

2012-2013 Program Guide



Parents And Students:

We live in turbulent times, in a world changing more rapidly than it ever has before. Just about the time we learn to live with one new electronic device or software version, the next technological breakthrough is announced. Industries come and go in the blink of an eye.

Futurists tell us that the rate of change will only become faster. Some say that what students learn at the beginning of a four year period will be obsolete by the end of their second year. In other words, students are behind before they start, creating a unique set of problems for education. Technology is driving us forward.

The ones who will thrive in this environment of rapid change are those who have learned how to learn and how to access information. They are people who are fascinated by change and look forward to the next innovation.

These are the people who are drawn to Career and Technical Education. CTE students are interested in the latest innovations. They seek out new information and master technology before other people get it out of the box. They look for new ways to make the device do what they want it to do. They develop their own apps. They reverse-engineer products to adapt them for new uses. They are creative. They are the future.

Technology Center of DuPage is proud to be a leader in the CTE community. We are proud our former students are successful. We are proud that these alumni want to hire today's students because, as employers, they recognize the unique qualities of TCD students. They recognize not only the technical skills, but the interpersonal skills and relevant academic background. They recognize students prepared to be successful.

Since TCD's inception, the learning environment has been structured to be flexible. We encourage students to seek new and unusual solutions to problems. We have been dedicated to providing guided learning experiences that give the students the opportunity to learn, and to learn how to learn. In short, to give students the tools they need to be independent and successful.

In the end, that is what we want for our children -- and what our country needs.

Students: your journey starts here!

—Edward A. Susmilch, Principal
Technology Center of DuPage



PROGRAMS OFFERED

Agriculture, Food & Natural Resources

Landscape Design & Management 7

Architecture & Construction

Construction Trades 8

HVAC & Refrigeration 9

Residential Wiring & Home Technology
Integration 14

“Pathway to Engineering” Courses (PLTW)

Introduction to Engineering Design (IED) 11

Civil Engineering & Architecture (CEA) 11

Computer Integrated Manufacturing (CIM) 12

Digital Electronics 13

Engineering Design & Development (EDD)
11 - 13

Arts, A-V Technology & Communications

Graphic Communications 15

Multimedia & Television Production 16

Business & Administration

Data Entry Occupations 17

Office Systems Technology 17

Education & Training

Early Childhood Education & Care 18

Health Science

Certified Nurse Assistant 19

Medical & Health Care Careers 20

Hospitality & Tourism

Culinary, Pastry Arts & Hospitality
Management 21

Human Services

Cosmetology 22

Information Technology

Computer Information Systems 23

Law, Public Safety, Corrections & Security

Criminal Justice 24

Fire Science 25

Transportation & Logistics

Auto Body Repair & Refinishing 26

Automotive Technology 27



I managed to get a summer job with a neuropsychologist's office, because my résumé was filled with everything I'd done at TCD.

—Joanna Weremijewicz
Medical & Health Care Careers graduate
Post-secondary education: Loyola University, Biology (pre-med) and Psychology major

TCD definitely surprised me with all the opportunities they have.

—Richard Kenealy
Automotive Technology program graduate



The Career Clusters icons are being used with permission of the States' Career Clusters Initiative, 2011
www.careerclusters.org



Scan the QR codes throughout this Program Guide with your smart phone to see a video about each program, all produced by TCD Multimedia students!

The National Career Readiness Certificate (NCRC)

TCD students now have the opportunity to prepare for and take the National Career Readiness Certificate examination during their senior year. The NCRC verifies to employers anywhere in the United States that an individual has essential core employability skills in Reading, Math, and Locating Information. ACT researched over 16,000 occupations and found these three skills are highly important to the majority of jobs in the workplace. The Certificate is an easily understood and nationally valued credential that objectively certifies the attainment of these workplace skills.

Now more than ever, America needs a strong, skilled workforce to overcome today's challenges. The National Career Readiness Certificate is the work-related skills credential. Thousands of private and public employers already ask for or require the NCRC as part of the application process. Stand up for a skilled workforce. Stand out from the crowd.



NATIONAL CAREER READINESS CERTIFICATE®

Ways the NCRC is used in the workplace:

- Screening—Employers interview only applicants who have the skills required for the job.
- Hiring and promotion—A National Career Readiness Certificate can be used as a “plus” factor to help make selection and promotion decisions.
- Targeting employee training and development—Employers can target their training budgets for job-specific skills rather than basic skills.

NCRC is awarded at four levels—Platinum, Gold, Silver, and Bronze—based on an individual's performance on the assessments. Learn more at NationalCareerReadiness.org.

New at TCD: Pathway to Engineering

Technology Center of DuPage is the first DuPage high school to offer Pathway to Engineering curriculum developed by Project Lead The Way (PLTW), a nationally recognized innovator in STEM education (science, technology, engineering and mathematics). PLTW programs at TCD include three foundation-level courses: Introduction to Engineering Design, Principles of Engineering, and Digital Electronics. Computer Integrated Manufacturing is being offered for the first time at TCD and is a class in the PLTW curriculum. The PLTW specialty classes to be offered in 2012 - 2013 include Civil Engineering & Architecture and Engineering Design & Development. See the individual program pages for descriptions. As with most TCD programs, Pathway to Engineering gives students the opportunity to earn high school and college credit.



Through this hands-on, problem-based curriculum, TCD students apply and reinforce the core STEM classes taken at their high school. The curriculum features foundation classes in design, electronics, or engineering, followed by a specialized course in architecture & engineering design, computer integrated manufacturing. The sequence ends with a semester-long final project called Engineering Design & Development.

A non-profit organization, PLTW developed Pathway to Engineering as a first step in tackling the nation's staffing shortage in design, engineering, and manufacturing. High tech, highly-skilled, and high paying jobs in these career pathways require complex problem solving skills, resource management, and innovative technical and engineering system development. See www.PLTW.org for information.

Expand Your Options.

Get the real world experience you need without interfering with your required high school classes.

Throughout your career you will probably change jobs or refocus your career several times. It's the nature of today's competitive and ever-changing marketplace. The skills you gain as a TCD student can help you make informed career choices from your first job throughout your entire career.

Customize Your Curriculum

Going to TCD was probably the best decision I made in high school. It totally shaped and reinforced the confidence I put into doing what I do. The way the school is run, what I learned there, the attitude presented and expected all had a huge impact on how I go about my life and career.

—Brett Novak

Multimedia & Television Production,
program graduate

Lead Visual Effects Supervisor
Post-production Company
Los Angeles

Planning On College?

Build a solid foundation for your advanced education at TCD, whether you pursue a two-year or four-year degree. Your instructors will help you identify your talents and interests so you can make your post-secondary educational years more productive.

Ready To Find Your Dream Job?

TCD can be a valuable link between high school and rewarding, in-demand occupations that may not require a college degree, but may require specialized training. You have goals ... your TCD instructor can tailor a learning plan to help you meet those goals.



Learn on Two Levels

Hands-on Basics

Go beyond theory with a first-hand look at how math, science, communication, and technology are used in real-world applications. Start with the fundamentals then apply what you learn through hands-on experiences.

No matter which program you choose at TCD, you will have the opportunity to graduate from high school with stronger reading, math, and communications skills, as well as improved analytical thinking.

Workplace Skills and Practical Applications

You may have great technical skills, but you will also need practical workplace skills to excel in your chosen career. Learn how to work in teams, use new information effectively, understand complex relationships, and adapt to ever-advancing technologies.

TCD's self-paced, goal-by-goal instructional strategies encourage you to develop or improve self-management and productivity. Imagine taking on higher levels of responsibility with confidence—that's real preparation for success in college and your career!

Classes fill up fast! Enroll today. To enroll, click "Apply" on our Web site, www.tcdupage.org.

Think of TCD Programs as Advanced Electives

TCD programs provide real-world situations that let you build and expand on what you learn in your high school classes.

The academic and technology classes you have taken your freshman and sophomore years have laid the foundation for your TCD experience.

Take The Real World For A Test Drive

What is it really like out there? You will find out through job shadowing and internship programs with our business partners.

It is a great way to build your workplace skills portfolio and help you understand overall workplace dynamics.

You can also interact with customers or clients in TCD's own student-run shops and labs.

TCD instructors will also guide you through creating an effective résumé, conducting a focused job search, and growing in your career.

Choose From 21 Of Today's Expanding Career Areas!

We did the research and built programs around growing occupational fields, from digital media and pre-engineering to health and safety services. See the Program Section for detailed course descriptions.

Earn College Credit

Each description in this guide tells you if a program offers college credit.

Many programs offer credit through College of DuPage. For no extra fee, you can be both a high school student and a college student – and your credit is transferable to other colleges and universities accepting COD course work.

Other colleges offer advanced standing or credit upon enrollment for completion of specific TCD programs. These include Purdue University, Bradley University, Northern Illinois University,

Illinois State University, Ferris State University, Triton College, Kendall College, Johnson & Wales University, Illinois Institute of Art, Lincoln Technical Institute, Universal Technical Institute, and many others.

Professional Licensing

Earn industry-recognized certification that opens doors. TCD programs help you prepare for career-related state, federal, professional, or national licensing exams.



Scholarships and Awards

College costs are skyrocketing. As a TCD student you can gain recognition and win scholarships by joining student organizations such as the Hospitality Club and Skills USA. TCD instructors and staff are also aware of many industry-related and organizational scholarships specifically for students in career and technical education. We can even help you with the application process!

In the past four years, TCD seniors were awarded over \$1 million in scholarships!

A Final "Reality Check"

Technology is constantly changing the face of business. Competition is fierce—on campus and in the marketplace. Are you ready? TCD gives you a unique opportunity to see how your interests, skills, and education will apply in today's workplace.

Whether your next step is college or another post-secondary educational path, you will leave high school with more confidence and experience.

Graduate Success Stories

Go to www.tcdupage.org and click on "Alumni" to see the post-secondary education and career paths of some former TCD students!

Certification

Every senior enrolled in a Technology Center of DuPage program will take the three-part National Career Readiness Certificate exam (NCRC). A bronze, silver, gold, or platinum certificate is awarded based on a student's scores. See page 3 for additional information.



Program	The TCD Advantage
Auto Body Repair & Refinishing	I-CAR and NATEF certified program You may achieve I-CAR gold class points toward training certifications
Automotive Technology	ASE and NATEF certified program, supported by Automotive Youth Educational Systems (AYES) Qualify for certification exams for ASE ratings based on your coursework.
Certified Nurse Assistant	State Approved Basic Nurse Assistant Training program Prepares you for the Illinois Nurse Assistant Competency Exam Healthcare Provider Level CPR
Computer Information Systems	C++ certification (Comp TIA) AutoDesk 3ds Max Design: Upon completion of coursework, students are eligible to take the AutoDesk University Certified Associate exam.
Construction Trades	NCCER certified program (National Center for Construction Education & Research) Certifications: Core Curriculum (<i>Introductory Craft Skills</i>) Level 1 Carpentry Fundamentals Level 2 Carpentry Framing & Finishing Level 1 Painting Transition available to advanced levels with Accredited Sponsor
Cosmetology	State Certified Cosmetology program Prepares you for the Illinois State Cosmetology License examination
Criminal Justice	CPR/First Aid CERT (Community Emergency Response Team) Training Certification
Culinary, Pastry Arts & Hospitality Management	National Restaurant Association ProStart program American Culinary Federation (ACF-ACCESS) program American Culinary Federation: Junior Culinarian; Secondary Graduate Certification Illinois Restaurant Association Educational Foundation Internship Certificate ProStart National Certificate of Achievement Wisconsin Milk Marketing Cheesecyclopedia Certificate of Completion American Heart Association: HeartSaver First Aid Certification; CPR Certification
Early Childhood Education and Care	Preparation for Child Development Associate Credential (CDA) CPR / First Aid
Electronics & Pre-Engineering Technology	College of DuPage Electronics Technology: Certificate 4950 Electronic Technician Through Comp TIA: A+ Certification
Fire Science	CPR – Healthcare Provider Level Emergency Medical Technician Basic (EMT-B) license Students who pass the course & clinicals (grade 80% or above) are eligible to take the State or National EMT-B licensing exam EMT-B curriculum includes Hazardous Materials Awareness (HazMat) and First Responder
Landscape Design & Management	Commercial Pesticide Application Certification (Illinois Department of Agriculture) STIHL, Inc. Bronze Level Certificate, 2-cycle engine
HVACR	EPA certification through Air Conditioning & Refrigeration Institute (ARI)
Medical & Health Care Careers	Certified Instructor / Authorized Training Site for American Heart Association, American Red Cross, American Safety & Health Institute (ASHI), The Crisis Prevention Institute (CPI) Healthcare Provider Level CPR/AED (and/or HeartSaver CPR) First Aid Certification (American Red Cross) Epinephrine Auto-Injector Training Certificate (American Red Cross) Asthma Inhaler Training Certificate (American Red Cross) Bloodborne Pathogens Training Certification (ASHI) Emergency Oxygen Administration Certification (ASHI) May also be available: Pandemic Flu: Public Information Series Certificate (American Red Cross) Non-Violent Physical Crisis Intervention Certificate (CPI)
Office Systems Technology/ Data Entry	Microsoft Office Specialist Certification (MOS), Authorized Testing Center Possible MOS Certifications: Word, PowerPoint, Excel, Access
Residential Wiring / Home Technology Integration	NCCER certified program (National Center for Construction Education & Research) Certify at Level 1 and Level 2 Electrician (Transition available to Level 3 or 4 with Accredited Sponsor)

If you have an eye for design, an active imagination, or a green thumb – take it outside!

Look into a variety of positions that are available in the multi-billion dollar horticulture industry.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Pathways

Design/Pre-Construction
Construction
Maintenance/Operations
See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Career Pathways

Food Products & Processing Systems
Plant Systems
Animal Systems
Power, Structural & Technical Systems
Natural Resource Systems
Environmental Service Systems
Agribusiness Systems

Landscape Design & Management

Do you like being outside and working with people? Do you enjoy being creative and solving problems? Do you like trees, flowers, and landscapes? If so, Landscape Design & Management could be for you! Exercise your leadership skills by supervising installation and maintenance crews or overseeing the management of existing landscapes. Put your knowledge and creativity to work creating drawings by hand and CAD designs on the computer.



Curriculum includes 2-cycle and 4-cycle Small Engine Repair & Maintenance

What will my classes be like?

You will start with an introduction to the "Green Industry" where you will learn how plants grow through hands-on experiences on TCD's 13-acre campus, greenhouse, and nursery. Students will then have an option of entering into five areas of the industry: design, installation, maintenance, nursery/garden center, and/or small engine repair/maintenance. You will have the opportunity to work with industry-standard equipment and a landscape design software program. Plus, internships and job placement with a business partner will give you real life experiences!

See certification opportunities for this program on page 6.

Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.

Take a virtual tour of program



Partners

GEM Ponds
Midwest Groundcovers
The SAVANNA Group
Landscape Contracting
Western DuPage Landscaping
Cantigny
Morton Arboretum
Shemin Nurseries, Inc.
Brookfield Zoo
Glendale Lakes Golf Club
Russo Power Equipment
Campos and Sons Landscaping Company

Career Opportunities

Landscape Designer
Golf Course Turf Specialist
Environmental Educator
Landscape Supervisor
Nursery Grower
Project Manager
Garden Center Manager
Pest Control Specialist
Outdoor Power Equipment Mechanic
Greenhouse Technician
Hardscape Installer
Irrigation Technician

Your love of working with tools can launch you into a rewarding career. The call for experienced builders and contractors is high, and still growing.

Learn the skills you need to build a solid future.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Construction Trades

Highly skilled carpenters and construction workers are always in demand; you will learn those valuable skills and more in the Construction Trades program. Hands-on experience, cutting-edge tools, and step-by-step learning modules develop your basic talents toward mastery of a trade.

What will my classes be like?

Step one is tackling those must-have basics: job-site safety, the proper use of hand and power tools, and construction math. Develop your carpentry skills in new construction as well as additions, renovations, and repairs on existing structures. You will have hands-on experience in framing through a variety of applications: walls and ceilings, floors, roofing, and windows and doors. Related specialized skills include drywall installation and finishing; trimwork; cabinet installation; plan/blueprint reading; and site layout. Projects start small and expand as your skills develop. Additional skills may be added depending on the type of internal or outside projects the program tackles during the school year.

See certification opportunities for this program on page 6.



Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.

Career Opportunities

Carpenter Apprentice
Electrician Apprentice
Plumber Apprentice
HVACR Apprentice
Lumber and Wood Products Salesperson
Laborer Apprentice
Estimator

Partners

Electric Medic, Warrenville
Antemann Construction, Streamwood
Dave's Electric, Batavia
TEFCO Construction, Forest Park
Executive Construction, Inc.
Pulte Homebuilders
Cicero's Development Corporation



Career Pathways

Design/Pre-Construction
Construction

Maintenance/Operations

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Our world is all about personal comfort—cool it off when it's too hot, heat it up when it's too cold. That's why every home, school, and business relies on qualified HVACR technicians.

Cool job, hot prospects.

HVAC and Refrigeration

If a desk job isn't appealing and you like a variety of new challenges every day, explore the opportunities for technicians in HVACR. Skilled HVACR technicians are required for residential construction, industrial equipment service, and building management. Jobs are as varied as sheet metal fabricators/installers and service technicians. One day you might work in an office building, the next day a hospital complex, and the next day a restaurant.

What will my classes be like?

You will learn the mechanical and electronic fundamentals needed to become a qualified HVACR technician along with the electrical skills needed to prepare for a post-secondary training program. You will be introduced to basic safety, tools, and electrical theory. In addition, you will learn to install, maintain, and repair residential forced-air heating systems, hydronic heating systems, electric furnaces, oil furnaces, heat pumps, and air conditioners. Students who return for a second year learn skills in sheet metal working and light commercial HVACR equipment.

See certification opportunities for this program on page 6.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.

Career Opportunities

Sheet Metal Installer
HVACR Equipment Installer
Estimator
Service Technician

Partners

Sears
Merit Mechanical Systems
US Refrigeration

Take a virtual tour of program



Career Pathways

Design/Pre-Construction
Construction
Maintenance/Operations

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

You have a vision – master the tools to bring it to life!

For program kit fees and costs of any other supplies see: www.tcdupage.org

Pathway to Engineering

The products we use and spaces we inhabit every day were developed through sophisticated software like AutoDesk Inventor. Combine your natural design talents with in-demand skills as you explore the creative world of engineers, architects, and design technicians.

What will my classes be like?

This program features a “Pathway to Engineering” course sequence from Project Lead the Way:

- Introduction to Engineering Design
- Principles of Engineering
- Civil Engineering & Architecture
- Engineering Design & Development

See course descriptions at right.



Career Opportunities

- Computer Assisted Drafter (CAD Operator)
- Mechanical Drafter or Architectural Drafter

View the TCD PLTW brochure



Career Pathways

- Design/Pre-Construction
- Construction
- Maintenance/Operations

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.



Career Pathways

- Science & Mathematics
- Engineering & Technology

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Introduction to Engineering Design (IED)

Ever wondered how to design something new or draw out an idea to show your friends? Stop wondering and do it, using AutoDesk Inventor, the state-of-the-art 3D design software! Discover the role of an engineer in taking an idea from the design process to manufacturing or production. You will work on projects, activities, and problems not only of interest to you, but that have global and human impacts. Work in teams to design and improve products, document your solutions, and communicate them to others.

Principles of Engineering (POE)

Go beyond “myth buster” to solution builder! As you master the basic concepts needed to continue your education in engineering or engineering technology, you’ll apply them – tackling real world challenges:

- energy sources and applications
- machine systems
- fluid power
- testing the strength and durability of materials
- understanding how things move and applying that knowledge to projects

You are not in this alone: team up with other students to test and share your developing skills and problem-solving ability through hands-on projects and presentations.

Civil Engineering & Architecture (CEA)

New building plans look so impressive on paper – but would they stand up to a storm, flood, earthquake, city inspector, or historical commission? Use 3D modeling software AutoDesk Revit Architecture to create and test your own residential and commercial designs, factoring in:

- materials and systems
- structural design
- cost analysis
- storm water management
- site design
- utilities and services
- building codes
- architectural style and guidelines

Research the careers and trends in the design and construction industry, including new developments in energy efficiency, green technologies, and changing populations.

Engineering Design & Development (EDD)

Have you ever said: “Don’t you hate it when...?” Here is your chance to do something about it!

Working as part of a team you’ll design a solution to a technical problem of your choosing. Research, design, test, and construct that solution and present it to industry partners. Use what you have already learned to guide you through the process of design and product development. Who knows? You and your team might solve a problem that has stumped others, just because you were able to let your imaginations soar.

Partners

Arrow Gear & Engineering
Bison Gear & Engineering
Caterpillar
Chevron Energy Solutions
DuPage Machine Products
DuPage County Workforce Board
Exelon Nuclear
Fidelity Tool & Mold
GrayTech Software, Inc.
KKSP Precision Machining
Molex, Inc.
Northrup Grumman
Jet Technologies, Inc.
Monarch Renewable Energy, LLC
Packer Engineering

PLTW Education Partners

College of DuPage
DeVry University
DuPage Regional Office of Education
Northern Illinois University
University of Illinois Chicago
University of Illinois Champaign
MSTE Department

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.



U.S. manufacturers need your creativity and technological savvy – lead the way!

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Computer Integrated Manufacturing

You may be surprised to learn that U.S. manufacturing is facing a critical shortage of engineers and technicians. A whole generation is retiring and there are not enough capable young people to replace them. Manufacturing is complex and high-tech, requiring problem-solvers with good math, science, and technology skills. Will you be part of the solution?



What will my classes be like?

This program features a “Pathway to Engineering” course sequence from Project Lead the Way:

Computer Integrated Manufacturing
Engineering Design & Development.

See course descriptions on the right.



Labor Market Information

Occupational statistics from DuPage and collar counties predict **moderate job growth** between now and the year 2016.

Computer Integrated Manufacturing (CIM)

How are things made? Is the process for making a water bottle the same as a musical instrument? How are assembly lines designed and automated? Through your growing knowledge of the history, principles, and processes of manufacturing, you will design and build your own automated manufacturing system, factoring in safety, quality, cost, and efficiency. Use technologies in your projects that have revolutionized manufacturing: computer modeling, Computer Numeric Control (CNC) technology, Computer Aided Manufacturing (CAM) software, robotics, and flexible manufacturing systems.

Engineering Design & Development (EDD)

Have you ever said, “Don’t you hate it when...?” Here is your chance to do something about it! Working as part of a team you’ll design a solution to a technical problem of your choosing. Research, design, test, and construct that solution and present it to industry partners. Use what you have already learned to guide you through the process of design and product development. Who knows? You and your team might solve a problem that has stumped others, just because you were able to let your imaginations soar.



Career Pathways

Production
Manufacturing Production
Process Development
Maintenance, Installation & Repair
Quality Assurance
Logistics & Inventory Control
Health, Safety & Environmental Assurance
See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Partners

Arrow Gear & Engineering
Bison Gear & Engineering
Caterpillar
Chevron Energy Solutions
DuPage Machine Products
DuPage County Workforce Board
Exelon Nuclear
Fidelity Tool & Mold
GrayTech Software, Inc.
KKSP Precision Machining
Molex, Inc.
Northrup Grumman
Jet Technologies, Inc.
Monarch Renewable Energy, LLC
Packer Engineering

PLTW Education Partners

College of DuPage
DeVry University
DuPage Regional Office of Education
Northern Illinois University
University of Illinois Chicago
University of Illinois Champaign MSTE Department

View the TCD
PLTW brochure



Be the one who brings about the next innovation in digital electronics!

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Electronics & Pre-Engineering Technology

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.



Install, customize, repair, and maintain today's cutting edge technology, including computers, car audio systems, phone systems, Bluetooth wireless, and home entertainment systems (including cable, broadband, and HDTV). Configure PC networks and explore the role of robotics and industrial motors in today's automated systems.

What will my classes be like?

This program features a "Pathway to Engineering" course sequence from Project Lead the Way:

Digital Electronics
Engineering Design & Development

See certification opportunities for this program on page 6.

See course descriptions on the right.



Digital Electronics (DE)

Analyze, design, and build your own digital electronic circuits, the technology that powers your cell phone, MP3 player, laptop, camera, and HD television. The demand for greater signal speed, storage capacity, and applications drives industry's need for creative problem-solvers and innovators like you! Start with the basics: theory, terminology, communication methods, engineering standards, and troubleshooting techniques. Before you know it, you will be programming microchips and a basic stamp microcontroller.

Engineering Design & Development (EDD)

Working as part of a team you'll design a solution to a technical problem of your choosing. Research, design, test, and construct that solution and present it to industry partners. Use what you have already learned to guide you through the process of design and product development. Who knows? You and your team might solve a problem that has stumped others, just because you were able to let your imaginations soar.

Take a virtual tour of program



Career Opportunities

P.C. Technician: A+ Certified
ATM Machine Installer & Repair: CET
Electronic Engineer Aide: A.A.S. / ET
Electronic Field Service Technician: CET, A+ Certified
Electronic Sales: CET, A+ Certified
Electronic Assembler Electromechanical: IPC Certified
Biomedical Electronics: CET
Local Area Network WiFi Installer: Network+, A+ Certified
Equipment Installer (two-way cellular / radio equipment): CET
Car Radio Installer: MECP
Telecommunications Cable Installer: Network+, A+ Certified
Security System Installer: CET, Network+, A+ Certified
Industrial Electronic Maintenance Repair: CET
Internships Available

Partners

DuPage Machine Products
College of DuPage
Computer Internetworking Technology Program
College of DuPage
Electronics Engineering Technology Program



Career Pathways
Science & Mathematics
Engineering & Technology

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Many companies are seeking trained and certified HTI technicians as modern homes move into networked environments.

For program kit fees and costs of any other supplies see: www.tcdupage.org

Residential Wiring & Home Technology Integration

The Residential Wiring course begins with the fundamentals of electricity, low voltage wiring, high voltage wiring, network wiring, and system planning, as well as rough in, trim out, and retrofitting. The wiring needs in today's homes go beyond the conventional use of electricity and include so much more.

What will my classes be like?

Home Technology Integration is the installation and troubleshooting of several interconnected sub-systems within a house. Sub-systems include audio/visual equipment, computer networking, security and surveillance, HVACR, lighting management, water controls, access controls, and telecommunications.

Second semester topics include digital signal theory, HTI system components, cabling, conduit installation and bending, system troubleshooting, planning, and testing.

See certification opportunities for this program on page 6.

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.



Career Opportunities

Service Technician
Electrician
Cable Installer
AV Systems Installer
System Engineer
Estimator

Partners

Lombardi Electric



Career Pathways

Design/Pre-Construction
Construction
Maintenance/Operations

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Think about how many websites, CD covers, magazines, billboards, and product packages you see every day. Every one of them was made possible by a graphic communications expert.

Share your creativity with a waiting world!

Graphic Communications

Are you a visual thinker? Do you look at other people's designs and see how you could make them more exciting? In the Graphic Communications program you will learn the latest trends and technologies for web and print to start building skills for future success as a commercial artist, digital imaging and pre-press operator, offset press operator, or graphic arts manager.

What will my classes be like?

You start with the basics: creative thinking, visual problem solving, layout, and design. As you find your own style, you will learn to produce your designs on the industry standard software, Adobe Creative Suite—including InDesign, Illustrator, and Photoshop. You will also visit local design agencies and printers to see how great ideas go from rough sketches to final printed pieces.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Opportunities

- Digital Production
- Web & Print Designer
- Press Operator
- Bindery & Finishing Operations
- Basic Screen Press Operator
- Print Production Management

Partners

- FedEx Office
- Minuteman Press
- Solid Impressions
- Tukaiz



Career Pathways

- Printing Technology
- Visual Arts

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.

Take a virtual tour of program



Production and post-production crews bring the programming that we watch every day to the screen.

Be the talent that drives today's entertainment industry!

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Multimedia & TV Production

What goes on behind the scenes? Lighting, staging, script writing, editing, recording, and animation – these are just a few of the jobs that make today's multi-billion dollar entertainment industry possible. From local news and commercials to multimedia presentations and movies— if you see it on the screen, production specialists make it happen!

What will my classes be like?

You will go behind the scenes of the entertainment industry, learning trade secrets in computer editing, digital video, digital audio, multi-track recording, set design, studio lighting, remote lighting, video graphics, and animation. Work as part of a production team using state-of-the-art software and technology. Technology Center of DuPage offers private HD production facilities that will help you get ready for a fun and exciting career in media production.



Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.



Career Pathways

Audio and Video Technology and Film
Performing Arts
Journalism and Broadcasting
Telecommunications

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Career Opportunities

Live Television Camera Operator
Freelance Production Crew
Digital Video Production
Digital Audio Production
Video, Film, and TV Production Assistant
Digital Video and Audio Editing
Scriptwriter

Partners

Media One Cable Service
TLN Cable Network
Domain Audio Services
Roscor Corporation
Willow Creek Community Church
College of DuPage
Empire

Master a variety of skills that can make you an efficient, invaluable addition to an office environment, in fields as varied as medicine, finance, education, and entertainment.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Data Entry

What will my classes be like?

Your attention to detail and organizational skills can lead to success as a data entry professional. Learn how companies use data in areas such as payroll, billing, and record keeping. Learn basic data entry, storing and retrieving files, editing source documents, creating spreadsheets, and advanced document formatting.



Career Pathways

Administration and Information Support
Management
Human Resources
Business Analysis
Marketing

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Office Systems Technology

What will my classes be like?

Master the basic skills you can build on to manage today's busy, highly automated offices. Become proficient in word processing; spreadsheet and database management; and office technology. Learn administrative procedures, time management, and the efficient use of phone and email systems. Want to own your own business? Begin laying the foundation for the necessary skills to be a virtual assistant, working from home through the Internet, email, phone, FTP, and mail.



Career Opportunities

Billing Clerk
Data Entry Clerk
Customer Service
Administrative Assistant
Human Resources Assistant
General Office Clerk
Receptionist

Partners

TCF Bank
Cellular One
Dominick's
Boise Cascade
ANB-AMRO
EMNS, Inc.
Wilton Enterprises
ServiceMaster
Metro Court Reporters
Pampered Chef
Jewel Food Stores
Ball Seed Company
Zip Mail Services, Inc.
Baird & Warner

See the certification opportunity for these programs on page 6.

Take a virtual tour of program



Labor Market Information

Occupational statistics from DuPage and collar counties predict **moderate job growth** between now and the year 2016.

Use your natural talents to enter a career in early childhood education.

Make a difference in the life of a child.

Early Childhood Education & Care

Early Childhood Education and Care can be extremely rewarding if you enjoy working with children. This program prepares you for a future career in a childcare facility, hospital, and park district. This program is also an excellent foundation for continuing your education to become an elementary school teacher.

What will my classes be like?

Studying basic philosophies of early childhood education, preparing activities, and implementing them in the on-site laboratory preschool are just a few of the aspects of the program. The skills you acquire here will set you on the path to an exciting career working with children.

See certification opportunities for this program on page 6.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Opportunities

Au Pair
Nanny
Teacher Assistant (child care facility)
Recreational Child Specialist

Partners

KinderCare Learning Centers
Great Beginnings
Bright Horizons
Goddard School
Little People Learning Center
YWCA Child Care Resource & Referral



Career Pathways

Teaching & Training
Professional Support Services
Administration and Administrative Support

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.

As the number of patients in hospitals and nursing facilities rises, the need for caring professionals is greater than ever. It's all about quality of care, while improving quality of life. Your desire to help others can make a difference.

Take your first step toward a rewarding career in health care.

Certified* Nurse Assistant

You will benefit from an IDPH approved Basic Nurse Assistant Training Program. Before you leave high school, you will learn the basics of patient care, while gaining confidence through clinical experiences. This program is also an excellent beginning on the pathway to an advanced nursing education, with statewide articulation.

Community colleges, including College of DuPage, require CNA for admission to nursing programs.

What will my classes be like?

See the world through a care provider's eyes as you learn about caring for patients, reporting observations, and understanding the nature of disease and common health problems.

*Students will learn the basics about patient care. They will be prepared to work in assisted living facilities as well as in home care. If the student meets Illinois Department of Public Health certification criteria, which includes Saturday clinical hours and possession of a valid Social Security number, they will be eligible to take the state competency exam. Upon passing the state exam, the student will be certified as a Nurse Assistant (CNA), enabling them to additionally work in long term care facilities and hospitals.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit
available



Career Pathways

Therapeutic Services
Diagnostic Services
Health Informatics
Support Services
Biotechnology Research & Development

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.

Career Opportunities

Nurse Assistant
Home Health Aide
Patient Care Technician

Partners

Hinsdale Hospital
Alden Valley Ridge Health Care Center
Beacon Hill
Tabor Hills
Community Nursing Services
Central DuPage Hospital
Lexington Health Care Centers (Lombard and Bloomingdale)
Torrey Johnson Health Care Center at Windsor Park Manor
Alexian Brothers Hospital
HCR Manor Care (Hinsdale and Westmont)
St. Patrick's Residence Nursing and Rehabilitation
Elmhurst Memorial Hospital
Good Samaritan Hospital

Take a virtual tour of program



Someone's health (or life!) could rest in your hands. Are you ready to take up the challenge? Learn what it takes to be a health care provider.

Be someone's hero – make a difference!

Medical & Health Care Careers

What does it take to be a health care provider? How can you make a significant difference in the health and lives of others? Explore the world of medical and health care careers at Technology Center of DuPage. Learn about the many health care career options, and learn basic skills that you can build on as you pursue your chosen career in healthcare.

What will my classes be like?

Learn, explore, practice! Strengthen your academic skills while learning and performing a variety of hands-on health care skills. Get up-to-date career information from real health care professionals. Earn certificates in CPR/AED, First Aid, oxygen administration, infection control practices, and more! The basic skills you learn here can prepare you to pursue a variety of challenging career options, and to continue your education in nursing and many other health care fields.

See certification opportunities for this program on page 6.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Pathways

- Therapeutic Services
- Diagnostic Services
- Health Informatics
- Support Services
- Biotechnology Research & Development

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.

Career Opportunities

- Patient Care Technician
- Medical Office Assistant
- Dietary Aide
- Patient Transporter
- Personal Care Aide
- Central Supply Technician
- Sports / Fitness Center Attendant
- Animal Caretaker
- Medical Records Assistant
- Pharmacy Technician

Take a virtual tour of program



If you love to entertain and can think on your feet, multi-task, and work in a fast-paced environment, you have what it takes for a successful, rewarding career in the hospitality industry.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Culinary, Pastry Arts & Hospitality Management



Home of State and National ProStart Champions

2010 CAFÉ/Kendall College National Green Award

While applying your skills in a variety of student-run businesses, you will get a feel for the hospitality industry.

What will my classes be like?

In the first year, study the basics of culinary arts, pastry arts, and hospitality management. In the second year you focus on supervisory and administrative techniques and skill refinement. Classes are taught by industry professionals. Explore the unique skills of a pastry chef, executive chef, dining room manager, and deli manager. Along the way, you will learn what your job would be like in a variety of career paths. Work with instructors to match your natural talents and desires with the career that's right for you!

You will have the opportunity to participate in the Illinois Restaurant Association ProStart and American Culinary Federation certification programs. TCD is the only high school in Illinois with ACF-ACCESS accreditation.

See certification opportunities for this program on page 6.



Career Pathways

Restaurant & Food/Beverage Services
Lodging
Travel & Tourism
Recreation, Amusements & Attractions

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Career Opportunities

Chef
Pastry Chef
Personal Chef
Research Chef
Food Stylist
Food Journalist
Food Photographer
Food and Beverage Manager

Partners

Arista Hotel
Parker's Restaurant & Bar
T.G.I. Friday's Restaurant
Marriott Hotels
McCormick & Schmidt
Monarch Landing Naperville Country Club
St. Andrews Country Club
Arrowhead Golf Club

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.

Turn some heads! You're always getting compliments on your own style and fashion sense, so why not turn what you love into a career?

Make the world a more beautiful place.

Cosmetology

A student who successfully completes 1500 clock hours of work in TCD's state-licensed School of Cosmetology and passes the practical exam will be awarded a certificate from TCD and qualify to take the Illinois State License Exam.

What will my classes be like?

Step behind a stylist's chair in the Technology Center of DuPage "Salon 301," and refine your skills in cuts, colors, perms, and nail technology. Through practice and instructor demonstrations, you will learn professional-level techniques, including how to choose the right style for different clients.

There is a serious side to all this glamour! You will be amazed to learn how chemistry, anatomy, and geometry are used every day by cosmetology professionals.

It is possible to earn up to 47 hours of college credit through this program. After graduation, use that great head start to obtain an associate's degree, adding even greater value to your state license.

See certification opportunities for this program on page 6.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Pathways

Personal Care Services

Consumer Services

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.



Career Opportunities

Cosmetologist
Esthetician
Manicurist / Pedicurist
Hair Colorist
Hair Color / Texture Service Specialist
Salon Owner
Product Educator
Platform Artist

Partners

Mario Tricoci
Great Clips
Zazu Salon
Clairol

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.

Take a virtual tour of program



Video games! You enjoy playing them, but how are they developed? Take your gaming and "modding" talents to a new level – and challenge yourself with broader business applications.

Be a skilled, valuable resource for all kinds of companies!

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Career Opportunities

Entry Level Programmer
Network Manager
Web Page Designer

Partners

IBM
William P. Northey
Midwest CompuServe
National Logistics
NationsBank
Village of Wheeling

Computer Information Systems

Are you a creative problem solver? Do you like finding your own solutions to complex puzzles? You will find that a career in Computer Information Systems can be challenging and rewarding. With this training, you will implement and support computer technology within companies, schools, hospitals, and other organizations. You will be responsible for installing and developing software as well as writing and debugging programs.

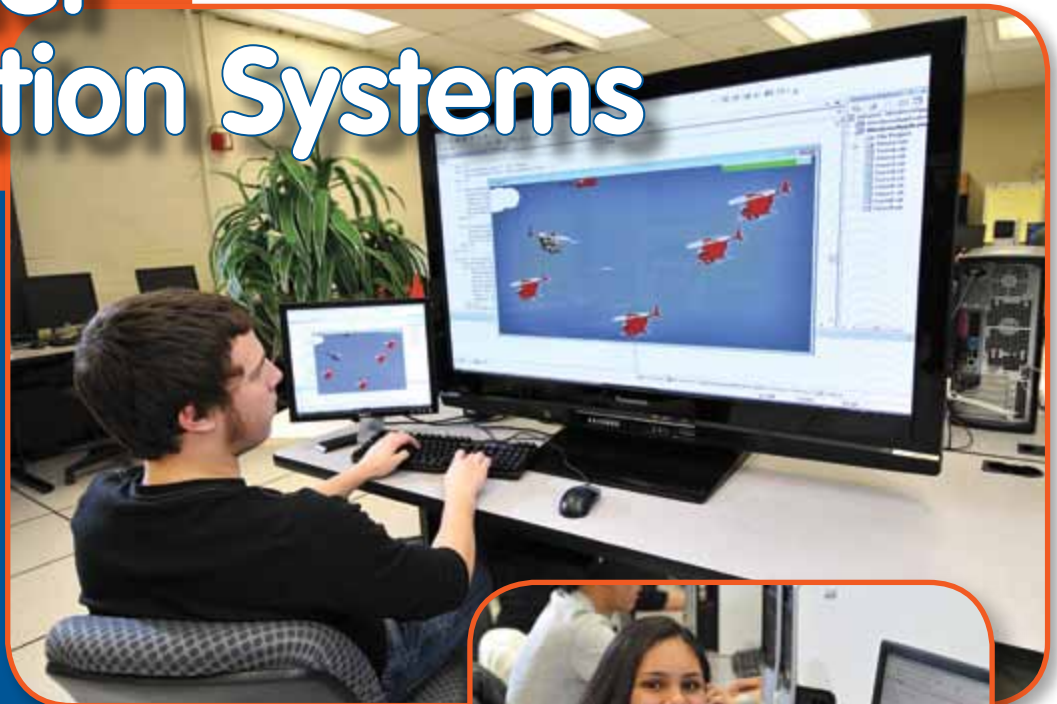
What will my classes be like?

Build on what you already know about computers in program and game design. Acquire skills in managing, running, and maintaining systems in any business setting.

Game programming and web development require creative, detail-oriented people. Design your own games, websites, or apps as you develop skills in writing code, storyboarding, and 3D character development. Use state of the art software and today's programming languages: Visual Basic, C++, C#, Java, HTML, XNA (for Xbox), 3D Studio Max, Visual Studio, and Adobe Creative Suite (Flash, Photoshop, Illustrator, and Dreamweaver).

When you complete this course you will be ready for entry-level programming positions and prepared for college level coursework.

See certification opportunities for this program on page 6.



Career Pathways

Network Systems
Information Support & Services
Programming & Software Development
Interactive Media

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.

Careers in criminal justice are highly competitive and rigorous. Some days are long and get your heart pumping; most days you're working hard gathering evidence or nailing down accurate information for a critical report.

Learn the ins and outs of keeping others safe!

For program kit fees and costs of any other supplies see: www.tcdupage.org

Criminal Justice

This program lays the foundation for students interested in pursuing a career in law enforcement, criminal law, corrections, homeland security, investigative services, forensics, and other related career pathways. Cover the basics of traffic law / traffic enforcement; juvenile and criminal law; crime prevention; the court and corrections systems; and more. Develop your observational, communication, and "people" skills critical for success in this field. You will also learn which career paths require further training or education.

What will my classes be like?

The program includes simulations, demonstrations, report preparation, lecture, and work-based learning experiences. Viewing the criminal justice system from the ground up will help you understand how these career pathways play out at the local, private, state, and federal levels of service.



Career Pathways
 Correction Services
 Security & Protective Services
 Law Enforcement Services
 Legal Services
 See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Career Opportunities

- Parole and Probation Officer
- Loss Prevention
- Correctional Officer
- Intelligence Analyst
- Crime Scene Technician
- Forensic Scientist
- Criminal Psychologist
- Police Officer
- State Trooper
- Corporate Security
- Private Investigation
- Federal Law Enforcement Officer/Agent

Partners

Various local law enforcement and public safety agencies (as available).

Labor Market Information

Occupational statistics from DuPage and collar counties predict **moderate growth** between now and the year 2016.

Take a virtual tour of program



See certification opportunities for this program on page 6.

How many of your friends can say they've mastered rescue techniques used by firefighters and EMT-Bs, or learned to control toxic chemical spills?

Learn how teamwork can make a lifesaving difference!

Fire Science

This program follows the standards of training in NFPA 1001 (National Fire Protection Association) Standard for Firefighters. When you graduate, you're on the road to future Firefighter II certification. As a senior, you will have the opportunity to be trained as an Emergency Medical Technician (EMT).

What will my classes be like?

You will be taught Healthcare Provider CPR, First Responder, Haz Mat (hazardous materials recognition), and extrication from vehicles. Your final year culminates with the Emergency Medical Technician class, where you have an opportunity to receive an EMT license.

When you successfully complete the Fire Science Program, you will have the experience, training, and confidence to transition from our classroom to a job on a BLS ambulance, a local fire station as an explorer, a college classroom, or paramedic school.

In addition, you have the opportunity to receive up to 18 hours of college credit through the College of DuPage for all of your completed coursework done at TCD. That's almost a third of your way to an associate's degree!

See certification opportunities for this program on page 6.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available



Career Opportunities

- Firefighter
- Emergency Medical Technician
- Paramedic
- Municipal Firefighter
- Fire Prevention Specialist
- Fire Investigator
- Supervisor

Partners*

- Fire Departments
- Hospitals
- FEMA
- U.S. Forestry Service
- Military
- Airports
- Ambulance Service

*After completing a post-secondary program

Take a virtual tour of program



Labor Market Information

Occupational statistics from DuPage and collar counties predict **strong job growth** between now and the year 2016.



Career Pathways

Emergency & Fire Management Services

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

It's never easy for people to see their cars damaged in an accident, faded by harsh sunlight, or rusted by the elements. As a skilled auto body technician, you can bring a car "back to the future."

Become the best friend to a damaged or road-worn vehicle.

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Auto Body Repair & Refinishing

You love cars, you know what makes them look good, and you love detail work. Learn how to turn that interest into a lucrative, rewarding career. Begin acquiring I-CAR gold class points as you prepare for post-secondary education to earn advanced I-CAR certifications.

What will my classes be like?

Our ASE and I-CAR certified instructors will walk you through every facet of auto body repair. You will learn sheet metal and welding techniques, body alignment, finishing and painting, cost/time estimating, plastic, fiberglass and measuring systems, and shop management. Work with industry-standard equipment and learn how to turn what you learn today into a successful career.

See certification opportunities for this program on page 6.



Labor Market Information

Occupational statistics from DuPage and collar counties predict **moderate job growth** between now and the year 2016.

Career Opportunities

Auto Body Technician
Paint Technician
Collision Estimator
Insurance Adjuster
Corporate Collision Services Coordinator
Detailer

Partners

Countryside Customs
Collision Revision
Hart's Collision Center
CARSTAR



Career Pathways

Transportation Operations
Warehousing & Distribution Center Operations
Facility & Mobile Equipment Maintenance
Sales & Service

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.



Take a virtual tour of program



To some people cars are just transportation. But to you, cars are high-performance machines—art on wheels! You not only understand what makes cars run, you have the drive to make cars run at peak levels.

Take your love of cars to the next step.

Automotive Technology

Turn the key and listen to the engine. You know what high performance sounds like: no whining, no hesitation—just pure, smooth power. Diagnose, tune, and rebuild engines as you prepare for post-secondary education in this dynamic field.

What will my classes be like?

ASE-certified instructors help you build skills in computerized engine controls; engine tune-up and lubrication; brakes; electrical, fuel, cooling, and exhaust systems; steering and alignment. In the second year, move up to diagnostics and engine building. Qualifying students have the opportunity to participate in Automotive Youth Educational Systems (AYES)—a factory-sponsored training program that combines learning at TCD with an internship through an area dealership.

See certification opportunities for this program on page 6.

TCD filled my résumé with actual technical experience, so when companies and especially colleges see “TCD” on your résumé, they know your skills.

—Brian MacLean
Automotive Technology program graduate

Currently: Mechanical Facilities Engineer,
Norfolk Southern RR

For program kit fees and costs of any other supplies see: www.tcdupage.org

college credit available

Labor Market Information

Occupational statistics from DuPage and collar counties predict **solid job growth** between now and the year 2016.



Career Opportunities

Automotive Technician
Lubrication Technician
Industrial Technician
Independent Shop Owner
Diesel Technician
Service Writer

Partners

BMW of North America
Schaumburg Audi
Westmont Auto
Caterpillar
Fox Valley VW
City of Bloomingdale



Career Pathways

Transportation Operations
Warehousing & Distribution
Center Operations
Facility & Mobile Equipment
Maintenance
Sales & Service

See www.careerclusters.org for sample occupations, post-secondary educational options, and employment outlook.

Take a virtual tour of program



Technology Center of DuPage

301 South Swift Road

Addison, Illinois 60101-1499

630.620.8770

www.tcdupage.org



Technology Center of DuPage

Vision Statement

All students attending Technology Center of DuPage will be prepared to successfully transition to post-secondary education and careers.

Mission Statement

Technology Center of DuPage will provide an educational environment that supports and encourages individual learning styles, develops occupational skills, fosters professionalism, promotes academic growth, and assists students in discovering their potential.



Scan the QR codes throughout this Program Guide with your smart phone to see a video about each program, all produced by TCD Multimedia students!



See the TCD Promotional Video here!

