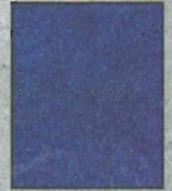
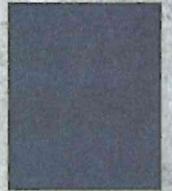
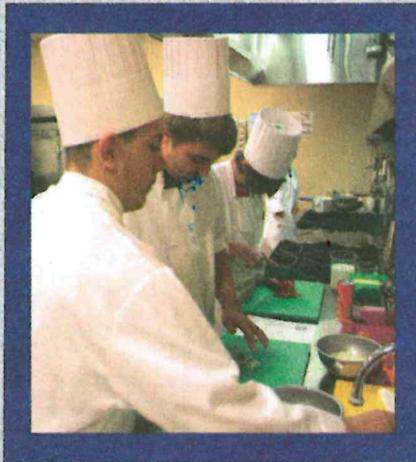
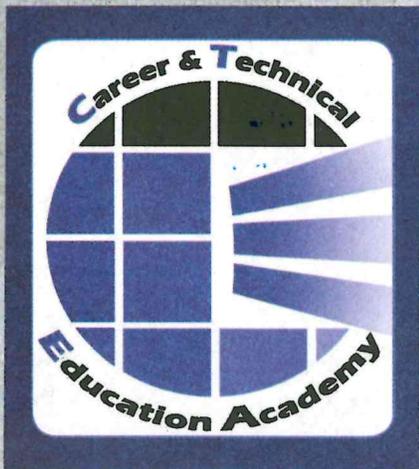
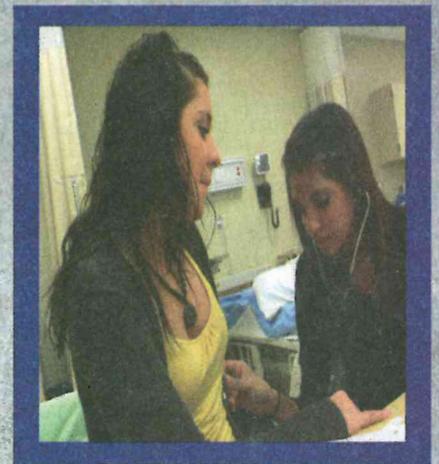
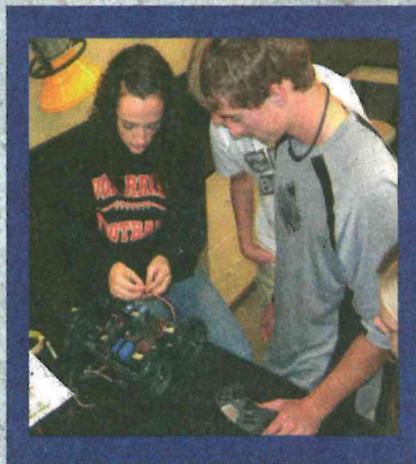
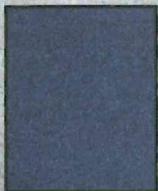


# Career & Technical Education Academy

4700 W. Career Circle • Sioux Falls, SD 57107 • Ph. 605.367.5504



CTE... Creating promising futures in technical careers through relevant, hands-on learning opportunities.



**Sioux Falls School District**



## *A Message from Superintendent Pam Homan:*

Dear Students and Families,

The Sioux Falls School District recognizes that if we are to achieve our mission of "educating and preparing each student to succeed in a changing world" we must challenge ourselves to offer multiple pathways for student success. As educators, we are extremely proud of the engaging, hands-on learning environment at the Career and Technical Education Academy.

Our world requires a well-educated and skilled workforce. Business and community leaders routinely request tours of the Academy and are always impressed with the advanced skills students gain there. The CTE Academy gives students the chance to explore career opportunities and develop a passion for work or advanced study in the field. Good luck as you consider your pathway to success!

Sincerely,

Dr. Pam Homan, Superintendent



## *A Message from Principal Jim Kayl:*

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 several different career focused programs. Our highly qualified staff members are eager to work with students in the classroom and laboratory settings, where students utilize their skills and knowledge to solve problems, work as teams on projects and prepare for the 21st century.

The knowledge and experience gained at the Academy is proving to serve our young people well as they continue their post secondary educational plans. The Academy is for all students regardless of whether the student plans to attend a two year technical institute, a four year college or university, join the military, enter the workforce immediately.

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,

Jim Kayl, Principal

# 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.

Housing CTE programs under one roof at the Academy allows the District to expand and enhance existing career and technical education courses and increase the number of students enrolled in such programs.

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.



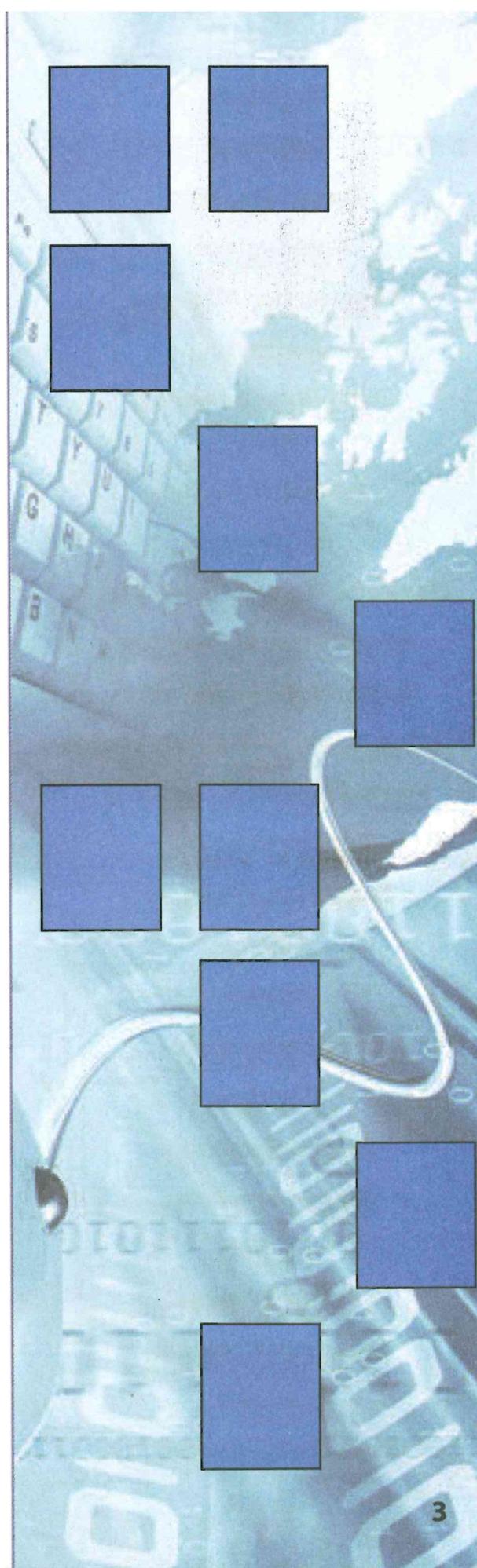
The CTE Academy welcomes input from business leaders in the greater Sioux Falls area who wish to assist with curriculum recommendations, placement of students in workplace experiences and equipment, material and supply needs.

Interested students should contact their school counselor for registration information.

---

## Table of Contents

- Architecture & Construction.....Page 4
- Arts, A/V Technology & Communications.....Page 5
- Health Science.....Page 6
- Hospitality & Tourism.....Page 7
- Human Services.....Page 8
- Information Technology .....Page 8
- Manufacturing.....Page 9
- Science, Technology, Engineering & Math.....Page 10
- Transportation, Distribution & Logistics.....Page 11



# Architecture & Construction



## Carpentry I

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

In this continuation of Carpentry I, young carpenters learn leadership qualities while building a home at the CTE Academy site. Gain an increased understanding of speciality products and materials. Learn home project cost-estimating and blue print reading.

## Woodworking Technology III (Cabinet making)

Learn advanced woodworking skills, including building and installation of cabinets while developing workplace connection and exploring careers in the field. This class is to be taken after successful completion of Wood Tech I, which is offered at a student's home high school.

## Computer Aided Drafting (CAD) & Design I

Designers, engineers and architects speak their own language. Learn the CAD fundamentals and introductory drafting concepts that will help you communicate with people in the manufacturing and construction trades.

## Computer Aided Drafting (CAD) & Design II

Sharpen your skills by using 3-D design software and complete an in-depth study of the CAD concepts necessary to compete for the jobs everyone wants.

## Blueprint Reading for Machine & Building Trades

Understand both basic and complex blueprints and machine print drawings. Learn building codes. Explore real construction projects from residential to commercial. Build a scaled model home using the terminology and residential construction methods.

## Engineering Drafting

Produce charts, graphs, electrical, schematics, gears and cams with the help of CAD software and leave this class with the foundational knowledge needed to become an engineer.

# Arts, A/V Technology & Communications

## Intro to Arts, A/V Technology & Communications

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

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

## Broadcast Technology

Produce video and audio projects and pieces for the KLRN Classroom 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

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

Manipulate images, music and graphics to create animated projects. Animation is seen in advertisements on television, on your computer screen, and on many other things that pop up from the internet.



Actor  
Art Therapist  
Audio-Video Designer and Engineer  
Broadcast Technician  
Commercial Artist  
Computer Animator  
Curator/Gallery or Museum Manager  
Dancer/Choreographer  
Disc Jockey (DJ)  
Editor  
Fashion Coordinator or Designer  
Film Director  
Graphic Designer  
Illustrator  
Interior Designer/Decorator  
Journalist  
Musician/Music Composer  
Music Therapist  
Painter  
Photographer  
Printing Equipment Operator  
Public Relations Specialist  
Radio/TV Announcer  
Radio/TV Program Writer  
Sculptor  
Stagehand  
Stunt Performer  
Teacher (Art, Music, Drama)  
Telecommunication Technician  
TV Producer  
Video Systems Technician  
Videographer  
Visual Merchandising Designer  
Web Page Designer  
Writer/Author

# Health Science

---

## Health Careers I

Want a career in the exciting medical profession? Develop an awareness of various health-related careers while learning entry-level skills needed for all jobs in the profession. Guest speakers and field trips to local health care facilities provide real-life learning opportunities.

## Health Careers II

Try a career in the medical field by completing an internship in a health care facility. Apply entry-level skills while on the job. Upon successful completion of both courses, students are eligible to sit for the Certified Nursing Assistant (CNA) Exam.

---

## *Project Lead the Way® Biomedical Sciences™ Program*

*This program is divided into four courses - each course building upon the previous. Students interested in math, science, and the human body will be exposed to dynamic, hands-on, real-world problems to engage and challenge students.*

## Principles of Biomedical Sciences™

Study human medicine, research processes and get an introduction to bioinformatics. Students investigate various health conditions such as heart disease, diabetes, sickle-cell disease, etc. Students are engaged through hands-on projects and medical research.

## Human Body Systems™

Play the role of biomedical professionals solving medical mysteries and explore how body systems work together to maintain good health. Students investigate the structures and functions of the human body.

## Medical Interventions™

This "how-to" class allows students to explore how to prevent and fight infection, how to screen and evaluate the code in human DNA, how to prevent, diagnose and treat cancer and how to prevail when the organs of the body begin to fail.

## Biomedical Innovation™

In this capstone course, students design and conduct experiments related to the diagnosis, treatment and prevention of disease or illness. Course includes an internship component in the community.

Athletic Trainer  
Audiologist  
Biochemist  
Biostatistician  
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  
Nurse  
Nutritionist/Dietician  
Occupational Therapist  
Optometrist/Optomeric Assistant  
Pharmacist  
Phlebotomist  
Physical Therapist  
Physician's Assistant  
Psychologist  
Radiographer  
Radiologist  
Research Scientist  
Speech/Language Pathologist  
Toxicologist  
Veterinarian

# Hospitality & Tourism

## Hospitality & Tourism Management

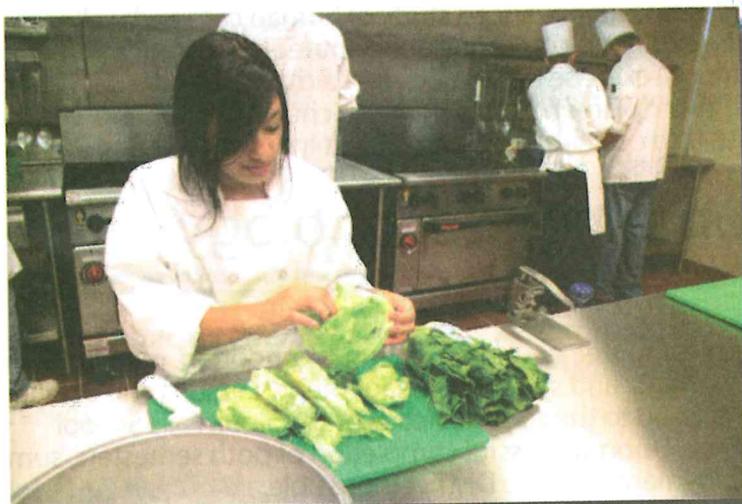
Students learn about careers in the Hospitality and Tourism fields as well as leadership, marketing, accounting, customer service, facilities management and event planning skills.

## Culinary/Restaurant Management I (ProStart I)

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)

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.



- Baker**
- Bartender**
- Casino Manager**
- Caterer**
- Club Manager**
- Cook/Chef**
- Concierge**
- Convention Services Manager**
- Director of Operations – Lodging**
- Director of Tourism Development**
- Event Planner**
- Facilities Manager**
- Food and Beverage Manager**
- Host/Hostess**
- Hotel Front Desk Clerk**
- Hotel/Lodging Manager**
- Maitre d'**
- Museum Director**
- Reservations Manager**
- Restaurant Server**
- Restaurant Owner/Manager**
- Sports Promoter**
- Theme Park Manager**
- Tour and Travel Guide**
- Travel Agent**
- Valet Attendant**
- Wine Steward**

# Human Services

---

All Human Services students study confidentiality and are CPR/AED certified. Students prepare a personal resume and portfolio.

## **Intro to Human Services Careers**

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.

## **Guiding Youth & Families**

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**

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.

# Information Technology

---

Learn computer support skills, troubleshooting, repair; computer networking; and systems management. Lessons and activities are tailored to the specific needs of the Sioux Falls School District. Upon successful completion of both semesters, summer employment with the District is possible.

## **Introduction to Technology & Computer Support**

"Real life" field experiences are the highlight of this class. Under the direction of the CTE instructor, students work with District Building Computer Specialists (BCS) to learn computer setup and software installation, computer support and systems management.

## **Advanced Computer Support & Networking**

Successful students from the intro class expand their responsibilities with the District's network specialist and BCSs. Students spend more time in their home high school or an assigned building working on current technology problems, issues, and service requests.

## **Adult Services**

### **Buyer**

### **Certified Financial Planner**

### **Community Housing Services**

### **Community Service Director**

### **Consumer Advocate**

### **Consumer Credit Counselor**

### **Coordinator of Volunteers**

### **Cosmetologist/Hair Stylist/Barber**

### **Counselor (Mental Health,**

### **Substance Abuse, etc.)**

### **Customer Service Representative**

### **Director of Childcare Facility**

### **Emergency and Relief Worker**

### **Employment Counselor**

### **Funeral Director**

### **Manicurist**

### **Market Researcher**

### **Massage Therapist**

### **Personal Fitness Trainer**

### **Personal and Home Care Aide**

### **Religious Leader**

### **Sales Consultant**

### **School Counselor/Psychologist**

### **Skin Care Specialist/Esthetician**

### **Small Business Owner**

### **Social Worker**

# Manufacturing

## Principles of Manufacturing

This project-based class covers careers in the fields of Manufacturing and Mechatronics. Learn measurement, robotics & pneumatics, thermal technology, basic CAD operations, machine tools, quality control, welding and soldering, purchasing and warehouse management.

## Electronics/Robotics

Gain advanced knowledge of robotics, electronics, AC/DC electrical, manufacturing processes, control and materials. Advanced training in soldering may lead to industry certification.

## Machine Tools

This advanced course expands a student's knowledge and skills of both the large and small machine tools commonly used in industry. Learn installation, maintenance, trouble-shooting and repair techniques.

## Production Processes

Receive advanced training and study in the areas of raw materials, design, assembly, fabrication, packaging, purchasing, shipping & receiving, among other skills. Field experiences allow for observation of production practices in local businesses and facilities.

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

## Welding II

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

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**  
**Computer Maintenance Technician**  
**Design Engineer**  
**Electrical and Electronics Technician**  
**Electrical Installer and Repairer**  
**Electronics Engineer**  
**Environmental Engineer**  
**Foundry Worker**  
**Freight, Stock and Material Mover**  
**Health and Safety Representative**  
**Hoist and Winch Operator**  
**Industrial Machinery Mechanic**  
**Inspector**  
**Lab Technician**  
**Labor Relations Manager**  
**Logistician**  
**Machine Operator**  
**Manufacturing Technician**  
**Pattern and Model Maker**  
**Precision Layout Worker**  
**Production Manager**  
**Quality Control Technician**  
**Safety Engineer/Coordinator**  
**Shipping and Receiving Clerk**  
**Tool and Die Maker**  
**Traffic Manager**  
**Welder**

# Science, Technology, Engineering & Math

**Archeologist**  
**Aerospace Engineer**  
**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**  
**Meteorologist**  
**Network Technician**  
**Nutritionist**  
**Radio/TV Broadcast Technician**  
**Sound Technician**  
**Statistician**  
**Survey Technician**  
**Zoologist**

## **Project Lead the Way®**

### **Pathway to Engineering Program**

**Design an alternative housing project, test and build wind turbines and apply engineering concepts related to biomechanics – think robotics! Earn college credit towards your engineering degree while you are in high school!**

### **Introduction to Engineering Design™**

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.

### **Principles of Engineering™**

Learn about major engineering concepts you will encounter in a college engineering curriculum. Conduct destructive testing as you learn about material properties. Apply your knowledge of engineering concepts as you tackle real-world engineering design problems through the use of VEX Robotics.

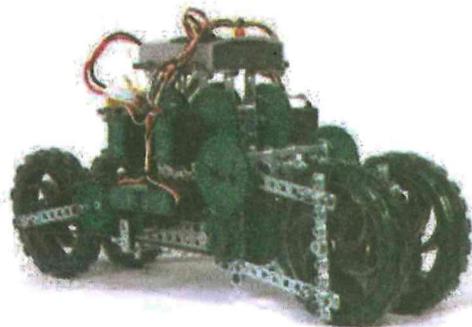
### **Digital Electronics™**

Use combinational and sequential logic design, 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.

### **PLTW Capstone Course**

#### **Engineering Design and Development (EDD)**

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.



# Transportation, Distribution & Logistics

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

## **Automotive Brakes**

Learn the fine adjustment and diagnosis techniques of automobile braking systems while troubleshooting and testing. Use industry-quality equipment and computers to learn the proper installation process, analyze data and repair vehicles under actual conditions.

## **Automotive Suspension & Steering**

Learn the fine adjustment and diagnosis of automobile suspension and steering systems. Troubleshoot and test steering and suspension components. Use industry-quality equipment and computers to analyze data while working on vehicles under actual conditions.

## **Automotive Electronics**

Test electronic engine controls and computer diagnosis; perform ignition and tune-up procedures; test charging and starting systems.

## **Automotive Engine Performance**

Using the latest in automotive technology and diagnostic equipment, students build on their knowledge about fuel systems and fuel injection system repairs under actual lab and shop conditions.

## **Introduction to Auto Body Repair & Estimating**

Become acquainted with the requirements, qualifications and skills needed in the field of auto body repair. Demonstrate proper procedures and safety when handling tools and equipment.

## **Auto Body Structural Analysis & Damage Repair**

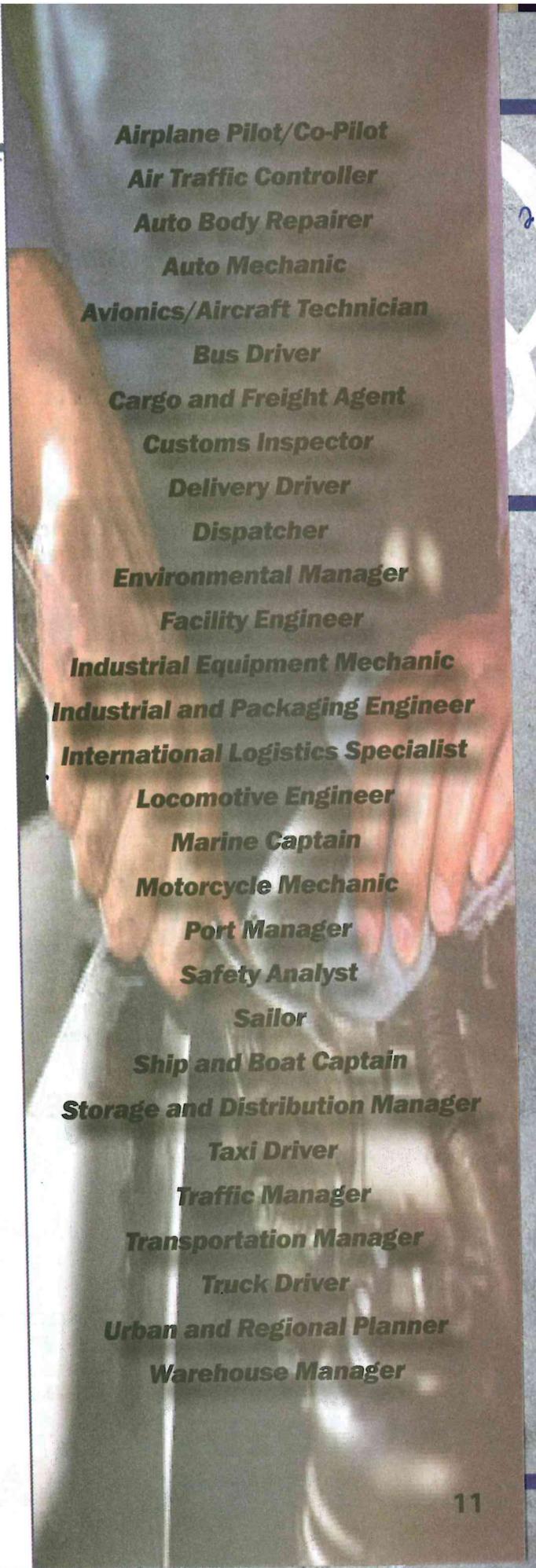
Demonstrate skills necessary for repairing auto body damage and repainting. Successful completion may result in credits in the Auto Body Technology program at Southeast Technical Institute.

## **Auto Body Nonstructural Analysis & Damage Repair**

Repair auto body damage, properly prepare automobile surfaces for painting, analyze, record and estimate the time and material needed to refinish a vehicle. Successful completion may result in credits Auto Body Technology program at STI.

## **Auto Body Painting & Refinishing**

Gain an understanding of the environmental regulations and industry-required processes used in painting and refinishing to achieve invisible repair.



**Airplane Pilot/Co-Pilot**  
**Air Traffic Controller**  
**Auto Body Repairer**  
**Auto Mechanic**  
**Avionics/Aircraft Technician**  
**Bus Driver**  
**Cargo and Freight Agent**  
**Customs Inspector**  
**Delivery Driver**  
**Dispatcher**  
**Environmental Manager**  
**Facility Engineer**  
**Industrial Equipment Mechanic**  
**Industrial and Packaging Engineer**  
**International Logistics Specialist**  
**Locomotive Engineer**  
**Marine Captain**  
**Motorcycle Mechanic**  
**Port Manager**  
**Safety Analyst**  
**Sailor**  
**Ship and Boat Captain**  
**Storage and Distribution Manager**  
**Taxi Driver**  
**Traffic Manager**  
**Transportation Manager**  
**Truck Driver**  
**Urban and Regional Planner**  
**Warehouse Manager**

# Career & Technical Education Academy Senior Experience/ Capstone



## Senior Capstone

*CTE Academy students can earn high school credit in all programs by participating in a capstone experience during their senior year. 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

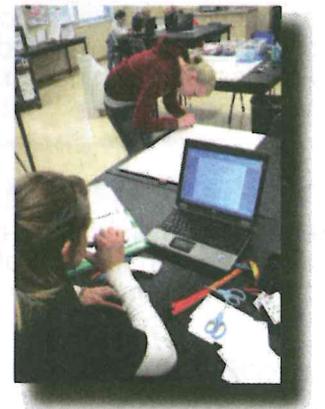
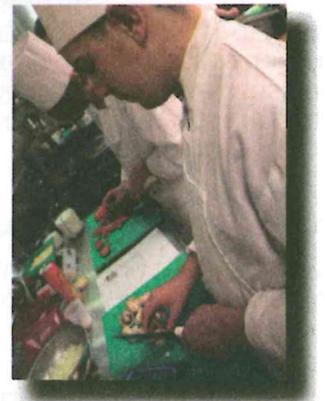
The senior capstone experience includes a research paper, portfolio and oral presentation. Students will have a faculty advisor to assist in topic selection, supervision of progress, and completion of project.

## Entrepreneurship Experience

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

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.

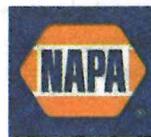


## Thanks to the CTE Academy Supporters!

### Exclusive Program Sponsors



### Classroom/ Lab Sponsors



### Silver Level Sponsor



### Program Sponsors



### Community Partnerships

