physical Therapist**  
**Physician's Assistant**  
**Psychologist**  
**Radiographer**  
**Radiologist**  
**Research Scientist**  
**Speech/Language Pathologist**  
**Toxicologist**

# Health Science

## Health Careers I (CTS-3010)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, **Open to 10-12 grade**  
Recommended: Anatomy, Biology, and Physiology, earned a "C" or better  
Want a career in the exciting medical profession? Develop an awareness of various health-related careers while learning medical terminology, professionalism, confidentiality/HIPAA, and entry-level skills needed for all jobs in the profession. Guest speakers, demonstrations, and field trips to local health care facilities provide real-life learning opportunities.

## Health Careers II (CTS-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Health Career I, earned a "C" or better, and be at least 16 years old to participate in the Internship. **Open to 11-12 grade**  
Try a career in the medical field by completing a 10-week internship in a health care facility. Apply entry-level skills while on the job. Upon successful completion of both courses, students may earn a CPR certification and take the Certified Nursing Assistant (CNA) exam.

## Emergency Medical Technician-Basic Course™ (CTS-3080)

Length/Credit: One Semester, Two hour block, 1 Credit  
Prerequisite: Human Body Systems™ Biomed II PLTW or Health Careers I, Open to 12 grade  
This course prepares students to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. Students will be required to complete the psychomotor skills test and computer-based test in order to earn their NREMT certification.

## Project Lead the Way® Biomedical Sciences™ Program

## Principles of Biomedical Sciences™ (CTS-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade  
Recommended: Biology or Chemistry taken concurrently  
Students explore a vast range of medical science careers while learning about crime scene investigation, autopsy, vital signs, medical history, emergency response, and patient diagnosis. This course builds the foundation for subsequent Biomed courses.

## Human Body Systems™ (CTS-3040)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Principles of Biomedical Sciences™ Biomed I PLTW, Open to 10-12 grade  
Students examine the interactions of human body systems as they build organs and tissues on a skeletal Maniken®; use software to monitor body functions, and take on the roles of biomedical professionals to solve real-world medical cases.

## Medical Interventions™ (CTS-3050)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Human Body Systems™ Biomed II PLTW, Open to 11-12 grade  
Students investigate how to prevent, diagnose, and treat disease in this lab-based course. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, cancer, pharmacology, medical devices, and diagnostics.



# Hospitality & Tourism ~ Culinary Arts

## Culinary/Restaurant Management I (ProStart I) (CTT-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

The ProStart program is an industry-based program that prepares students for careers in the restaurant and food service industry. Topics include preparing and serving safe food, preventing accidents and injuries, industrial kitchen equipment usage, nutrition, business math and business cost awareness.

## Culinary/Restaurant Management II (ProStart II) (CTT-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Culinary/Restaurant Management I/ProStart 1, Open to 9-12 grade

Learn how to be successful in the hospitality and tourism career field! Students continue their study of culinary arts - gaining essential customer service skills used in food service, lodging, and business careers. Select students have the opportunity to participate in the CTE Culinary Arts competition team.

## Baking & Pastries (CTT-3040)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade

In this specialized class, students gain the fundamental skills necessary to work in a commercial bakery or their own kitchen. Advanced studies include breads, pies, cakes, pastries, and much more.

- Community Service Director**
- Consumer Advocate**
- Cosmetologist/Hair Stylist**
- Counselor (Mental Health, Substance Abuse, etc.)**
- Customer Service**
- Director of Childcare Facility**
- Emergency and Relief Worker**
- Employment Counselor**
- Funeral Director**
- Manicurist**
- Massage Therapist**
- Personal Fitness Trainer**
- Personal and Home Care Aide**
- School Counselor/Psychologist**
- Small Business Owner**
- Social Worker**

- Baker**
- Caterer**
- Cook/Chef**
- Convention Services Manager**
- Director of Operations – Lodging**
- Event Planner**
- Facilities Manager**
- Food and Beverage Manager**
- Host/Hostess**
- Hotel/Lodging Manager**
- Restaurant Server**
- Restaurant Owner/Manager**

# Human Services

All Human Services students study confidentiality and are CPR/AED certified.

## Intro to Human Services (CTH-3010)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade

People-oriented occupations require training in human development, parenting, personal care and wellness, counseling, consumer services, and employment skills. Through field experiences and classroom activities, students identify possibly career paths suitable to their strengths, skills, and talents. Students prepare a resume and portfolio.

## Guiding Youth & Families (CTH-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade

Students explore careers related to working directly with youth, adolescents, adults, and the elderly. Classroom activities and field experiences expose students to topics including behavior theory, relationships, ethics and legal issues, social problems, support systems, and learning theories.

## Personal Services (CTH-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 10-12 grade

Students learn advanced study of human care and wellness while exploring communication strategies, dietetics and nutrition, exercise and fitness, first aid, ethics and legal issues, and event planning. This is a great choice for students who wish to go into cosmetology, personal training, or dietetics.

# Integrated English ~ Core Content Courses

To create more flexibility for a student’s schedule and further develop core content skills. In addition to the CTE Course, students have the opportunity to earn Core Content credit in the following courses.

## Integrated Speech (LASA-3010)

Length/Credit: One Semester, .5 credit per semester, which fulfills Graduation requirement.  
Prerequisite: None, Open to 9-12 grade

## Integrated Technical Reading & Writing (LACA-3020)

Length/Credit: One Semester, .5 credit English Selective  
Prerequisite: None, Open to 10-12 grade

## Integrated Creative Writing (LACA- 3040)

Length/Credit: One Semester, .5 credit English Selective  
Prerequisite: None, Open to 11-12 grade

## Integrated College Prep English (LAC-4020)

Length/Credit: One Semester, .5 credit English Elective  
Prerequisite: None, Open to 11-12 grade



Students will be required to meet periodically and complete additional coursework outside of their regular CTE block of time to meet all course standards and earn credit. Earning credit is accomplished through augmenting the approved CTE curriculum to meet core standards through separate one on one instruction and an online component. *Successful completion of the additional coursework will require a high level of student responsibility and motivation, as much of the work will be done on an individual basis.*

# Courses Open to 9th Grade Students

To create more flexibility in the student schedule, the following CTE courses have been approved for 9th Grade Students. \*Please refer to the Course Descriptions for prerequisites \*.

### Exploratory

CTE Academy Exploration (CTV-3010)

### Aviation

Aviation I (CTF-3000)

\*Aviation II (CTF-3010)

### Woodworking

Advanced Woodworking & Cabinet Making (CTC-3090)

Advanced Woodworking & Cabinet Making (CTC-3092)

### Computers

Cyber Security (CTN-3030)

### Core Content

Speech (LASA-3010)

### Media Arts

Intro to Arts/A/V Tech & Communications (CTA-3010) - **Fulfills Fine Art Requirement**

\*A/V Productions & Digital Film Making (CTA-3020)

\*Broadcast Productions (CTA-3030)

\*Digital Music Production (CTA-3040)

\*Digital Animation (CTA-3050)

### Culinary Arts

Culinary/Restaurant Mgmt. I (CTT-3020)

\*Culinary/Restaurant Mgmt. II (CTT-3030)

Baking & Pastries (CTT-3040)

### STEM/Robotics

\*Intro to Engineering Design (CTE-3010)

Intro to Robotics (CTE-3120)

### Mechanics

\*Automotive Brakes (CTL-3010)

\*Automotive Suspension & Steering (CTL-3020)

\*Automotive Engine Performance (CTL-3040)

### Auto Body

Intro to Auto Body Repair & Estimating (CTL-3050)

Auto Body Structural Analysis & Damage Repair (CTL-3060)

Auto Body Nonstructural Analysis & Damage Repair (CTL-3070)

### Agriculture

Natural Resources (CTG-3010)

### Welding

\*Welding II (CTM-3220)



# Science, Technology, Engineering & Math (STEM)

*Project Lead the Way®  
Pathway to Engineering Program*

**Earn up to 12 college credit towards your engineering degree while you are in high school!**

## Engineering I - Introduction to Engineering Design™ (CTE-3010)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade  
Recommended: Concurrently enrolled in Geometry  
Students learn how to apply the engineering design process to solve problems in and out of the classroom. Using real world, 3-D software, students communicate the details of the products and will have the opportunity to create prototypes using our 3-D printer.

## Engineering II - Principles of Engineering™ (CTE-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Open to 10-12 grade  
Recommended: Completed Geometry  
Learn about major engineering concepts encountered in a college engineering curriculum. Conduct destructive testing while learning about material properties. Apply your knowledge of engineering concepts while tackling real-world engineering design problems through the use of VEX Robotics.

## Engineering III - Digital Electronics™ (CTE-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Principles of Engineering™, Open to 10-12 grade  
Using combinational and sequential logic design, and key elements of careers in engineering. Students design circuits to solve problems, export their designs to a printed circuit auto-routing program that generates printed circuit boards, and use appropriate components to build their designs.

## Engineering IV - Engineering Design and Development™ (EDD) (CTE-3080)

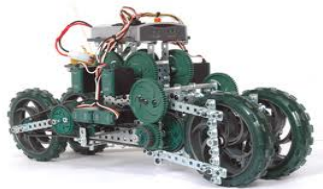
Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Principles of Engineering™, Open to 11-12 grade  
Design, test and construct a solution to real-world engineering problem. The EDD course allows students to apply all the skills and knowledge learned in previous Project Lead The Way courses.

- Archeologist
- Agricultural Engineer
- Analytical Chemist
- Anthropologist
- Architectural Engineer
- Astronomer
- Astrophysicist
- Automotive Engineer
- Biomedical Engineer
- CAD Technician
- Chemical Engineer
- Civil Engineer
- Computer Programmer
- Ecologist
- Electronics Technician
- Environmental Scientist
- Geologist
- Geothermal Engineer
- Lab Technician
- Math Teacher
- Mathematician
- Mechanical Engineer
- Metallurgist
- Network Technician
- Nutritionist
- Radio/TV Broadcast Technician
- Sound Technician
- Statistician
- Survey Technician
- Zoologist

# Robotics

## Introduction to Robotics (CTE-3120)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade  
This Makerspace format course will provide hands-on creative ways for students to design, experiment, and invent as they engage in science, engineering, and tinkering. Working in the lab/Makerspace will require teamwork, robotics, and technology to solve problems. Students will learn how to prototype parts, interpret data from sensors, and program robots.



- Computer Maintenance Technician
- Design Engineer
- Electrical and Electronics Technician
- Electrical Installer and Repairer
- Electronics Engineer
- Environmental Engineer

# Transportation ~ Auto Body/Collision Repair

## Intro to Auto Body Repair & Estimating (CTL-3050)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: None, Open to 9-12 grade  
Learn about and demonstrate an understanding of the process involved in basic automotive collision repair and estimating. This includes understanding industry definitions, demonstrating safety practices, repair procedures, identifying tools and how to use them, and completing written and computerized estimates. Students receive an introduction to procedures performed at body shops on a daily basis and explore different careers available in the collision repair field.

## Auto Body Structural Analysis & Damage Repair (CTL-3060)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Auto Body Repair and Estimating, Open to 9-12 grade  
Learn about and demonstrate an understanding of the processes involved in frame and structural repair. This includes understanding frame components and frame inspection, demonstrating automotive technology safety practices, understanding and demonstrating correct repair and welding procedures, and replacing windshield and glass. Students will explore the different careers available in the transportation career cluster and develop leadership skills.

## Auto Body Nonstructural Analysis & Damage Repair (CTL-3070)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Auto Body Repair and Estimating, Open to 9-12 grade  
Learn to inspect, analyze, repair and replace nonstructural components. Students will determine the extent of damage to aluminum body panels and then repair or replace in accordance with manufacturer's specifications. Students will weld damaged or torn steel body panels, repair broken welds, and replace door skins according to manufacturer's procedures. Students will also finish and refinish more complex damage.

## Auto Body Painting & Refinishing (CTL-3080)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Auto Body Repair and Estimating, Open to 10-12 grade  
Demonstrate and understand the processes used in painting and refinishing, in accordance with all regulations, apply base coat/clear coat for panel blending or partial refinishing to achieve invisible repair, identify the types of rigid, semi-rigid or flexible plastic parts to be refinished, determine the materials, preparation, and refinishing procedures needed and apply multi-stage coats for panel blending or overall refinishing, inspect spray equipment to ensure compliance with applicable regulations, and for safety and cleanliness hazards. Students will learn to properly use the NIOSH approved personal sanding respirator and personal painting/refinishing respirator system, and elect and use the proper personal safety equipment for various shop operations.





**Auto Body Repairer**  
**Auto Mechanic**  
**Avionics/Aircraft**  
**Technician**  
**Bus Driver**  
**Facility Engineer**  
**Industrial Equipment**  
**Mechanic**  
**Industrial and Packaging**  
**Engineer**  
**International Logistics**  
**Specialist**  
**Locomotive Engineer**  
**Motorcycle Mechanic**  
**Safety Analyst**  
**Storage and Distribution**  
**Manager**  
**Traffic Manager**  
**Transportation Manager**  
**Truck Driver**  
**Warehouse Manager**

# Transportation~ Auto Technology

*Introduction to Vehicle Systems & Maintenance, offered at the home high schools, is a prerequisite for the Auto Tech courses.*

## Automotive Engine Performance (CTL-3040)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Vehicle Systems & Maintenance, Open to 9-12 grade

Assemble an automotive engine while learning the fine details of diagnosis related to engine performance. Learn the six basic systems related to an automotive engine, test electronic engine controls and perform computer diagnostics, use up-to-date equipment and computers to analyze data, and use industry accepted equipment and practices to work on automobiles under actual shop conditions. Students will have the opportunity to work on their own vehicles.

## Automotive Brakes (CTL-3010)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Vehicle Systems & Maintenance, Open to 9-12 grade

Learn the basic principles of brake system hydraulics and the skills to diagnose and repair drum brake, disk brake, and parking brake systems. Learn about the modern anti-locking systems and automatic braking systems. Students will use the latest computers and equipment to analyze data and work on automobiles under actual conditions. Students will have the opportunity to work on their own vehicles.

## Automotive Suspension & Steering (CTL-3020)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Vehicle Systems & Maintenance, Open to 9-12 grade

Learn to identify automotive steering and suspension components, mount and balance tires with up-to-date equipment, conduct a four-wheel alignment on several types of vehicles, replace ball-joints, tie rods, and control arms, install different types of springs, shocks, and struts, and learn the details in diagnosing and repairing steering and suspension problems in a lab environment. Students will have the opportunity to work on their own vehicles.

## Automotive Electronics (CTL-3030)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Introduction to Vehicle Systems & Maintenance, Open to 10-12 grade

Learn the basic principles of electricity including: the repair and servicing of electric circuit boards and components, test and diagnose starting systems and charging systems, test electronic engine controls and computer diagnostics, test and repair vehicle wiring, use up-to-date equipment and computers to analyze data, and work on audio and air conditioning systems. Students will learn the latest in modern electrical systems including CAN-BUS and autonomous (self-drive) and hybrid applications under actual conditions. Students will have the opportunity to work on their own vehicles.

## Diesel Technology (CTL-3090)

Length/Credit: One Semester, Two hour block, 1 credit  
Recommended: Automotive Engine Performance, Offered to 11-12 grade

This advanced automotive class will expose students to diesel technology and careers in the related fields. Learn about light duty diesel engine principles of operation and components, diagnostics and repair, electrical, fuel and starting systems, power trains, and hydraulics. Gain experience in applying and using tools and equipment that are used throughout the industry and in post-secondary level programs. Have the opportunity to work on all diesel systems in a lab environment. This course is approved for dual credit at post secondary institutions in South Dakota.

# Welding

*Welding I, which is offered at the home high schools, is a prerequisite for the specialized, advanced welding courses offered at the CTE Academy.*

## Welding II (CTM-3220)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Welding I, Open to 9th -12 grade

Improve work and safety skills by making and using workable plans for school and personal projects. Students improve out-of-position welding skills with S.M.A.W. (Shielded Metal Arc Welding) and G.M.A.C. (Gas Metal Arc Welding) and become proficient in the use of a plasma cutter and wire feed welding processes.

## Advanced Welding & Fabrication (CTM-3230)

Length/Credit: One Semester, Two hour block, 1 credit  
Prerequisite: Welding I & II, Open to 11-12 grade

Students are exposed to gas tungsten arc welding, aluminum welding, gouging, blueprint reading, and heavy duty welding applications for large-scale welding projects. Students shadow a professional in the field to understand the physical attributes of the career.

**Assembler**  
**Foundry Worker**  
**Freight, Stock and Material Mover**  
**Health and Safety Representative**  
**Industrial Machinery Mechanic**  
**Inspector**  
**Lab Technician**  
**Labor Relations Manager**  
**Machine Operator**  
**Manufacturing Technician**  
**Precision Layout Worker**  
**Production Manager**  
**Quality Control Technician**  
**Shipping and Receiving Clerk**  
**Tool and Die Maker**  
**Traffic Manager**  
**Welder**

# Capstone ~ Internship

*All classes in this category are One Semester, 1 credit*  
*Prerequisite: Completion of or concurrent enrollment in a CTE program at the Academy*

## Capstone

CTE Academy students can earn high school credit in all programs by participating in a capstone experience. Completion of a capstone experience will vary depending upon the student's post secondary plan, experience, skills, and ability to learn tasks and responsibilities.

## Senior Experience (CTI-3010)

The senior capstone experience includes a research paper, portfolio and oral presentation. Students will have a faculty advisor to assist in topic selection, supervision of progress, and completion of project.

## Entrepreneurship Experience (CTI-3020)

The entrepreneurial experience includes the development of a business plan, portfolio and an oral presentation. Students will have a faculty advisor to assist in topic selection and supervision of progress.

## Youth Internship I, II, III (CTI-3030, CTI-3040, CTI-3050)

Students are required to work a predetermined amount of hours and to maintain a reflective journal throughout the work experience. The classroom teacher and employment supervisor share instruction and responsibility of the student internship experience.

## Youth Apprenticeship (CTI-3060)

Youth Apprenticeship differs from an internship in that apprenticeships guarantee students receive a wage, hours towards a registered apprenticeship, and the opportunity to receive a nationally recognized credential at the completion of the registered apprenticeship program.



Frequently Asked Questions:

\* How does my student get from their home school to their class at CTE?

The School District provides, free of charge to Sioux Falls students, a bus from their home school to the CTE Academy and back again. This bus service will get the student to their class and back again on time for the next class or end of day activities.

\* How does a CTE class benefit my student?

CTE classes are South Dakota Department of Education approved classes that allow your student to experience career fields before heading off to college, technical school, or the work force. All of the CTE Academy classes offer hands-on learning opportunities.

\* Can my student earn college credit at CTE?

Yes, there are dual credit and concurrent post high school credit opportunities available in various content areas.

\* Does attending the CTE Academy cost anything?

Not if your student attends a Sioux Falls public high school. If you are out-of-district, you must talk to your home school. However, in some courses, there may be a fee for college credit or individual project/event costs.

\* What type of credit will my student earn while attending the CTE Academy?

Depending on the class, it can be a CTE elective, a Fine Art credit, a Social Studies elective, an English core or elective credit, or a 4th Science credit.

\* Is there a certain type of student that CTE classes are intended for?

No, anyone in high school can attend CTE, whether you are planning on going to a technical school, a four year institution, in-state, out-of-state, or going straight into the world of work. We have something for everyone, no matter what type of learner.

\* How important is attendance at CTE?

Because we run 100 minute blocks, attendance is critical. Students earn one full credit in their content area, with the exception of Integrated English which is a .5 credit, each Semester. This means that every class period you are absent, you are actually missing two regular class periods at the home school, in addition to whatever content/practice that was completed that day. As part of the Sioux Falls School District, CTE follows the Sioux Falls school calendar and attendance policies.

\* How do I get enrolled in a CTE course and what do I do if I have no idea what I am interested in?

To get enrolled, talk to your school counselor. If you do not know which classes would be best for you, we have a class called “CTE Academy Explorations”. This Explorations class will introduce students to all content areas offered at the CTE Academy.

CTE Academy Contact Information:

General Office Number ~ 605-367-5504

Principal Josh Hall ~ Joshua.Hall@k12.sd.us

Assistant Principal Don Ryswyk ~ Don.Ryswyk@k12.sd.us

Counselor Sharla Schutte ~ Sharla.Schutte@k12.sd.us

Website: <http://www.sf.k12.sd.us/schools/high-schools/career-and-technical-education-academy>

Find us on Facebook at *CTEAcademySFSD*      *YouTube Channel at CTE Academy Sioux Falls*

*Instagram: @cteacademy*      *Twitter: @SFCTEACADEMY*

Sioux Falls School District Graduation Requirements as of May 2021: \*\*

Total Credits Needed: 22

Please see the Sioux Falls School District’s link for more information:

[http://www.sf.k12.sd.us/images/docs/school\\_specific\\_documents/Graduation\\_Requirements\\_2018.pdf](http://www.sf.k12.sd.us/images/docs/school_specific_documents/Graduation_Requirements_2018.pdf)

South Dakota Department of Education Graduation Requirements can also be found at the following link:

<https://doe.sd.gov/gradrequirements/documents/Handbook.pdf>

South Dakota Opportunity Scholarship Requirements as of January 2023: \*\*

English/Language Arts	~ 4 Credits (Integrated English classes)
Math	~ 4 Credits
Social Studies	~ 3 Credits (Banking & Credit Selective - Academy of Finance Program)
Science	~ 4 Credits (Principles of Biomed, Human Body Systems & Principles of Engineering are approved as a 4th science)
Economics/Personal Finance	~ .5 Credit
Fine Arts	~ 1 Credit (Intro to Arts/A/V)
Physical Education	~.5 Credit
Health /Health Integration	~.5 Credit
CTE or World Language	~ 2 Credits (Any CTE class)
Total Credits	~ 19.5 Credits

To meet the curriculum requirements for the Opportunity Scholarship, all recipients must receive a “C” or higher on all coursework.

The highlighted Requirements can be attained through the CTE Coursework.

\*\* Please verify the requirements on the Sioux Falls School District website (<http://www.sf.k12.sd.us/>) and the South Dakota Board of Regents website (<https://sdos.sdbor.edu/require/require.html>) for the most up-to-date information.



# Career & Technical Education (CTE) Academy Schedule

Block 1 ~ 7:45 - 9:25  
Block 2 ~ 9:40 - 11:20  
11:25 - 1:15 ~ Teacher Collaboration  
Block 3 ~ 1:20 - 3:00

Check out our socials!

Website: CTE Academy Sioux Falls School District



Facebook: CTEAcademySFSD      YouTube: CTE Academy Sioux Falls



Instagram: @cteacademy      Twitter: @SFCTEACADEMY



CTE Academy Courses							
▲ = open to 9-12		■ = open to 10-12		● = open to 11-12		★ = open to 12	
<b>CTE Academy Exploration</b>  CTE Academy Exploration (CTV-3010)▲ Try out all our courses by doing hands-on activities from each of our different programs.  <b>Arts, A/V Technology &amp; Communications</b>  -Intro to Arts/AV Tech (CTA-3010)▲ <b>Fulfills Fine Arts graduation requirement</b>  -Digital Filmmaking and A/V Production (CTA-3020)▲ -Broadcast Productions (CTA-3030)▲ -Digital Music Production (CTA-3040)▲ -Digital Animation (CTA-3050)▲		<b>Architecture &amp; Construction</b>  -Carpentry 1 (CTC-3061/3062)■ -Carpentry 2 (CTC-3081/3082)● -Advanced Woodworking & Cabinet Making (CTC-3090)■ -Advanced Woodworking & Cabinetmaking-Part 2 (CTC-3092)■  <b>Academy of Finance</b>  **Dual Credit Opportunities**  -Accounting I (ACBA4010)■ -Accounting II (ACBA4020)■ -Intro to Financial Services (ACBA4070)● -Banking & Credit (ACBA4050)●		<b>Health Science/Health Careers</b>  -Health Careers I (CTS-3010)■ -Health Careers II (CTS-3020)●  <b>Biomedical Sciences Program</b> <b>Project Lead the Way®</b>  -Biomed I: Principles of Biomedical Sciences™ (CTS-3030)■ -Biomed II: Human Body Systems™ (CTS-3040)■ -Biomed III: Medical Intervention™ (CTS-3050)● -Emergency Medical Technician-Basic Course (CTS-3080)★		<b>Agriculture</b>  -Natural Resources (CTG-3010)▲ -Horticulture & Landscaping (CTG-3020)▲ -Small Animal Science (CTG-3030)▲ -Large Animal Science (CTG-3040)▲ -Agriculture Leadership (CTG-3050)▲ -Ag Bio-Technology (CTG-3060)▲ -FFA	
<b>Integrated English</b>  <i>To create more flexibility in your Personal Learning Plan (PLP) and further develop core content skills, while in a CTE course:</i>  -Speech (LASA3010)▲ <b>Fulfills Speech graduation requirement</b>  -Creative Writing (LACA3040)● -College Prep English (LACA4020)● -Research & Technical Writing (LACA3020)■  <b>Information Technology/Computer Science</b>  **Dual Credit Opportunities**  -Computer Hardware & Software (CTN-3010)■ -Network Technologies (CTN-3020)■ -Cybersecurity (CTN-3030)▲  <b>Aviation</b>  -Aviation I (CTF-3000)▲ -Aviation II (CTF-3010)▲ -Aviation III (CTF-3020)●		<b>Engineering &amp; Robotics</b>  -Introduction to Robotics (CTE-3120)▲  <b>Pathway to Engineering Program</b> <b>Project Lead the Way®</b>  -Engineering I: Intro to Engineering Design (CTE-3010)▲ -Engineering II: Principles of Engineering (CTE-3020)■ -Engineering III: Digital Electronics (CTE-3030)■ -Engineering IV: Engineering Design & Development (CTE-3080)●  <i>Please see required prerequisites for Engineering courses.</i>  <b>Human Services</b>  -Intro to Human Services (CTH-3010)■ -Guiding Youth & Families (CTH-3020)■ -Personal Services (CTH-3030)■		<b>Transportation, Distribution &amp; Logistics</b> <b>Auto Technology</b>  -Automotive Brakes (CTL-3010)▲ -Automotive Suspension & Steering (CTL-3020)▲ -Automotive Electronics (CTL-3030)■ -Automotive Engine Performance (CTL-3040)▲ -Diesel Technology (CTL-3090)●  <b>Auto Body/ Collision Repair</b>  -Introduction to Auto Body Repair I (1 <sup>st</sup> course) (CTL-3050)▲ -Auto Body Structural Analysis & Damage Repair (2 <sup>nd</sup> course) (CTL-3060)▲ -Auto Body Nonstructural Analysis & Damage Repair (3 <sup>rd</sup> course) (CTL-3070)▲ -Auto Body Painting & Refinishing (4 <sup>th</sup> course) (CTL-3080)■  <b>Welding &amp; Manufacturing</b>  -Welding II (CTM-3220)▲ -Advanced Welding & Fabrication (Welding III) (CTM-3230)●		<b>Hospitality &amp; Tourism Culinary Arts</b>  -Culinary/Restaurant Management I (ProStart 1) (CTT-3020)▲ -Culinary/Restaurant Management II (ProStart 2) (CTT-3030)▲ -Baking & Pastries (CTT-3040)▲  <b>Capstone ~Internship</b>  <i>Students in all programs will have the opportunity to earn credit through a Senior Experience, Youth Internship, Capstone, and/or Entrepreneurial Experience.</i>  -Senior Experience (CTI-3010)★ -Entrepreneurship Experience (CTI-3020)● -Youth Apprenticeship (CTI-3060)● -Youth Internship I (CTI-3030)● -Youth Internship II (CTI-3040)● -Youth Internship III (CTI-3050)●	

Some CTE Academy courses have a prerequisite at the home high school. Please see course planning guide for the most up-to-date information. Students are able to take Speech, Research & Technical Writing, Creative Writing, and College Prep English as an “add-on” course to their CTE class. This is an option that allows CTE students to complete these required courses at the CTE Academy and provide for additional flexibility in their schedules.





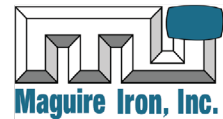
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