Kent Career Technical Center

Celebrating 40 Years!

Kent Career Tech Center has been an important educational service of the Kent Intermediate School District for the past 40 years.

KCTC enrolls more than 2,500 students from nearly 60 public and private high schools each year. The Center provides students with quality training in over 20 career and technical programs including core technical training, academic integration and alignment with post-secondary education. Upon completion of their training, students are assisted by counselors and work-based learning coordinators in finding employment and in exploring further educational opportunities.

Programs within KCTC are grouped together in clusters of common occupational groups in order to maximize interaction and develop a core of common skills. Clustering serves the functions of a career exploration experience, multiple occupational preparations, job entry preparation and/or a prelude to higher education. Classes are designed around work environments and emulate real-world applications. Lab instruction emphasizes computers and technology.

This publication lists the program offerings and descriptions for 2012-2013. These program offerings are subject to change depending on enrollment. Programs and program sequences are listed by career pathway.

Students interested in attending the Center should see their high school counselors or call the KCTC Enrollment Office, 616.365.2315, for additional information. We encourage prospective students and their parents to call and make arrangements for a visit to KCTC.

Mark your calendar now for our fall and spring open house events:

October 25, 2012

March 7, 2013

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General Information

Directory Information

Student Support Services personnel are happy to answer any questions you may have about attending KCTC. Please call if you have any questions.

Dori Baldwin
Power School Enrollment 616.301.6180

Starr Hall
KCTC Registrar 616.365.2315

Barb Bodary
Student Support Services Secretary 616.365.2370

Marilyn Leversay
Counselor 616.365.2331

Gary Moline
Counselor 616.365.2338

Or visit us online at **www.thetechcenter.org**

Attending Kent Career Technical Center

- Attendance is free to all high school students and non grad students under the age of 20.
- Credit for Kent Career Tech Center programs is granted by the home school.
- Students who attend must be in at least the eleventh grade and be at least sixteen years old by December 1 of the school year in which they enroll.
  **Some programs have specific age requirements*
- Transportation is arranged by the home school.
- One session at KCTC equals three one-hour classes at the sending school. Three sessions of 2 hours and 15 minutes are offered Monday through Friday.
- Seniors completing the first year of a two-year program may return for a second year. They will be permitted to attend the same program. Changing programs is not possible for high school graduates. A tuition fee may apply to hold a seat in class.

Session Times

1st session	6:55 am	to	9:10 am
2nd session	9:15 am	to	11:30 am
3rd session	12:00 pm	to	2:15 pm

Byron Center Regional Theatre Technology Only
3rd session 12:00 pm to 2:00 pm M-F

Coming Soon – Mechatronics!

The term Mechatronics comes from the words Mechanical and Electronics combined. It refers to the effective and efficient integration of various mechanical systems and electronics.

Mechatronics combines traditional fields of mechanical engineering and electrical engineering, fused together with IT or computer science, control systems, and mathematics. The combination of these key areas resulted in the development, design and production of smart products. Mechatronics is the discipline used to design and manufacture devices that can respond to their environments in *real-time*. Feedback provided by electrical sensors is managed by a central computer that issues commands to take actions. These commands govern the response of the device, which in turn leaves it in a new situation.

Application of Mechatronics in everyday life ranges from power systems to transportation, optical telecommunications to biomedical engineering, along with a long list of related disciplines. Mechatronic systems exist in almost every science, mechanical, or industrial field.

Details of this exciting new program are still being finalized. Please visit thetechcenter.org for the most up to date information.

Articulation

College Preparation

For years, Kent Career Tech Center has worked with colleges and universities to coordinate the curricula of a number of career and technical programs in an effort to save its students time and tuition. Upon successful completion, academic testing competency, and instructor recommendation, the following colleges have agreed to grant credit and/or advanced standing for time spent in courses at KCTC. As a result, college-bound students have saved hundreds of dollars in college tuition and instructional time by using the process.
The following is a list of colleges and universities that may articulate credit with the programs indicated.

Baker College
- Automotive Technology
- Graphic Communications
- Health Careers
- Hospitality
- Information Technology

Davenport University
- Accounting Online
- Accounting Systems and Solutions
- Health Careers
- Hospitality
- Information Technology
- Marketing: Retail and Management

Ferris State University
- Agriscience
- Applied Construction Technology
- Auto Collision Repair
- Automotive Technology
- Precision Machining Technology
- Accounting Systems and Solutions
- Criminal Justice
- Diesel and Equipment Technology
- Electronics/Electrical Trades
- Engineering CAD/Site Design Management
- Graphic Communications
- Hospitality Cluster
- HVACR
- Health Careers
- Information Technology
- Marketing: Retail and Management

Grand Rapids Community College
- Accounting Online
- Accounting Systems and Solutions
- Automotive Technology
- Criminal Justice
- Diesel and Equipment Technology
- Electronics/Electrical Trades
- Engineering CAD/Site Design Management
- Graphic Communications
- HVACR
- Health Careers
- Hospitality Cluster
- Information Technology
- Precision Machining Technology
- Regional Theatre Technology

Illinois Institute Of Art
- Graphic Communications
- Hospitality (Pittsburgh & Novi locations)
- Marketing

Johnson and Wales University
- Hospitality

Lansing Community College
- Agriscience
- Aviation Maintenance Technology
- Auto Collision Repair

Northern Michigan University
- Hospitality

Robert Morris College
- Hospitality
- Graphic Communications

Universal Technical Institute
- Automotive Technology

University of Northwestern Ohio
- Auto Collision Repair
- Automotive Technology
- HVACR
- Diesel and Equipment Technolog

Academic Credit Options

KCTC is working to provide more opportunities for students to earn academic credit through their KCTC coursework.

KCTC Course Plus

Course Plus classes are custom-designed, blended online courses in which students learn academic content that is specifically tied to their career program. Students can earn both CTE credit and academic credit. Course Plus classes are taught by highly-qualified teachers in the specific academic content areas. Lessons are presented in an online learning format, and students are expected to complete the majority of their Course Plus work outside of the school day. Students interested in Course Plus should speak to their high school counselors, who will be able to provide information about graduation requirements and coordinate enrollment with the KCTC registrar.

Students or counselors who would like specific information about Course Plus classes can contact:

Deborah VanDyke
English Instructor
616.364.8421 ext. 2706
deborahvandyke@kentisd.org

Jackson Fox
Mathematics Instructor
616.364.8421 ext. 2651
jacksonfox@kentisd.org

Jason Kalis
Science Instructor
616.364.8421 ext. 2332
jasonkalis@kentisd.org

After High School

We prepare students to graduate into a future of their own choosing, whether that's college, technical training or first into the workforce. Different students have different goals, needs and interests, so we know "one size fits all" – doesn't.

From follow-up surveys and the scores of students who come back just to say hello and tell us about their lives, we know the Tech Center prepared them well for their future. Most of our students go on to college or additional training. Some start businesses. Others begin their careers and then go to college. All of them find Real Life, Real Learning within our doors.

Resources from The Career Café

Our instructors teach the concepts and skills that make up the careers inherent in individual programs. The Career Café helps students prepare to seek industry positions, or find the internships and job shadows that may lead to one. We offer training to help students get ready for that first career:

- Writing a resume
- Interviewing skills
- Business networking
- Employability skills
- Career planning

In addition, we help students understand how college scholarships work, plus how to find and apply for them. We can help students take advantage of either the direct credit or articulated credit a program offers. For the most up-to-date information about earning college credit, please refer to that program's page on our website, **www.thetechcenter.org**.

Kent Career Technical Center

High School Credit Equivalency Per Program

Programs may be taken for either 1 or 2 full years with a few exceptions indicated below.

	Max Program Length	English	
Arts and Communications			
Graphic Communication	2 years	2 years	.5 credit
3-D Animation/Game Design	1 year	1 year	1 credit
Theatre Technology	2 years		
Business, Management, Marketing			
Accounting	1 year	1 year	.5 credit
Infomation Technology	2 years	1 year	.5 credit
Entrepreneurship & Marketing	2 years	1 year	.5 credit
Engineering, Manufacturing, Industrial Technology			
Alternative Energy	1 year	1 year	.5 credit
Applied Construction	2 years		
Electronics/Electrical Trades	2 years		
Engineering CAD	2 years	1 year	.5 credit
Site Design Management	2 years	1 year	.5 credit
HVACR	2 years		
Precision Machining	2 years		
Transportation			
Auto Collision	2 years		
Automotive Technology	2 years	2 years	.5 credit
Avionics	2 years	2 years	.5 credit
Aviation Maintenance Technology	2 years	2 years	.5 credit
Diesel & Equipment Technology	2 years		
Health Services			
Health Careers	2 years	TBD	
Health Careers Early College Academy	2 years	1 year	.5 credit
Human Services			
Criminal Justice	2 years	1 year	.5 credit
Hospitality	2 years	2 years	.5 credit
Agriscience			
Sustainable Agriscience	2 years	2 years	.5 credit

English Language Arts and Mathematics are crosswalked to the Michigan Merit Curriculum and Common Core Curriculum.
Science is crosswalked to the Michigan Merit Curriculum.
Students who wish to take a second year of programming after graduation may do so for a $200 tuition fee.
For individual course specifics, see thetechcenter.org.

Math		Science		Meets VPAA	Meets OLE
				1 year	1 year
				1 year	1 year
				1 year	
1 year	1 credit				1 year
2 years	.5 credit	2 years	.5 credit		1 year
2 years	1 credit			1 year	
1 year	.5 credit	1 year	1 credit		1 year
2 years	1 credit			1 year	
2 years	1 credit	2 years	.5 credit		
2 years	1 credit			1 year	1 year
2 years	1 credit	2 years	.5 credit	1 year	1 year
2 years	.5 credit	2 years	1 credit		1 year
2 years	1 credit				1 year
2 years	1 credit	2 years	.5 credit	1 year	
2 years	1 credit	2 years	.5 credit	1 year	1 year
2 years	.5 credit	2 years	1 credit		1 year
2 years	.5 credit	2 years	1 credit		1 year
		2 years	.5 credit		
		2 years	1 credit		
		2 years	1 credit		
				1 year	1 year
		2 years	.5 credit	1 year	1 year
2 years	1 credit	2 years	1 credit	1 year	1 year

VPAA: Visual, Performing and Applied Arts
OLE: Online Learning Experience

Visit thetechcenter.org for specific post-secondary credit information

Arts & Communications

Programs

- Graphic Communications
- Regional Theatre Technology

Guiding Questions

- Are you a creative thinker?
- Are you imaginative, innovative and original?
- Do you like to communicate ideas?
- Do you like making crafts, drawing, playing a musical instrument, taking photos, or writing stories?

This may be the career path for you!

Graphic Communications

Regional Theatre Technology

Graphic Communications

Course may be taken for either 1 or 2 full years

Program Description

The Graphic Communications Program provides foundation skills in communication, team building and problem solving for students preparing for careers in the visual arts. Students maintain performance portfolios throughout their programs. These programs combine electronic art and technology to communicate ideas. By working with color, type and imagery, students produce communication pieces to inform and persuade a specific audience. Students learn all phases and processes involved in taking an idea from its inception to visual presentation before a client audience. Career planning, computer foundation skills, and total quality strategies are offered.

Content Areas:

Digital Imaging
- Digital photography
- Image manipulation application
- Design for Web
- Color theory

Layout/Design
- Drawing skills to final computer output
- Logo design
- Create business campaigns
- Design theory and practice
- Color theory
- Typography

Electronic Publishing
- Item and content modification
- Typography
- Format text
- Graphic tools
- Document output

Printing Technologies
- Equipment and safety
- Proofing and platemaking
- Offset duplication and finishing operations
- Screen printing process
- Digital printing and finishing operations

3D Animation
- Storyboarding and planning
- Post and video editing
- 3D level game design
- Lighting and rendering
- Animation
- Interface
- Modeling

Helpful Experience and Aptitudes

- Ability to follow written and verbal directions
- Interest in computer graphics
- Ability to work under pressure and meet deadlines
- High school classes in Math, English, Art, basic Science and Mechanical Drawing
- Keyboarding skills
- Auto CAD

Career Entry Opportunities

- Graphic artist/designer
- Electronic pre-press operator
- Printing press operator – entry level
- Bindery worker – entry level
- Digital Photographer
- Illustrator
- Web designer
- Desktop publisher
- Game designer
- Animator

Benefits for the College Bound

Graphic Communications provides students with skills that prepare them for success in work and in college. Upon completion of this program and with instructor recommendation, students are eligible to receive advanced placement and/or college credit toward a degree in Graphic Design, Printing, or Digital Animation and Game Design at Ferris State University, Davenport University, Illinois Institute of Art, Grand Rapids Community College and Baker College.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
English Language Arts: 2 years = 0.5 credit
(For 3D Animation students 1 year = 1 credit)
Credit is awarded by local high schools and is subject to district policies.

Graphic Communications

Course may be taken for either 1 or 2 full years

The Graphic Communications Program provides foundation skills in communication, team building and problem solving for students preparing for careers in visual arts. Students maintain performance portfolios throughout their content areas. These areas combine electronic art and technology to communicate ideas. By working with color, type and imagery, the students produce communication pieces to inform and persuade a specific audience. Students learn all phases and processes involved in taking an idea from its inception to visual presentation before a client audience.

	CAREER	MAJOR TOPICS INCLUDE BUT ARE NOT LIMITED TO		TIME
Two Year Rotation / Semesters (18 weeks)	Digital Imaging	Graphic Communications provides students with skills that prepare them for success in work and in college. Upon completion of this program, a student is eligible to receive advanced placement and/or college credit toward a degree in Graphic Design, Digital Animation, and Game Design, or Printing at Ferris State University and Illinois Institute of Art. Credit may be granted based upon competency testing at Grand Rapids Community College and Baker College and instructor recommendation. Please contact the 3D Animation and Game Design Instructor, Amy Badovinac, at amybadovinac@kentisd.org, for an application and evaluation information prior to enrollment.	• Computer foundation skills • Design for web • Digital photography • Color theory • Image manipulation application • Career planning	18 Weeks
	Layout and Design		• Computer foundation skills • Drawing skills to final computer output • Layout • Typography • Color theory • Computer illustration application • Career planning	18 Weeks
	Electronic Publishing		• Computer foundation skills • Typography • Item modification • Content modification • Format text • Graphic tools • Document output • Career planning	18 Weeks
	Printing Technologies		• Equipment and safety • Proofing • Platemaking • Duplication operations • Finishing operations • Career planning	18 Weeks
Alternative 2nd Year	3D Animation/ Game Level Design		• Storyboarding and planning • 3D Software • Modeling • Materials • Animation • Lighting and rendering • Post and video editing • 3D level game design • Career planning • Computer foundation skills	36 Weeks

Helpful experience and aptitudes
- Computer graphics
- Ability to work under pressure
- High school classes in Math, English, Science and Art
- Keyboarding skills
- Mechanical drawing and/or Auto CAD

Career Entry Opportunities:
- Illustrator
- Graphic Artist/Designer
- Bindery Worker
- Electronic Pre-Press Operator
- Desktop Publisher
- Web Designer
- Printing Press Operator

Regional Theatre Technology

Course may be taken for either 1 or 2 full years (Located at Byron Center High School)

Program Description

As a partnership, the Kent Intermediate School District offers the Regional Theatre Technology Program at Byron Center High School. This two-year program prepares the student for careers in theatre technology with training in the technical aspects of theatre production. Ten hours of each week are concentrated on mastering the 27 elements of stagecraft. Working alongside a professional road show technician, the student gain experience in a real life setting. Upon satisfactory completion of the 27 elements, students may earn the title of Apprentice. The apprentice will learn about the correct and safe way to stage a show. Throughout the program students will be required to work as a crew member on live shows at the Van Singel Fine Arts Center. Additional hours toward a major or minor focus can be earned through work in a home school or community theatre production.

Content Areas:

- Career options in modern theatre and entertainment industry
- Types of stages, rigging mechanisms, curtains and knots
- Prop and set construction materials, methods and tools
- Costuming materials, methods and tools
- Lighting principles, color theory and safety
- Sound pickup, control and reinforcement
- Principles of box office management, publicity and customer service

Helpful Experience and Aptitudes

- Interest in theatre production
- Willingness to work in teams

Career Entry Opportunities

Registered theatre arts technician for regional and national theatres, cruise ships and road shows:

- Costume designer
- Scenic designer, artist
- Props master
- Lighting designer
- Master electrician
- Sound engineer
- Production manager
- Stage manager

Benefits for the College Bound

Students can apply for scholarships from the Van Singel Fine Arts Center Foundation for advanced studies and training at Grand Rapids Community College. Upon completion of this program, students are eligible to receive college credit at Grand Rapids Community College. The program provides assistance in creating portfolios for employment and college placement.

For Enrollment Purposes

Students must provide their own transportation to Byron Center High School.

Van Singel Fine Arts Center
Hands on classroom for the two-year
KCTC Theatre Arts Technology program
Come see what's on our stage!
VAN SINGEL FINE ARTS CENTER
84th St & Burlingame SW, Byron Center 616.878.6800 www.vsfac.com

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678 Front Ave NW Grand Rapids
K

SIGNS with DESIGN
Alexis C. Ader
616.874.9007
See Our Photo Gallery @
www.signswithdesign.net
Since 2000

Stephen Stolicker
Digital Artist
616-889-3825 Stolicker3d.com
Silv3r777@gmail.com

Business, Management, Marketing & Technology

Programs

- Accounting Online
- Accounting Systems and Solutions
- Information Technology
- Marketing Program

Guiding Questions

- Do you enjoy being a leader, organizing people, planning activities, and talking?
- Do you like to work with numbers or ideas?
- Do you enjoy carrying through with an idea and seeing the end product: Do you like things neat and orderly?
- Would you enjoy balancing a checkbook, following the stock market, holding an office in a club, or surfing the internet?

This may be your career path!

Accounting Online

Accounting Systems & Solutions

Information Technology

Entrepreneurship & Marketing

Accounting Online

1 Year Program

Program Description

This program prepares students for the wide variety of careers in which accounting is used. This includes not only business, but also law, medicine and construction, to name only a few. Using the tools and techniques of the e-Commerce world, students can earn college credit for this class. The software used includes Microsoft Word, Excel, Internet and E-mail. Information is processed both manually and on the computer. Students work from home or home school in a schedule that meets their needs.

Content Areas:

- Accounting and business
- Analyzing transactions
- The accounting cycle
- Accounting systems and internal controls
- Service versus merchandising businesses
- Inventories
- Receivables
- Fixed and intangible assets
- Financial statement analysis
- Using the internet for business research
- Spreadsheet preparation

Home / Home High School Requirements

- Intel-based Pentium PC
- Sound card recommended
- Connection to the internet with an Internet Service Provider
- Microsoft Word
- Microsoft Excel

Helpful Experience and Aptitudes

- Aptitude for computer software and applications
- Problem solving ability
- Ability to learn and work independently

Career Entry Opportunities

- Any job requiring data entry in an Excel spreadsheet
- Accountant, bookkeeper, office manager, with further training

Benefits for the College Bound

Students completing this course with a grade of "B" or better will be eligible for credit. Participating colleges and universities are Baker College, Davenport University, Grand Rapids Community College and Ferris State University. Other schools may grant credit based on the passing of an advanced placement test.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 1 year = 1 credit
English Language Arts: 1 year = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Accounting Systems and Solutions

Course may be taken for either 1 or 2 full years

Program Description

This program provides career exploration opportunities and prepares students for a variety of careers in the accounting field. Students develop skills to systematically record and summarize financial transactions. They process financial information, using financial computer software. Computer applications include word processing, spreadsheets, and databases. Accounting and employability skills are applied in business setting simulations. Students with previous high school course work in accounting may be immediately eligible for the second year curriculum. Following completion of this program, students may choose to go directly into employment or use their training as a basis for continued education.

Global Areas:

- Career Exploration
- Personal Finance Overview

Content Areas:

- Accounting theory
- Alphabetic and numerical data entry
- Computerized accounting software training
- Corporate accounting procedures
- Financial report analysis
- Operation of 10-key electronic calculators
- Principles of business math and English
- Problem solving techniques
- Spreadsheet preparation
- Total quality improvement tools and procedures

Helpful Experience and Aptitudes

- Computer literacy
- Good eye-hand coordination
- Problem solving ability
- Typing or keyboarding experience

Career Entry Opportunities

- Accounting clerk
- Accounts payable/receivable clerk
- Computer operator
- Data entry clerk
- Inventory control clerk
- Payroll clerk
- Accountant, bookkeeper or office manager with further training

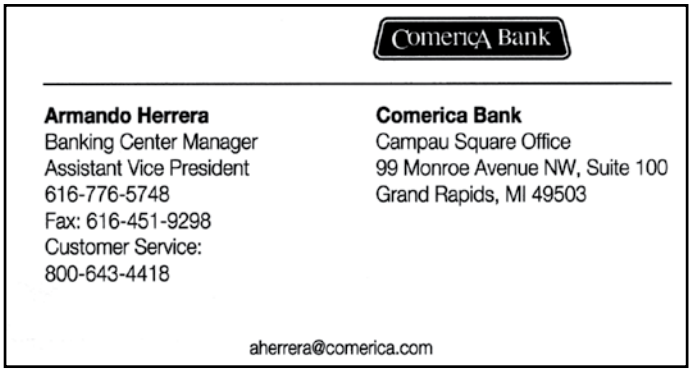
Benefits for the College Bound

Accounting Systems and Solutions provides a students with skills that prepare them for success in work and in college. Students may be eligible for advanced placement and/or college credits upon completion of this program through articulation agreements with Baker College, Davenport University, Grand Rapids Community College, and Ferris State University. Credit may be granted upon competency testing and instructor recommendation.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 1 year = 1 credit
English Language Arts: 1 year = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.



Information Technology

Course may be taken for either 1 or 2 full years

Program Description

Information Technology students receive hands-on training with the tools and technology that drive our world. Students prepare for careers in PC support, networking, programming and security as they earn college credit. IT students build and install networks, build and repair personal computers, learn to secure networks from intruders, create games and program applications for mobile devices and tablets, and provide tech support for a critical incident scenario in partnership with the Criminal Justice and Health Careers programs. Students also learn valuable customer service skills, explore opportunities at colleges and universities, and pursue internships and employment in the Information Technology field.

Information Technology partners with Cisco to offer the Cisco Academy within the IT program. Cisco is the world leader in networking hardware and software. Students complete the entire Cisco CCNA curriculum by enrolling in the IT program for 2 years. Areas of study include Network Fundamentals, Routers, Switches, and Wide Area Networks. Students take the certification test to become Cisco Certified Network Administrators (CCNA). CCNA is a highly valuable and internationally recognized computer certification that can lead to a job in the high demand, high wage field of computer networking. In some instances, students obtain employment in their career field prior to college graduation

Content Areas

- Learn to set up, install, and build a network
- Build and repair PCs
- Create applications using Xbox360 controllers and mobile devices as you learn to program
- Ethically hack into desktops and networks to understand security
- Learn about switches, routers, and networking fundamentals
- Solve a crime using Forensic software
- Program applications for mobile devices and tablets

Helpful Experience and Aptitudes

- Wants to learn about computers
- Likes to have fun learning in teams
- Wants to earn high school and college credit

Entry-Level Career Opportunities

- Job shadows
- Internships
- Employment in education, businesses, and health

Benefits for the College Bound

Earn direct and articulated college credit (up to 60 credits) after attending both years. College credit to Grand Rapids Community College, Davenport, and Ferris State University is available after only one year of attending. Other college articulation agreements are available.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 0.5 credit
Science: 2 years = 0.5 credit
English Language Arts: 1 year = .5 credit

Credit is awarded by local high schools and is subject to district policies.

Entrepreneurship & Marketing

Course may be taken for either 1 or 2 full years

Program Description

The Marketing Program prepares students for careers in a variety of business fields. Student explore advertising, sports and entertainment promotion, e-commerce, and business ownership. Course topics include current marketing trends, social media marketing, economics, sales, and customer relations. Students simulate the work environment by developing in depth business projects and working with local business owners.

The first year marketing students focus on marketing techniques using current business trends, promotion, advertising, product development, and sales. A focus on sports and entertainment marketing is utilized to support learner outcomes. Second-year students develop business plans while learning the procedures involved in ownership of a small business. Topics include store layout, location analysis, customer service, survey design, promotion, international business, e-Commerce and management.

Content Areas:

- Social Media and Twitter Marketing
- Sports and Entertainment Promotion
- Trends in Global Business
- Economic Principles
- Sales techniques
- Business communications
- Market research and analysis
- Preparing business plans
- Business simulations

Helpful Experience and Aptitudes

- Desire to run one's own business
- Possess a Customer Service attitude.
- Teamwork, Communication and problem-solving skills

Career Entry Opportunities

- Retail sales
- Business Owner
- Market research Assistant
- Online Marketing Representative

Benefits for the College Bound

The Marketing and Management Program provides students with the skills that are useful when financing a college education. Credit articulation is available from local colleges and universities such as Davenport University, Grand Rapids Community College, and Ferris State University and more.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit
English Language Arts: 1 year = .5 credit
Online Technology: 1 year = 1 credit.

Credit is awarded by local high schools and is subject to district policies.

Entrepreneurship & Marketing

Course may be taken for either 1 or 2 full years

Marketing Program Course Guide
One or Two-Year Program (A-B Alternate Years)

	Core Area			Major Topics	Time
Year One (A)	**Sports & Entertainment Marketing**	**Career Exploration & Employability Skills Customer Service & Communication Skills Teamwork, Problem Solving, & Interpersonal Skills**	Stock Market Competition, Business Economics, Financial Literacy, Business Ethics	• Event Marketing Plans • Principles of Marketing • The Business of Sports	**9 Weeks**
	Advertising & Promotion			• Develop Ad Layouts • Promote KCTC Programs • Advertising Projects	**9 Weeks**
	Small Business & Entrepreneurship			• Create Business Plans • Explore Business Ownership • Idea Pitch Project	**9 Weeks**
	Global Business & International Marketing			• Global Business Practices • International Trade • Cultural Business Etiquette	**9 Weeks**
Year Two (B)	**Travel & Tourism Marketing**			• Resort Marketing Plans • State Tourism Project • The Business of Disney	**9 Weeks**
	Internet & Social Media Marketing			• E-Commerce & Craig's list • Twitter, Facebook & Youtube • Develop Viral Videos	**9 Weeks**
	Marketing Research & Survey Design			• Develop & Collect Survey's • Research Corporate Data • Student Survey Project	**9 Weeks**
	Retailing & Professional Selling			• Principles of Selling • Consumer Behavior • Develop a Sales Presentation	**9 Weeks**

The Marketing program provides foundation skills in communication, team building and problem solving for students preparing for careers in the business field. Students explore advertising, sports and entertainment, promotion, e-commerce, consumer behavior, and business ownership. Topics include current marketing trends, social media marketing, economics, sales, and customer relations. Students develop in-depth business projects to simulate the work environment.

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Engineering, Manufacturing & Industrial Technology

Programs

- Applied Construction Technology
- Electronics/ Electrical Trades
- Engineering Technology/ Site Design Management
- Heating, Ventilation, Air Conditioning and Refrigeration (HVACR)
- Precision Machining Technology
- Auto Collision Repair
- Automotive Technology
- Aviation Maintenance Technology
- Avionics - Aircraft Electronics Technology
- Diesel and Equipment Technology
- Alternative Energy
- Mechatronics - Coming Soon! See page 3 and thetechcenter.org for more info

Guiding Questions

- Are you mechanically inclined and practical?
- Do you like reading diagrams and blueprints, and drawing building structures?
- Are you curious about how things work?
- Would you enjoy painting a house, repairing cars, wiring electrical circuits, or woodworking?

This may be the career path for you!

Applied Construction Technology

Precision Machining

Avionics - Aircraft Electronics Technology

Electronics/Electrical Trades

Auto Collision Repair

Diesel & Equipment Technology

Engineering Technology/ Site Design Management

Automotive Technology

Alternative Energy

Heating, Ventilation, Air Conditioning and Refrigeration (HVACR)

Aviation Maintenance Technology

Mechatronics

Applied Construction Technology

Course may be taken for either 1 or 2 full years

Program Description

The Applied Construction Technology Program provides students with knowledge and skills to build a house from the foundation to its completion. Over the course of each school year, students build a house from start to finish. The student projects for 2011-2012 are two townhomes and one Habitat for Humanity home. The two townhomes are located on Ledgestone Place, immediately adjacent to the Kent ISD campus. Students will learn the principles of Green Construction while building these homes, one of which will be ADA compliant. The Habitat for Humanity project is an energy-efficient renovation of a 1930's era bungalow style house in the Alger Heights neighborhood of Grand Rapids. While deconstructing and reconstructing this house, the students will learn the principles of Green Construction and LEED certification for buildings.

As part of a two-year program, students spend more time during the first year concentrating on the roughing in aspects, completing all parts of the exterior before going on to the interior work. During the alternating year, students also frame and enclose their house, but concentrate more on the finishing aspects such as building cabinets, countertops, flooring and other interior finishes.

Students may attend for one or two years. The full two year experience provides students with all of the following:

Content Areas:

- Building codes and print reading
- Carpentry skills
- Safe use of hand and power tools
- Material selection, layout, preparation and fabrication
- Applying countertops and ceramic tile
- Applying siding
- Door hanging and trimming
- Hanging wallboard
- Installing windows
- Painting and wood finishing
- Roofing
- Residential framing
- Cabinet making

Helpful Experience and Aptitudes

It is strongly recommended that students entering the Applied Construction Technology Program be able to:

- Add, subtract, multiply and divide
- Convert fractions to decimals
- Convert decimals to fractions
- Read a ruler proficiently to 1/16 of an inch
- Work outdoors in adverse weather conditions, both hot and cold
- Climb ladders and work at heights
- Be agile and well-conditioned to work safely
- Take accurate notes in class
- Use handouts and other materials to study for written tests
- Do homework on a regular basis

Career Entry Opportunities

- Deck builder
- Finish carpenter
- Roofer
- Rough carpenter
- Siding installer
- Wallboard installer/hanger
- Apprenticeship programs are available

Benefits for the College Bound

This program provides the student with beneficial skills to use while financing a college education. Through an articulation agreement, students who complete this program may be granted advanced placement credit toward an AAS degree in Building Construction Technology from Ferris State University.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit

Credit is awarded by local high schools and is subject to district policies.

Electronics / Electrical Trades

Course may be taken for either 1 or 2 full years

Program Description

The Electronics/Electrical Trades Program provides students with training in monitored surveillance systems, telecommunications systems, voice, video and data systems, as well as residential/commercial line voltage systems. Both years include basic electrical/electronics theories and safety training as well as electrical energy generation, installation, and storage. Turbine power (hydro, nuclear, wind, solar furnace), photovoltaics and linear generation (wave) are studied, as well as the switch gear required for grid/off-grid installation. The program covers the installation, troubleshooting and repair of the systems/devices using cutting edge equipment. The "Commercial and Industrial" year provides background (code requirements, common wiring practices and guidelines, and various cables and terminations) and practice of voice, video and data installation in commercial and industrial settings. Additional areas cover line voltage distribution and switching circuits in residential and commercial settings. The "Residential" year focuses on DHTI+ (Home Technology Integration +). DHTI+ includes: distributed voice, video and data; surveillance cameras; home automation/energy management; scene lighting controls; home theater and entertainment systems.

Content Areas:

- Basic house wiring
- Basic and advanced terminations
- Cable testing and troubleshooting
- Electrical blueprints
- Basic and advanced test equipment
- Electronic and electrical theory
- Cabling Applications
- Fiber
- Applied problem solving
- Conduit connections
- National Electrical Code
- Alternative energy generation systems and installation

Helpful Experience and Aptitudes

- Perform repetitive and short-cycled tasks
- Good vision and color perception
- Good spatial and mechanical aptitude
- Manual dexterity
- Classes in applied math or algebra, technology education and computer applications
- Attention to detail

Career Entry Opportunities

- Electrical Trades Apprentice
- Electronic Systems Technician
- Provide installation and field maintenance services of products that:
  - Transport voice, video, audio and data signals in commercial or residential premises
  - Capture and display or otherwise annunciate signals
  - Control signals
  - Use low voltage and line voltage to control mechanical and electrical apparatus

Benefits for the College Bound

This program provides the student with skills to use when financing a college education. Continuing Education credit may be granted based upon competency testing and instructor recommendation.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit
Science: 2 years = 0.5 credit
Credit is awarded by local high schools and is subject to district policies.

Engineering Technology/Site Design Management

Course may be taken for either 1 or 2 full years

Program Description

The Engineering Technology/Site Design Management program provides students two options for study: Mechanical Drafting or Site Development. The two-year program begins with an overview of mechanical engineering/drafting, architectural project site development, and geographic information system (GIS) technology. Early in the first semester, students choose a training path for the remainder of the school year. The two paths are described below:

Engineering Technology Description

The Engineering Technology program is project-based. Students investigate various engineering disciplines.

Introduction to Engineering
- Develop Geometric Construction
- Develop Multiview Projections / Section / Auxiliary
- Demonstrate Basic Dimensioning Skills
- Perform Database Maintenance
- Demonstrate Basic Three Dimensional Skills

Engineering Disciplines
- Manufacturing
- Industrial
- Electrical
- Bio-Medical
- Mechanical
- Tooling
- Quality

Engineering Design & Rapid Prototyping
- Concepts
- Free Hand Sketches
- Design Reviews
- Final Designs
- Internet Research
- Presentations
- Employability Skills
- Design Drill Jigs & Fixtures
- Develop Welding Drawings
- Construct Casting Drawings

Benefits for the College Bound

This program provides excellent foundation skills for college associate degrees and/or bachelor degrees in engineering. After completion of this program, students may be granted credits at Grand Rapids Community College toward an associate degree in mechanical drafting which may be transferred to Ferris State University. Students may also be eligible for advanced placement and/or college credit at Ferris State University, Davenport University and Baker College. Credit is based upon instructor recommendation.

Academic Credit
Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit
Science: 2 years = 1 credit
English Language Arts: 1 year = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Engineering Technology/Site Design Management

(Continued)

Site Design Management Program Description

Site Design Management introduces students to architectural, geographical, environmental, and computer information technologies. Students work with information data sets, topographical maps, aerial photography and satellite imagery, as well as environmental and facility resource management software. Geographic Informational System/GIS technology will be applied to the planning and designing of residential and light commercial architectural projects. Computer mapping will be introduced to create designs for use in environmental and facility management. Students learn how industries and communities are using GIS for long-range planning and decision-making.

Content Areas:

- Basic map orientation and construction
- Data management
- Environmental resource management
- Facility management
- Global Positioning Systems (GPS)
- Land management
- Light commercial design drafting
- Residential design drafting

Helpful Experience and Aptitudes

- Math
- Science
- High School courses in word processing, spreadsheets and databases
- Architectural and/or mechanical drafting
- Art course

Career Entry Opportunities

- Architectural drafter
- Civil drafter
- Earn advanced community college credits
- Engineering
- Environmental and design firms
- Geospatial Information Field
- Real estate
- State and federal agencies
- Municipalities

Benefits for the College Bound

Students may be able to earn college credit at regional colleges such as Grand Rapids Community College, Ferris State University, Davenport University and Baker College.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit
Science: 2 years = 1 credit
English Language Arts: 1 year = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) Course may be taken for either 1 or 2 full years

Program Description

Students will receive training in test equipment operation, mechanics, resistive circuits, residential wiring, HVACR circuits and controls and programmable logic controllers. After mastering this core of skills, students will focus on installation, service and maintenance of heating, cooling, ventilation and refrigeration equipment used in today's climate control systems. Students will install new systems in homes through a partnership with Habitat for Humanity.

Content Areas:

Installation Year

- Air conditioning equipment installation
- Business and industry internship
- Environmental protection (refrigerant recovery, recycling and reclamation) Certification Test
- Gas and water piping systems
- Job costing
- Mechanical code application
- Sheet metal layout and fabrication
- Thermostat system controls installation
- Vent piping

Service Year

- Business and industry internship
- Environmental protection (refrigerant recovery, recycling and reclamation)
- Hot water heating systems
- Installation and repair of gas and oil burners
- Refrigeration theory and operations
- Repair of electrical circuits and controls
- System design and layout

Helpful Experience and Aptitudes

- High school classes in metal or wood shop, technology education and mechanical drawing
- Manual dexterity
- Mechanical ability
- Applied science

Career Entry Opportunities

- Heating/cooling systems installer
- Pipe fitter
- Plumber
- Retail/wholesale salesperson
- Service technician
- Sheet metal fabricator
- Sheet metal installer
- Refrigeration technician

Benefits for the College Bound

Upon completion of this program, students may be granted advanced placement and/or college credit toward associate and bachelor degree programs with Ferris State University or Grand Rapids Community College. Credit may be granted based upon competency testing and instructor recommendation. HVACR provides students with skills that prepare them for success in work and in college.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 0.5 credit
Science: 2 years =1 Credit

Credit is awarded by local high schools and is subject to district policies.

Precision Machining Technology

Course may be taken for either 1 or 2 full years

Program Description

The Precision Machining Technology program is a training partner with Grand Rapids Community College. Students will attend class at the Applied Technology Center (ATC) on the GRCC main campus. GRCC professors will provide added value to instruction with their expertise and advanced manufacturing lab systems.

Precision Machining Technology focuses on the fundamentals of the machine tool field. Students become skilled in the use of hand tools, precision measurement instruments and conventional machine tools as well as state-of-the-art computerized machines. Students learn the setup and operation of milling machines, lathes, surface grinders, contour band saws and drilling machines. Advanced training includes Computer Aided Machining (CAM) and MasterCam software programming; geometry construction, translation, tool path generation and N.C. file post processing. Set up and operation of electrical discharge machines; Computer Numerical Controlled (CNC) milling machines, CNC laser, and CNC turning center.

* Students will be transported to the community college each day from the KCTC campus.

Content Areas:

- Blueprint reading
- Conventional machine tool setup and operation
- CAM programming
- CNC setup and operation
- Quality control gauging and inspection
- Related math skills
- Safety, preventive maintenance and repair
- Communication and employability skills

Helpful Experience and Aptitudes

- Ability to follow directions in a lab setting
- Ability to problem solve
- Courses in applied math, technology education
- Interest in working with hand tools, power tools and computers
- Able to visualize drawings and objects

Career Entry Opportunities

- Apprenticeships in a variety of careers
- Machine operator
- Machinist
- CNC programmer
- CAD/CAM designer/programmer

Benefits for the College Bound

Upon completion of this program, students may receive advanced placement and/or credit toward a one-year certificate or an associate degree in automated manufacturing technology or industrial technology and tooling at Grand Rapids Community College. Similar credit may be granted toward an associate degree in manufacturing tooling technology at Ferris State University. Credit is based on competency testing or portfolio and instructor recommendation. Skills learned in Precision Machining Technology are useful when working to finance a college education. Some employers may pay for college classes.

Benefits for the Career Bound

Precision Machining offers a variety of transferable skills for several career paths. Manufacturing jobs requiring attention to detail and following precise directions are still in demand. Numerous opportunities exist ranging from production specialist, skilled labor, to computerized machine programmer.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit

Credit is awarded by local high schools and is subject to district policies.

Auto Collision Repair

Course may be taken for either 1 or 2 full years

Program Description

Students interested in becoming auto collision repair technicians learn entry-level skills that prepare them for state and national certification. Emphasis is placed on the repair of damaged vehicle exteriors.

Content Areas:

- Automobile construction
- Color matching
- Dent removal
- Frame, body and fender repair
- Frame gauge installation
- Interior trim restoration
- Motor removal and replacement
- Panel spotting
- Preparation and application of paints, primers and top coats
- Repair-cost estimation
- Shop safety
- Technical reading
- Techniques of refinishing and customizing
- Use of car bench systems
- Use of plastic/fiberglass fillers
- Use of hand tools, power tools and equipment
- Welding

Helpful Experience and Aptitudes

- Ability to problem solve
- Ability to work independently
- Eye-hand coordination
- High school courses in automobile mechanics, welding, metals and technical education
- Spatial and mechanical aptitude

Career Entry Opportunities

- Auto insurance estimator
- Body/Bumper repairer
- Detailer/Polisher
- Frame repairer
- Glass installer
- Service technician
- Spray painter
- Truck body builder
- Used car renovator
- Apprenticeships are currently available

Benefits for the College Bound

Auto Collision Repair provides beneficial skills for work and college. Following completion of the KCTC program, students entering Lansing Community College may receive college credit toward an associate degree in automotive body. Credit is based on competency testing and instructor recommendation. In addition to the apprenticeship programs, students may also continue their training in a ten-month certificate program in automotive servicing or a two-year associate degree program in automotive technology at Ferris State University

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = 1 credit
Science: 2 years = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Automotive Technology

Course may be taken for either 1 or 2 full years

Program Description

The Automotive Technology Program is ASE (Automotive Service Excellence) certified through the National Automotive Technicians' Education Foundation (NATEF). Students explore careers in automotive repair, learn entry-level skills with an emphasis on safety, and develop the knowledge, skills, and abilities necessary for state certification. Instructors are ASE certified with years of field experience. Four semester-long classes are taught:

- Brakes
- Engine Performance
- Suspension and Steering
- Electrical/Electronics

Advanced Training Opportunities

- Automotive Youth Education Systems (AYES) Program
- Skills USA Automotive Competition
- Michigan Industrial & Technology Education Society (MITES) Automotive Competition
- Ford/AAA Automotive Competition

Helpful Experience and Aptitudes

- Good attendance
- Interest in automotive topics
- Mechanical aptitude
- Skills in technical reading, math, and science

Career Entry Opportunities

- State-certified Automotive Technician with:
  - o Automobile Dealerships
  - o Independent Repair Facilities
  - o Municipalities
  - o Trucking Companies
  - o Tire Companies
  - o Utility Companies
- Automotive Parts Store Clerk
- Quick Lube Technician

Benefits for the College Bound

The Automotive Technology Program is articulated with many post-secondary organizations. These range from two-year technical programs to four-year baccalaureate automotive programs in management or engineering technology from Ferris State University, the Grand Rapids Community College, the University of Northwestern Ohio, Universal Technical Institute, Baker College, Lincoln Technical College, and Davenport College.

For Enrollment Purposes

Automotive Technology may be taken for one or two years, depending on an individual student's graduation credit requirements. Students are placed in one of two, year-long tracks, which consist of two automotive classes each. The tracks are either Engine Performance and Brakes or Electrical/ Electronics and Suspension & Steering. For example, if a student is placed in Engine Performance their first semester, they will take Brakes their second semester. Progression through the tracks and classes is not sequential.

Academic Credit

Students who successfully complete 2 years of Automotive Technology are eligible for the following academic credit:

- Math – 1 Credit
- Science - .5 Credit
- English/Language Arts - .5 Credit

Credit is awarded by local high schools and therefore subject to district policies.

Automotive Technology

(Continued)

Automotive Technology Program Layout & Progression			
Year One Semester One	**Year One Semester Two**	**Year Two Semester One**	**Year Two Semester Two**
Engine Performance	Brakes	Suspension & Steering	Electrical
OR			
Suspension & Steering	Electrical	Engine Performance	Brakes

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Aviation Maintenance Technology

Course may be taken for either 1 or 2 full years

Program Description

This one or two-year program targets students interested in careers in aviation maintenance, professional piloting, air traffic control, or aeronautical engineering. It introduces students to the knowledge and skills required in the field of aviation maintenance technology, while also highlighting skills required for a variety of airport-related career opportunities.

Students enrolled in this program attend classes at the Gerald R. Ford International Airport. Students start and taxi single engine aircraft. They learn how to start and operate an Allison 250 turbine engine. They disassemble, inspect, reassemble and operational-check aircraft components.

The learning environment reflects a real workplace students will encounter during a career in aviation maintenance, including working on several operational aircraft in our 20,000 square foot hangar. Students are immersed in the daily operations of an international airport where the thunder of jet engines, the reverberations of helicopters flying overhead, and the traffic of 1.9 million passengers annually, colors their daily experience.

Students can earn Foreign Object Elimination Certification (F.O.E.), a national certification through National Center for Aerospace and Transportation Technologies (NCATT), and prepare to earn their Aviation Maintenance or Pilot Certification, an international Certification through the Federal Aviation Administration (FAA) with additional education.

Content Areas:

- Aviation Safety
- Auxiliary Power Units
- Mechanics Privileges and Limitations
- Aircraft Drawings
- Ground Operations and Servicing
- Weight and Balance
- Reciprocating Engine Theory and Maintenance
- Turbine Engine Theory and Maintenance
- Fluid Lines and Fittings
- Aircraft Inspections

Helpful Experience and Aptitudes

- A genuine interest in aviation

Entry Level Opportunities

- Aviation ground service technician
- Aircraft mechanics helper
- Aircraft detailer
- Airline ramp/freight/operations agent

Benefits for the College Bound

Upon satisfactory completion of the program and FAA approved AVGM 111 testing, students may earn college credits articulated with Lansing Community Colleges Aviation Maintenance Program. Students are also eligible for articulated credits with Davenport University.

For Enrollment Purposes

Transportation is provided from KCTC to the Aviation Center

Academic Credit

Students who successfully complete this course are eligible for the following academic credit: English Language Arts: 2 years = .5 credit, Mathematics: 2 years = .5 credit, Science: 2 years = 1 credit.

Credit is awarded by local high schools and is subject to district policies.

Avionics - Aircraft Electronics Technology

Course may be taken for either 1 or 2 full years

Program Description

This program is for students interested in electricity, electronics, avionics, aircraft maintnenance, engineering, & flight sciences. Students learn electrical theory, basic troubleshooting, systems repair, and installation into working aircraft. The course is offered at our hangar at the Geral R. Ford International Airport.

Students enrolled in this program troubleshoot electronic components, learn electrical theory, & install equipment in real aircraft. The learning environment reflects a real workplace students might encounter during a career in avionics including electrical and electronic systems repair, & troubleshooting.

Upon course completion students should be prepared to take the NCATT AET (Aircraft Electronics Technician) exam, which grants national certification as an AET.

Content Areas:

- Communication & Navigation Systems
- Surveillance Systems
- Flight Control Systems
- Technical Publications
- Aircraft Wiring
- Resistors
- Capacitors
- Inductors
- Transformers
- Analog Circuits, Devices, and Switches
- Limiter Circuits
- Power Supply Circuits
- Frequency Sensitive Filters
- Wave Generation Circuits
- Digital Numbering Systems
- Digital Logic Functions

Helpful Experience

- Mechanics
- Physics
- Algebra

Entry Level Opportunities

- Mechanics Assistant
- Avionics Technician
- Avionics Assistant
- Employment with airlines, corporations, fixedbase operators, military, government and manufacturers

Benefits for the College Bound

The KCTC Avionics – Aircraft Electronics Technician Program is a partner with Lansing Community College and students may receive credit towards LCC's Aviation Department.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Math: 2 years = .5 credit
Science: 2 years = .5 credit
English: 2 years = .5 credit
Credit is awarded by local high schools and is subject to district policies.

Diesel and Equipment Technology

Course may be taken for either 1 or 2 full years

Program Description

In the Diesel and Equipment Technology Program, students learn to work with heavy equipment used in agricultural, material handling, construction and highway trucking industries. The curriculum includes servicing, maintaining, repairing, and rebuilding components in engines, vehicles and equipment.

Content Areas:

- Basic skills of an entry-level diesel technician
- Shop equipment operation and safety knowledge
- Use of tools and shop equipment
- Diesel and gas engine systems
- Vehicle familiarization, operation and safety knowledge
- Hydraulic systems
- Electrical systems
- Power train systems
- Basic cutting and welding operations
- Employability skills

Helpful Experience and Aptitudes

- Mechanical aptitude
- Physical dexterity and stamina
- Ability to work independently

Career Entry Opportunities

- Entry-level diesel equipment technician
- Preventive maintenance technician
- Equipment operator
- Apprenticeship programs with local companies

Benefits for the College Bound

This program provides students with beneficial skills to use for work or college. After completion of this program, students may be eligible for advanced placement and/or college credit toward an associate degree in heavy equipment from Ferris State University and the University of Northwestern Ohio. Credit may be granted based upon competency testing and instructor recommendation. Other related post secondary institutions include Lincoln Tech, Nashville Auto-Diesel College, Universal Technology Institute (UTI) and Wyoming Tech.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Science: 2 years = 0.5 credit
Credit is awarded by local high schools and is subject to district policies.

Alternative Energy

1 Year Program

Program Description

A clean, renewable power and fuel supply depends on our ability to harness energy from sources such as the wind, sun, organic matter, Earth's internal heat, and moving water. It also requires leaders who are dedicated to a sustainable energy future. Our Alternative Energy program provides a comprehensive introduction to alternative energy-related fields, preparation for new careers emerging from these fields and the foundation to lead an energy future that will be sustainable through future generations.

Students investigate the science and engineering of wind power, solar energy, batteries, biofuels and other emerging energy technologies. Through a combination of classroom and lab learning, on-site work experiences, and internships with local companies, students learn the necessary skills to attain high-wage, high-skill careers. Students also complete brief rotations through associated programs: Automotive Technology, Aviation Maintenance Technology, Avionics, Construction, Engineering Technology/ Site Design Management, and Heating Ventilation Air Conditioning-Refrigeration. Projects and problem-based learning help students learn real-world alternative energy applications, energy generation and distribution at the systemic and local levels, as well as the pros and cons of various sources of alternative energy. The Alternative Energy program gives students an edge as they take their next steps toward college and a career in the global economy.

Content Areas:

- Renewable Energy (wind, solar, geothermal, hydroelectric)
- Battery
- Biofuels
- Smart Grid
- Green Construction
- Advanced Fossil Energy
- Environmental Policy
- Energy Efficiency
- Triple Bottom Line (people, planet, profit)

Helpful Experience and Aptitudes

- Problem-solve and communicate within a team
- Classes in applied math, biology, earth science, computers

Career Entry Opportunities

- New & emerging fields to be created in the next 5 years
- Repair/Installation technicians across multiple industries (see Associated Programs)
- Electrical Engineer
- Mechanical Engineer
- Environmental Engineer
- Chemical Engineer
- Product Designers & Developer
- Project Manager
- Lead/Hazardous Materials Workers
- Accountants, Business/Facility Management
- Sustainability Officer
- Policy Advisor
- Communications and Outreach Specialist
- Business Leaders
- Research & Development

Benefits for the College Bound

Students learn marketable skills for success in work and in college. Two and four year degree and certificate programs for students pursuing the Alternative Energy field are available through, but not limited to: Ferris State University, Aquinas College, Grand Rapids Community College, Lansing Community College, and Kalamazoo Valley Community College.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Science: 1 years = 1 credit
Math: 1 year = .5 credit
English Language Arts: 1 year = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

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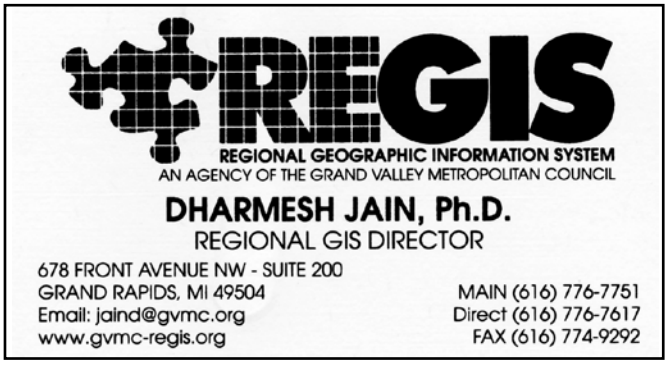

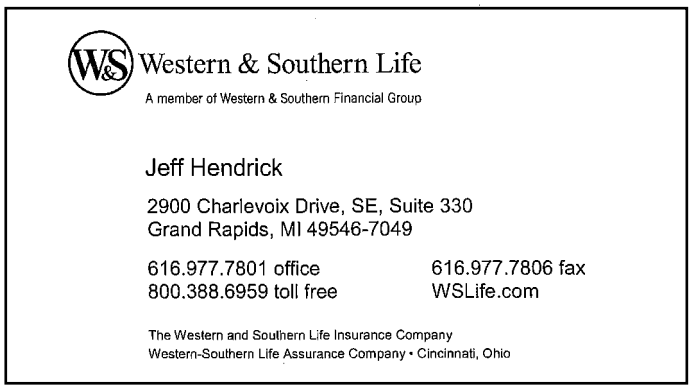

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Health Sciences

Programs

- Health Sciences Early College Academy
- Health Careers – Main Campus
    - Diagnostic Laboratory
    - Medical Imaging
    - Certified Nursing Assistant (CNA)
    - Rehabilitation
    - Exploring Health Careers
    - Pharmacy Technician

Guiding Questions

- Do you like to care for people or animals that are sick or help them stay well?
- Are you interested in diseases and in how the body works?
- Do you enjoy reading about science and medicine?
- Would it be fun to learn first aid or volunteer at a hospital or veterinary clinic?

This may be your career path!

Health Sciences Early College Academy

Health Careers – Main Campus

Health Sciences Early College Academy

Course may be taken for either 1 or 2 full years

Program Description

High school juniors and seniors enrolled in the Health Sciences Early College Academy (HSECA) can earn college credit. Up to 12 FREE direct college credits are available; 6 credits per year.

Students enrolled in HSECA learn in actual healthcare settings. In just two years, students are on their way to becoming geneticists, biomedical engineers, doctors, nurses, medical technologists, respiratory therapists and other medical professionals. Clinical experience is emphasized through field trips, experiments, projects, job shadows and real clinical rotations.

HSECA has three different programs at exciting locations - Biomedical Technology at GVSU Cook DeVos, Diagnostic Services at the Health Sciences and Technology Center and Byron Center/Metro Health Hospital and Therapeutic services at Byron Center/Metro Health Hospital. Students may participate in two different one year programs earning up to 6 direct college credits per year finishing with up to 12 free credits on their college transcripts. Students earn direct college credit from Grand Valley State University or Ferris State University upon completion of the program. These credits are direct and free!

Partner universities offer the following credits for each course indicated.

Biomedical Technology Program – GVSU

Medical Terminology	3 credits
Intro to Health Careers	3 credits

Diagnostic Services Program – FSU

Introduction to Respiratory Care	1 credit
Respiratory Procedures	2 credits
Respiratory Procedures Lab	3 credits

Diagnostic or Therapeutic Services – FSU

Orientation to Health Care	3 credits
Safety Issues – Health Care	1 credits
Medical Terminology	4 credits
Health Services Administration	3 credits

Students enrolled in HSECA are provided with support to complete their college application process including college selection, application requirements, student portfolio, program requirements and course selection and financial aid (FAFSA).

Requirements and Prerequisites

Requirements for all HSECA Programs
The Academy is designed to prepare students for college and professional careers in healthcare. Students must meet the following requirements to enroll:

Academic Requirements

- Must be a high school junior or senior
- Cumulative GPA 3.0 or better
- Successful completion of Biology
- Suggested enrollment in
  - Algebra I
  - Anatomy & Physiology
  - Chemistry
  - English I & II

Professional Requirements

- Clean criminal background check (administered by HSECA)
- Clean drug screen (administered by HSECA)
- Proof of immunizations (student responsibility)
  - (3) Hepatitis B series
  - Current 2-step TB skin test or negative chest x-ray taken 12 months prior to enrollment
  - (2) MMR (mumps, measles, rubella) vaccines
  - (2) Varivax (chickenpox) vaccines or documentation of immunity through history of disease
  - Up to date DPT (diphtheria, pertussis, tetanus) and current Td
  - Up to date OPV (polio)
- Wear appropriate lab and clinical attire which includes lab coat, scrubs, protective eye gear, gloves, closed-toes shoes

Health Sciences Early College Academy

(Continued)

Therapeutic Services

Byron Center/Metro Health Hospital Location

Experiences

- Perform patient triage of body systems and develop patient care plans
- Participate in job shadow experiences with MetroHealth Hospital staff
- Practice patient care techniques including vital signs, range of motion, wound care, suturing, and casting in state of the art practice facilities
- Practice inserting IV catheters and providing injections
- Explore pharmacology

Foundations

Anatomy & physiology
Basic nursing skills
Medical terminology
Medical math
Professional support skills

Diagnostic Services

Byron Center/Metro Health Hospital and Health Sciences and Technology Center locations

Experiences

- Perform diagnostic tests using state of the art equipment
- Perform point of care testing including glucose, hemoglobin and urinalysis assays
- Experiment with standard laboratory methods including electrophoresis and spectrophotometry
- Perform microbiology to understand infection control and emerging diseases
- Explore diagnostic imaging methods
- Participate in job shadow experiences

Foundations

Anatomy & physiology
Human biology
Laboratory equipment & techniques
Medical terminology
Professional support skills
Medical math
Scientific writing

Biomedical Technology

GVSU Cook DeVos location

Experiences

- Conduct biotechnology experiments in cell function, structure and genetics
- Separate DNA for forensic identification using electrophoresis
- Interact with "Medical Mile" facilities and staff
- Experience international discussions within the medical community
- Interact with Evaluation by GVSU health care professions staff
- GVSU simulation laboratory facilities

Foundations

Biological analysis
Microbiology
Human biology
Genetics
Medical terminology
Professional support skills
Scientific writing

Students enrolled at the HSECA at Byron Center/Metro Health Hospital may indicate their preference for either the Therapeutic or Diagnostic Services course, which may be honored depending upon class size and enrollment. Students enrolled in either course have the option to select CNA or Phlebotomy experience as an entry-level healthcare skill.

Students enrolled at the HSECA programs at GVSU or Central High School may select either program.

Health Sciences Early College Academy

(Continued)

Future Career Opportunities

Some examples of careers students can pursue with post-secondary education are:

Therapeutic:	Diagnostic:	Biotechnology:
Athletic Trainer	Cardiovascular Technologist	Biochemist
Dentist	Clinical Lab Technician	Biomedical Engineer
Dietician	Sonographer	Cell Biologist
Neurologist	Geneticist	Clinical Data Manager
Optometrist	Medical Technologist	Geneticist
Pharmacist	Nuclear Medicine	Mathematical Technician
Physical Therapist	Technologist	Microbiologist
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Health Careers - Main Campus

Course may be taken for either 1 or 2 full years

Program Description

The Main Campus Health Careers program gives students the opportunity to explore a variety of healthcare fields and careers. This program is broken up into 6 course offerings which allow students to focus on the areas of healthcare that interest them most. Each course is one year with the option to take up to two years of programming.

Students in this program engage in a combination of classroom instruction, skill experiences and work-based learning. They learn the knowledge, skills and behaviors associated with high demand healthcare careers. Students also connect what they learn and practice in the classroom to the world of work or post-secondary education. Directed activities help students apply skills enabling them to be effective communicators, critical thinkers and life-long learners.

Students in these courses may earn American Heart BLS (CPR) and First Aid certification.

High School Academic Credit

Credit is awarded by local high schools and is subject to district policies. This is currently under revision. Please check the Tech Center's website for the most current information. http://thetechcenter.org/programs/healthcareersonmaincampus/

College Credit

Students may qualify for articulated college credit
GRCC – GH 107 (3 credits), GH 110 (2 credits)
Baker College – Med 103 (4 quarter credits), Med 105 (8 quarter credits)
Davenport – PSYCH 101, CISP 101, HLTH 130 (up to 9 credits total)
Ferris – MRIS 102 (1 credit), CCHS 102 (1 credit)

Exploring Health Careers – Option 1

This course is ideal for students with a general interest in health sciences as it integrates both health science academics and practical health care skills. Students in this course get an introduction to health informatics, environmental services and bio-medical research with a focus on diagnostic and therapeutic services. This course gives students exposure to a variety of health care careers. Students in this course:

- Develop direct patient care skills like taking vital signs
- Sample many areas of health care including each of the remaining five Health Careers courses

Diagnostic Laboratory – Option 2

This course focuses on preparing students for entry into diagnostic health careers with an emphasis on the clinical laboratory. Students in this course learn skills to test for diseases and conditions with both normal and abnormal physiological states. Students in this course:

- Become diagnostic "detectives" and apply forensic knowledge to real-life scenarios
- Collect samples using a variety of methods, including live phlebotomy, then process, analyze and report on the results

Medical Imaging (Radiology) – Option 3

This course is ideal for students interested in direct patient care, scientific investigation and digital technology. Students in this course investigate a variety of medical imaging equipment and image production used in X-Ray, CT, MRI, ultrasound, nuclear medicine and radiation therapy. This course allows students to explore medical imaging techniques, and treatment for patients undergoing diagnostic medical procedures. Students in this course:

- Discover how radiation effects the body
- Practice radiation protection procedures
- Prepare to transition to Medical Imaging college programs

Certified Nursing Assistant (CNA) – Option 4

This course is designed for students interested in careers involving direct patient care. It introduces students to fundamentals of healthcare, core skills, healthcare professional behavior and various pathways to become a healthcare professional. Students in this course practice skills in our simulated patient rooms and participate in work-based learning in both a hospital and long-term care facility. Students in this course:

- Practice direct patient care skills like interviewing patients and performing live blood draws
- May earn CNA credentials upon testing

Note: Only seniors may enroll in this course

Rehabilitation – Option 5

This course is perfect for students interested in a career in physical therapy, occupational therapy, speech therapy and other careers related to patient rehabilitation. This course introduces students to the fundamentals of health care and rehabilitation including adaptive equipment, stairs, walkers, canes, gait belts, wheelchairs and hospital beds. Students in this course will:

- Learn to help people adapt to everyday life – physically and mentally
- Investigate body movement and flexibility

Pharmacy Technician – Option 6

This course is created for students who would like to become a pharmacy technician, intend to pursue an advanced degree in pharmacy, or are planning to work in a healthcare career that has contact with medications. Students in this course will learn to identify hundreds of common medications and their uses, as well as prepare medications ranging from ointments to IV's. Our lab simulates a pharmacy complete with drug storage and preparation areas, a drop off/pick up area and patient consulting areas. Students in this course:

- Operate a mock ambulatory/retail pharmacy in the classroom
- May take the Pharmacy Technician Certification Exam and become a Certified Pharmacy Technician (CPhT) (*Must be 18 to be eligible for this exam)*

Note: It is in a student's best interest to enroll in this course as their second year at KCTC

Main Campus Health Careers

Content Areas	**Exploring Health Careers** • Develop patient care skills like taking vital signs and strengthening communication skills • Gain exposure to a variety of health careers and sample each Health Careers program option	**Diagnostic Laboratory** • Perform blood draws • Study diseases and disorders (Pathophysiology) • Engage in forensics • Investigate germs, viruses and cells (Medical Microbiology)	**Medical Imaging** • Use imaging instruments like X-rays and ultrasounds • Discover how radiation effects the body (radiobiology)and radiation protection procedures • Apply math in a medical setting • Explore medical imaging professions
Who am I? (Self Awareness)	I am energized by interacting with others I hope to inspire others I would like to gain more information to help me find a health career that fits me	I ask a lot of questions I love to solve mysteries, puzzles and problems I am detail-orientated	I am curious and like to explore I am detail-oriented and I enjoy computers/ technology
Future Opportunities (Option Awareness)	Dietary Aide Patient Transport Home Health Aide	Phlebotomist Laboratory Assistant Laboratory Technician Medical Laboratory Scientist	Medical Imaging Aide Radiology Film File Clerk Medical Imaging Receptionist Medical Imaging professions: X-Ray Technologist CT-Computed Tomography Technologist MRI-Magnetic Resonance Imaging Technologist Ultrasound Technologist
Future Opportunities Across the Health Careers Program	Home Health Aide Hospital/Long-term Patient Transporter Laboratory Technician Medical Assistant Medical Laboratory Scientist	Patient Transporter Pharmaceutical Chemist Pharmacist Physical/Occupational Therapist Physicians Assistant	
Helpful Characteristics	• Empathy for others • High level of integrity and dedication • Enjoys working with people	• Prefers interactive, cooperative, learning • Adaptability (ability to work in a team and/or independently)	

Program: 6 Course Options

	Certified Nursing Assistant (CNA)	**Rehabilitation**	**Pharmacy Technician**
	• Develop direct patient care skills • Practice interviewing patients • Perform blood draws • Explore nutrition • Assess and document medical information • Compare development across the life span • Experience work-based learning in a hospital and nursing home	• Learn to help people adapt to everyday life – physically and mentally (Activities of Daily Living) • Investigate body movement and flexibility (range of motion) • Use rehabilitation equipment	• Apply math in a medical setting • Gain knowledge of medication regulation and control • Discover how medication effects the body • Understand basic biopharmaceutics • Study the role of prescriptions • Investigate medication classification
	I enjoy helping and caring for others I am compassionate and social I see the possibilities I like asking questions to clarify the big picture	I want to help others reach their potential I want to make a difference I like to develop relationships with others	I think through problems before coming up with a solution I like structure and order I like to use precise language
	Certified Nursing Assistant Phlebotomist Home Health Aide Patient Care Technician Registered Nurse Nurse Practitioner *Special notes:* *Only seniors may enroll in this course.* *This course leads to certification.*	Occupational Therapist Occupational Therapy Assistant Physical Therapist Physical Therapy Assistant Speech Therapist Athletic Trainer Prosthetics Specialist Exercise Physiologist	Pharmacy Aide/Clerk Pharmacy Technician Pharmacist *Special notes:* *It is in a student's best interest to enroll in this course as their second year at KCTC.* *This course leads to certification. Students must be 18 to be eligible for the test.*

Radiologist
Rehabilitation Aide
Respiratory Therapist
Student Athletic Trainer
Ultrasound Technician

Unit Clerk
X-ray Technician

And more...

- Good time management skills
- Enjoys the challenge of a changing environment
- Motivated by science
- Excellent written and verbal communication skills

Students may elect to enroll in the Health Careers program for one or two years.

Students who begin the program as a senior and wish to complete a second year, may return for the year after graduation. In this case, a small tuition fee is required.

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Human Services

Programs

- Introduction to Hospitality
- Advanced Culinary Arts
- AdvancedPastry Arts
- Hospitality Fellowship
- Criminal Justice

Guiding Questions

- Are you friendly, open, understanding, and cooperative?
- Do you like to work with people to solve problems?
- Is it important to you to do something that makes things better for others people?
- Do you like to help friends with family problems?
- Do you like reading, storytelling, traveling, or tutoring young children?

This could be your career path!

Introduction to Hospitality

Criminal Justice

Advanced Culinary Arts

Advanced Pastry Arts

Hospitality Fellowship

Introduction to Hospitality

Year 1 of a program that may be taken for either 1 or 2 full years

Program Description

The first year of Hospitality introduces students to a variety of careers in the hospitality industry, including travel and tourism, food service and lodging. Students learn bakery production, food preparation, guest services, hospitality concepts, and principles of sanitation and safety certification. During the first year, students develop specialized technical skills as well as teamwork, problem solving and entrepreneurship. All first-year students rotate through four 9-week units:

- Introduction to Hospitality
- Introduction to Baking
- Introduction to Dining Room/ Short Order Cooking
- Introduction to Culinary Arts

Students may earn college credits through Ferris State University beginning in the second semester and throughout the remainder of the Hospitality program. After completing this first-year rotation, Hospitality students choose to specialize in either Pastry Arts or Culinary Arts for the second year.

Content Areas:

Introduction to Hospitality:

- Guest/visitor/client services
- Clerical duties
- Cash handling and register skills
- Information duties
- Telephone etiquette and skills
- Laws and regulations in hospitality industry
- Marketing skills
- Employability skills

Introduction to Baking:

- Basic baking procedures
- Maintaining baking facilities
- Preparing bakery products
- Decorating baked goods

Introduction to Dining Room/ Short Order Cooking:

- Server
- Host/hostess
- Front counter/expediter/salad station
- Beverage station
- Grill/flattop
- Broiler
- Sautéer
- Fryer

Introduction to Culinary Arts:

- Kitchen maintenance
- Kitchen worker
- Salad worker
- Pizza worker
- Sandwich worker
- Cook and second cook
- Catering

Helpful Experience and Aptitudes

- Experience in restaurant, lodging or tourism establishments
- Classes in foods and Science
- Manual dexterity
- Physical stamina

Introduction to Hospitality

(Continued)

Career Entry Opportunities

- Assistant banquet manager
- Assistant restaurant manager
- Banquet worker
- Caterer
- Cook: line, preparation, second
- Front desk clerk
- Hospitality salesperson
- Host/Hostess
- Hotel porter
- Receiving clerk
- Wait staff

Benefits for the College Bound

This program provides students with beneficial skills to use while financing a college education. Upon completion of this program, students may be eligible to receive advanced placement and/or college credit toward an associate/bachelor degree from Ferris State University, Baker College, Johnson and Wales University, and Grand Rapids Community College. Credit may be granted based upon competency testing, having a 3.0 grade average at KCTC and securing an instructor recommendation.

While attending Hospitality classes at KCTC, students may also have the opportunity to take college Hospitality classes. These classes are taught at KCTC by Ferris State University. Students taking these classes may qualify for national certifications or may earn a culinary management or a restaurant and food industry management certificate from FSU.

For Enrollment Purposes

Students interested in the Hospitality Cluster enroll in Introduction to Hospitality for the first year. If a student returns for a second year, the choices are Pastry Arts and Culinary Arts.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Science: 2 years = 0.5 credit
English Language Arts: 2 years = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Advanced Culinary Arts

Year 2 of a 2 year program

Program Description

Culinary Arts builds on the fundamentals of basic cooking. Students learn culinary theory, as well as work in various advanced skill areas. Areas include: sauté, broiling, braising, gardé mangér, saucié cookery, banquet cookery, inventory control, and ordering. Skills are industry-specific, for example, catering, event planning, receptions, and special events. Each student networks with area industry professionals and may choose to participate in professional organizations like the American Culinary Federation. Job placement is available during and after program completion. Second year training can lead to a variety of employment opportunities. Student placements may include upscale restaurants, clubs and corporate food service establishments.

Content Areas:

- Custards and creams
- Hors d'oeuvres and canapes
- Potatoes, grains and pasta
- Principles of cooking
- Principles of meat cookery
- Professionalism
- Quick breads
- Safety and sanitation
- Salads and dressings
- Stocks and sauces
- Preparation
- Deep frying
- Frozen desserts
- Sandwiches
- Sauces
- Soups
- Vegetables
- Ethnic Entrees
- Catering skills

Helpful Experience and Aptitudes

- Classes in nutrition or foods
- Manual dexterity
- Physical stamina

Career Entry Opportunities

- Assistant restaurant manager
- Banquet worker (steward)
- Bus person
- Caterer
  - Cook: line, preparation, second
  - Food service worker in an institution or hospital
  - Host/Hostess
  - Receiving clerk
  - Wait staff
  - Chef, dietician, food and beverage director with additional training

Benefits for the College Bound

This program provides students with marketable skills for financing a college education. Upon completion, students may receive advanced placement and/or college credit toward an associate/bachelor degree at Ferris State University, Baker College, Grand Rapids Community College, Robert Morris College, and Johnson and Wales University. Credit may be granted based upon competency testing, having a 3.0 grade average at KCTC and securing an instructor recommendation.

While attending Hospitality classes at KCTC, students may also have the opportunity to take college Hospitality classes. These classes are taught at KCTC by Ferris State University. Students taking these classes may qualify for national certifications or may earn a culinary management or a restaurant and food industry management certificate from FSU.

For Enrollment Purposes

Culinary Arts is for students who have successfully completed the year-one Introduction to Hospitality course.

Advanced Pastry Arts

Year 2 of a 2 year program

Program Description

Pastry Arts builds on the skills learned during the first year. Students learn baking theory and gain experience in: laminated doughs, pâte à choux, tortes, decorated cakes, hearth breads, bagels, sweet dough and specialty cookies. Each student networks with area industry professionals and may choose to participate in professional organizations like the American Culinary Federation. Job placement is available during and after program completion and leads to a variety of employment opportunities. Employment includes in-store bakeries, coffee houses, independent bakeries, restaurants, and other food service establishments.

Content Areas:

- Basic baking procedures
- Advanced baking procedures
- Maintain baking facilities
- Personal management skills
- Prepare bakery products
- Prepare decorated cakes
- Employability skills

Helpful Experience and Aptitudes

- Classes in nutrition, foods, science, and business math
- Manual dexterity
- Physical stamina
- Good eye-hand coordination
- Teamwork and communication skills

Career Entry Opportunities

- Baker
- Baker's apprentice
- Salesclerk/Salesperson
- Cake decorator
- Manager
- Donut fryer
- Head baker
- Pastry chef

Benefits for the College Bound

This program provides students with marketable skills for financing a college education. Upon completion of this program, students may receive advanced placement and/or college credit toward an associate/bachelor degree at Grand Rapids Community College and Baker College. Credit may be granted based upon competency testing, having a 3.0 grade average at KCTC and securing an instructor recommendation.

While attending Hospitality classes at KCTC, students may also have the opportunity to take college Hospitality classes. These classes are taught at KCTC by Ferris State University. Students taking these classes may qualify for national certifications or may earn a culinary management or a restaurant and food industry management certificate from FSU.

For Enrollment Purposes

Pastry Arts is for students who have successfully completed the year-one Introduction to Hospitality course.

Hospitality Fellowship

1 Year Program

Program Description

Students interested in the Hospitality Cluster enroll in Introduction to Hospitality for the first year. If a student returns for a second year, the choices are Baking or Culinary Arts.

Students enrolled in KCTC's Hospitality program during high school may extend their studies for an additional fellowship year following graduation from their local district. The fellowship year allows for in depth study and provides opportunity for students to earn up to 18 free credits from Ferris State University. This program may be taken as a second or third year of study.

Fellowship students may choose either Advanced Culinary Arts or Advanced Baking and Pastry Arts (see descriptions on previous page). Students electing the program for a third year may enroll in the same course they took their second year for even more in depth study, or they may enroll in the course not taken previously. Throughout the program, students are concurrently enrolled with FSU, taking FSU classes and earning FSU credit.

Students may be responsible for a small tuition fee to participate in this Fellowship. Students are responsible for a book deposit required for books needed for the FSU class.

Requirements and Prerequisites

- Completion of one-two years of KCTC Hospitality program
- Graduation from local district with 3.0 GPA
- 2.0 GPA with Ferris State University (through previous year's study)
- Students may be responsible for a small tuition fee

Benefits for the College Bound

Upon completion of the program, students may receive advanced placement and/or college credit toward an associate or bachelor degree at Ferris State University, or other transferable college or university including: The Culinary Institute of Michigan; Baker College; Grand Rapids Community College; Johnson & Wales Providence, Denver and Miami Campuses; Robert Morris University; Arts Institute of Illinois in Pittsburgh and Novi; Davenport University; Northern Michigan University. Credit may be granted based upon competency testing, achieving a 3.0 GPA at KCTC and securing an instructor recommendation.

Students attending KCTC Hospitality classes also take college classes in the field through Ferris State University at KCTC. Students enrolled in these courses may qualify for national certifications or may earn a culinary management or a restaurant and food industry management certificate from FSU.

GRCC
Jodi Richhart, MS
Police Academy Director
Criminal Justice
143 Bostwick Ave, NE
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Grand Rapids Community College

KENT COUNTY SHERIFF DEPARTMENT
Lawrence A. Stelma - Sheriff
701 Ball Avenue, N.E.
Grand Rapids, Michigan 49503
General Information: (616) 632-6100
LT. KEVIN KELLEY
Technology & Support Services
Kevin.Kelley@kentcountymi.gov
Ph: (616) 632-6236
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Criminal Justice

Course may be taken for either 1 or 2 full years

Program Description

This program is designed for students interested in pursuing a career in the Criminal Justice Field. Students are introduced to basic training in Law Enforcement, Criminal Investigations, Legal Services and Homeland Security. The Criminal Justice program is a two year program. Students enrolled in the Criminal Justice program are exposed to:

- Basic MCOLES standards in Law Enforcement training
- Basic crime scene process and investigative duties for Crime Scene Unit personnel
- Overview of the court system including probation, parole and corrections
- Basic responses to domestic threats, international terrorism and emergency management

The Criminal Justice program is a quality learning environment allowing students to perform:

- Basic patrol functions during planned field scenarios
- Serve in all courtroom capacities to process mock suspects charged with crimes
- Provide security services at special events on and off of the KCTC campus
- Apply self defense and defensive tactics techniques while participating in field problems
- Process crimes scenes on and off the KCTC campus
- Compete in local, regional, state and national skills-based competitions
- Investigate mock crime scenes related to person crimes, gangs and terrorism

The Criminal Justice program curriculum will help prepare students to obtain certification in:

- First Aid/CPR
- SERT
- MCOLES
- First Responder/EMT

Content Areas:
Students participate in independent research, teambuilding activities, leadership competitions, project-based learning and scenario-based activities:

- Criminal Law
- Constitutional Law
- Patrol Duties
- Patrol Operations
- Crime Scene Processing
- Defensive Tactics
- Physical Training
- Challenge, Obstacle, Adventure Courses
- Special Investigations
- Traffic Stops
- Technical Skills and Leadership Training competitions

Helpful Experience and Aptitudes

- Interest in law enforcement and criminal investigations
- Willingness to perform potentially dangerous work
- Ability to remain calm under pressure
- Interest in serving people
- Mature attitude, good physical conditioning
- Strong reading, math and science skills
- "Clean" traffic, criminal, and school records

Career Entry Opportunities

- Security Guard
- Dispatcher – 911 Operator
- Loss Prevention Specialist
- Police Cadet/Intern
- Armed Services
- Private Security

Benefits for the College Bound

Criminal Justice students can earn articulated college Credit with Davenport University, Ferris State University, Grand Rapids Community College, Lake Superior State University. The total number of credits varies.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
English Language Arts: 1 year = .5 credit

Credit is awarded by local high schools and is subject to district policies.

Natural Resources & Agriscience

Program

- Sustainable Agriscience

Guiding Questions

- Are you a nature lover?
- Are you practical, yet curious about the physical world?
- Are you interested in plants and animals?
- Do you enjoy hunting or fishing?
- Do you like to garden or mow the lawn?
- Are you interested in protecting the environment?

This could be your career path!

Sustainable Agriscience

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Sustainable Agriscience

Course may be taken for either 1 or 2 full years

Program Description

This program introduces students to a field that is constantly growing and changing. New technologies in this industry bring improved agricultural products to consumers, while aiming to minimize impact on the environment. Practical applications for students take place at the KCTC arboretum, greenhouse and environments throughout the community. Core training areas include basic equipment operation, sustainability and environmental effects, plant identification (including native plants) propagation, recycling and composting, landscaping, and cultural requirements for ornamental and edible plant growth. Second year students prepare for Michigan Certified Green Industry Professional and Certified Pesticide Applicator Licenses.

Content Areas:
- Plant identification (including native plants)
- Integrated pest management
- Nursery operations
- Recycling and composting
- Turfgrass/golf greens operations
- Sustainable landscape practices
- Interior landscaping
- Greenhouse operations
- Sustainable food production
- Landscaping and landscape maintenance
- Business/marketing

Second Year Programs:
- CGIP - Michigan Certified Green Industry Professional license
- Certified Pesticide Applicator license

Helpful Experience and Aptitudes

- Like to work outdoors
- Problem solves and communicates within a team
- Develops, designs and creates landscapes and growing systems
- Completes classes in applied math, biology, earth science, business, drafting, art and computers
- Values and takes pride in conserving the world's resources
- Advocates for maintaining a sustainable environment

Career Entry Opportunities

- Landscape designer
- Lawn maintenance
- Greenhouse grower
- Groundskeeper
- Landscape maintenance
- Stormwater management
- Parks and recreation worker
- Nursery/Garden center manager
- Interior plantscaper
- Golf course technician
- Organic food production
- Landscape irrigation

Benefits for the College Bound

This program provides students with beneficial skills to use for work or college. Student may elect to enter a joint venture between Grand Rapids Community College and Michigan State University by enrolling in the landscape management program at GRCC. Students can earn an associate degree and/or a two-year certificate from MSU. Students may also choose the four-year agriscience or horticulture program at Michigan State University.

Academic Credit

Students who successfully complete this course are eligible for the following academic credit:
Science: 2 years = 1 credit
Math: 2 years = 1 credit
English Language Arts: 2 years = 0.5 credit

Credit is awarded by local high schools and is subject to district policies.

Grievance Procedures Relating to Non-Discrimination Policies

Who May File

Grievances may be filed by students, parents/guardians and employees of the Kent Intermediate School District for alleged non-compliance with provisions of Titles II, VI and VII of the Civil Rights Act of 1964; Title IX of the Educational Amendments of 1972; Section 504 of the Rehabilitation Act of 1973; and Americans with Disabilities Act (ADA) of June 1990.

How to File

Such grievances shall follow the procedures listed:

1. All grievances shall be addressed in writing to the Civil Rights Coordinator
2. The Civil Rights Coordinator, after investigation, shall inform the complainant of the results of the investigation and the action taken, within thirty (30) calendar days after receipt of such complaint.
3. If the complainant is not satisfied with the report of the Coordinator, the complainant shall file an appeal, in writing, with the Kent ISD School Board within twenty (20) calendar days after receipt of the report of the Coordinator.
4. The School Board shall, within twenty (20) calendar days of the receipt of the written request, hold a hearing to determine what, if any, remedies are necessary to eliminate practices that are deemed discriminatory.
5. The School Board shall notify the complainant, in writing, of its decision within ten (10) calendar days of the date of the hearing.

Kent Intermediate School District is an equal opportunity institution.

Kent Intermediate School District does not discriminate on the basis of race, creed, color, national origin, age, sex, physical/mental disability or veteran status in its educational programming, enrollment, employment or contracting.

The Coordinator for Title IX, Section 504, the Age Discrimination Act and Title II is:

Assistant Superintendent for Human Resources and Legal Services
Kent Intermediate School District
2930 Knapp NE
Grand Rapids, MI 49525
(616) 364-1333
www.kentisd.org