



STEM CENTER



SCIENCE
TECHNOLOGY
ENGINEERING
MATH

**Delaware County
Community College**
Serving Delaware and Chester Counties





The U.S. Department of Labor's Bureau of Labor Statistics' employment projections through 2016 indicate a continuing dominance in healthcare and related industries, including health information technology, medical and diagnostic laboratories. Second only to healthcare is the construction industry with broad opportunities in the building of bridges, roads, utility systems, power and communication structures, as well as the weatherization of homes. Many segments of the manufacturing industry project substantial growth, such as the aerospace industry with opportunities for assemblers, systems and service technicians. Other growth areas are in drug manufacturing, not only for chemists and medical scientists, but also for packaging and machine operators. Advanced manufacturing anticipates growth as well, particularly for industrial machinery mechanics and mechanical drafters.

*Published By:
Delaware County Community College
Office of Institutional Advancement
Kathleen A. Breslin
Vice President*



LEED | LEADERSHIP | ENERGY | ENVIRONMENT | DESIGN

INTRODUCTION

American pride and prosperity have been built upon the strength of its workforce. Yet, over a third of today's workforce lacks the skills needed to succeed in the labor market. National, state and local challenges include skill shortages, unfilled jobs, diminishing competitiveness, loss of jobs to other nations and income disparities between those with and without education and skills. Current trends indicate that we must act now to preserve our competitive advantage.

The concern for the future of the nation's emerging workforce is reflected in a national movement focusing on education in science, technology, engineering and mathematics, known as "STEM" fields. Among those in the forefront of the STEM movement are the National Academies, National Science Foundation, U.S. Department of Labor, American Association for the Advancement of Science and numerous other stakeholders. One of their top three recommendations for maintaining the United States' competitiveness in the 21st century is to increase the pipeline of students prepared to enter college and graduate with a degree in STEM disciplines.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of a high performance green building.

LEADERSHIP *Building the foundation of a 21st century education environment*

Delaware County Community College's \$60 million STEM Complex positions the College as a regional leader in STEM education, attracting more students to rewarding fields in high-growth, high-demand occupations. The broad range of academic and career programs offered by the College truly serves as a "gateway to opportunity" for existing and emerging fields.

The two buildings that form the complex, the STEM Center and the Advanced Technology Center, are a magnet for the study of STEM fields. Together, the Centers house 11 science laboratories and 12 specialized laboratories for customized education and training developed in partnership with local industry leaders.

Students majoring in the STEM Center's natural science and engineering programs earn associate degrees leading to professions in engineering, chemistry, biotechnology, dentistry, medicine, pharmacy, podiatry, optometry, physical therapy and the like. Offerings in the Advanced Technology Center range from traditional skill-based trades to high-tech engineering technology programs, including computer-aided design, robotics and nanofabrication.

The College is a unique resource for the 500,000 households that it serves in Delaware and Chester Counties. A commitment to student success, bolstered by a strong support network, ensures students the opportunity to aspire to a challenging career and the ability to succeed in the 21st century workplace. Well-defined pathways to advanced degrees at four-year colleges and universities provide students additional opportunities to compete on a global scale.





ENERGY AND ENVIRONMENT

The STEM Center is 20 percent more energy efficient than a standard educational science facility. It is expected to obtain a LEED Silver rating from the U.S. Green Building Council. Among the sustainable features in the building are:

- Recycled materials are used in 10 percent of the building's construction.
- The 4,600 square-foot green vegetated roof reduces storm water run-off and heat gain into the building. The remaining roof surfaces are white EPDM membrane, which also reduces heat gain.
- Room finishes, adhesives and paints contain low emitting VOCs, which create a healthy building atmosphere.
- All of the facility's wood products are Forest Stewardship Council (FSC) certified.
- Construction waste has been reduced by 50 percent through the implementation of recycling containers and returning product containers back to the manufacturing plants.
- Ample natural light reducing the need for energy-powered artificial lighting is in 90 percent of occupied spaces.
- High efficiency toilets use 20 percent less potable water than standard fixtures.

The STEM Center is equipped with the latest equipment and fastest wireless technology available. To support the requirements of today's demanding educational environment, over 200 high-speed desktop and laptop computers and 30 networked laser printers have been installed. Students also have access to an open computer lounge, featuring 22 powerful iMac computers.

Each classroom and laboratory has an interactive learning display station that assists faculty in making lectures and demonstrations more exciting for the student. Coupled with digital audio and high-definition video media systems, the interactive stations display high quality images, presentations and movies. The computer-aided design laboratories house state-of-the-art plotters and high-resolution scanner systems.

At the core, all STEM Center systems are supported by ultra-speed networking equipment and a reliable high-quality networked telephony system.

TECHNOLOGY



DESIGN

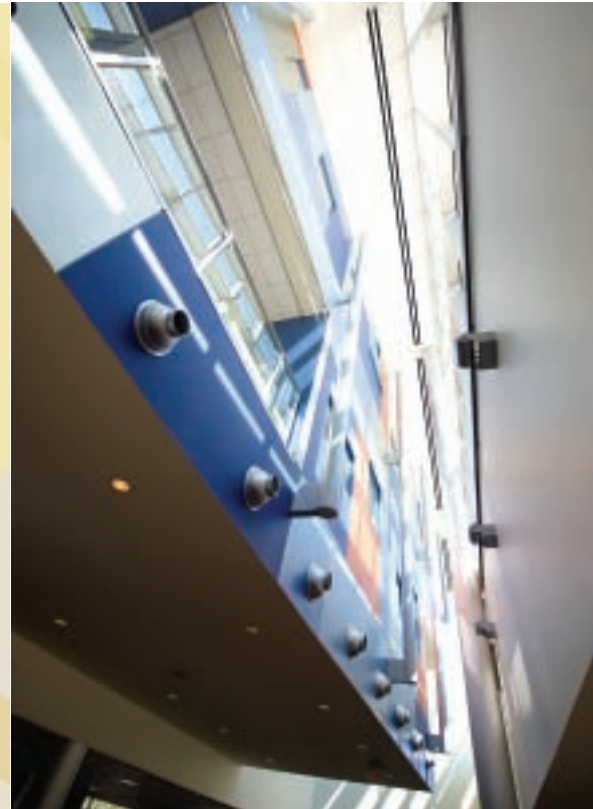


The **STEM Center** houses 19 classrooms and 11 science laboratories for the study of human anatomy and physiology, biology, chemistry, earth and space science, physics and astronomy. An architectural suite encompasses two computer aided design laboratories, a resource room and a blueprint reading room. Conference rooms, offices and collaboration rooms for group study and meetings are positioned throughout the building.

The STEM Center serves as the new gateway to the Marple Campus and connects with the Academic Building and Founders Hall. Constructed of metal and glass panels, its façade is striking against the existing masonry buildings. Since the floor-to-floor height of the STEM Center differs significantly from existing buildings, the façade was created without level or story distinction. This was achieved through a tapestry weaving effect of window and metal panels. With a hue similar to the terracotta brick of existing buildings, the metal panels help to maintain a consistent campus identity.

The ground floor acts as a student commons. A fitness center, aerobics studio, open computer lounge and coffee shop surround the public space. Ample seating in the open lounge areas energizes the space and provides an opportunity for interaction among students and faculty. The tiered auditorium is a campus resource that can be shared with the local community.

The new campus courtyard is visible from the first floor and upper suspended offices through the three-story glass curtain wall system on the south side of the building. The atrium allows natural daylight to penetrate the middle of the building, and large windows along the corridors on the upper floors provide a view into the laboratories.



The 105,000 square-foot STEM Center was designed to support modern educational trends, such as small-group collaboration, hands-on learning, use of multimedia tools, smaller class sizes and multidisciplinary approaches, while remaining flexible enough to respond to future pedagogical innovations.

ARCHITECT Burt Hill

GRAPHIC DESIGNER Carole Smith

PHOTOGRAPHY J. Paul Simeone



**DELAWARE COUNTY
COMMUNITY COLLEGE
STEM PROGRAM
OFFERINGS**

ASSOCIATE DEGREES

Architectural Technology
Automated Manufacturing/
Robotics Technology*
Automotive Technology*
Behavioral Science
Computer-Aided Drafting
and Design Technology
Computer Information Systems
Electronics Technology*
Engineering
Facility Management Technology*
Health Studies
Heating, Ventilation,
Air Conditioning, Refrigeration*
Industrial Systems Technology*
Information Technology
(Applications; Programming;
Game Development; Technical Support;
Interactive Multimedia; Network Engineering)
Machine Tool Technology*
Mechanical Technology*
Nanofabrication Manufacturing Technology*
Natural Science
Nursing
Paramedic-Advanced Life Support
Respiratory Therapy
Science for Health Professions
Surgical Technology
Technical Studies*

*Advanced Technology Center

CERTIFICATE PROGRAMS

Automotive Technology*
Computer Numerical Control
(CNC) Programming*
Computer-Aided Drafting and Design*
Computer-Aided Machining,
Lathe, Mill & EDM*
Electrical*
Electronic Commerce
Heating, Ventilation, Air Conditioning,
Refrigeration*
Industrial Systems Technology*
Machining Operations*
Manufacturing Operations*
Perioperative Nursing
Plumbing Apprenticeship*
Process Control Technology*
Welding



Delaware County Community College is an equal employment and educational opportunity institution conforming to all applicable legislation that prohibits discrimination. The College does not discriminate on the basis of race, color, religion, sex, age, national origin, disability, veteran status, sexual orientation or any other characteristic protected by state or federal laws in its educational programs, activities, admission or employment policies, as required by Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973 and other applicable statutes. Inquiries concerning Title IX and/or 504 compliance should be referred to: Betty Brown, associate dean for student success, room 2195, 610-359-5320; and/or Connie McCalla, vice president of human resources, room 3572, 610-359-5094. TTY for the hearing impaired: 610-359-5020.

Delaware County Community College is accredited by the Middle States Association of Colleges and Schools, Commission on Higher Education, 3624 Market St., Philadelphia, PA 19104.

THANK YOU for contributing to the Gateway to Opportunity Campaign for the STEM Complex.

As of April 2010

\$10,000 and up

Thomas J. Anderson
Aqua Pennsylvania, Inc
David M. and Susan L. Banet
Burt Hill
Exelon Corporation
Jim and Pat Flick
Jim and Debbie Gaffney
The Harrah's Foundation
Donald P. Jones Foundation
L. William Kay II
W. Roger and Dora Lyle
Bob and Peg McCauley
The McLean Contributionship
Olympic Tool and Machine
Corporation
Jerry and Sue Parker
Pennsylvania Machine Works, Inc.
QVC, Inc.
SAP America, Inc.
The Ethel Sergeant Clark Smith
Memorial Fund
Southco, Inc
The Sunoco Foundation
Sunoco, Inc.
Raymond and Karen Toto
Wescott Electric Company

Under \$10,000

Anonymous (5)
Mrs. Beatrice Agar
and Dr. John R. Agar, Jr.
Air Products and Chemicals Inc
Desmond Allison
Donna M. Amato
Phyllis Anderson
Michael Andruszko
Reuben and Phyllis Aronovitz
Adele Balestra
Ronald M. Barnes
Carol Cunningham Base
and Joseph M. Base
Tara L. Basile
Jeff Baun
Aaron J. Benau
Doris K. Benfer
Bob Bennett
John J. Berry
Betty Biglin
John A. Bodalski
Geraldine A. Bowers
Joanne E. Bowers
Mary Jo Boyer, D.N.Sc.
Kim Braun '02
Kathleen A. Breslin
Nancy and Tom Brooks
Betty M. Brown
Linda R. Burns
Proshia A. Burnett
Corrinne A. Caldwell, Ph.D.
John G. Callahan
Ruth Campbell
Diane M. Canale
Mark J. Capriolo, M.D.
Chick Carman
Bernard Carrozza
Virginia M. Carter, Ed.D.
Jorge Casas
CBIZ Benefits & Insurance
Services of Pennsylvania
Carol S. Chapman
Chemring North America, Inc.
Cherry Steel Corporation
Dr. & Mrs. Thomas A. Clardy
Bob and Kathy Clarke
Sharon Clarke
Steven A. Clarke
Mark Cochard
Barbara J. and Dr. Matthew J. Cohen

Geraldine Oaster Cole
Linda J. Collier, J.D.
Milly Colligon
Eileen W. Colucci
Compass Group USA Division
Heather L. Conville
Paula F. Cook
Anne and Bill Cranny
Laurel Craven
Ellen and John Crockett
The Cronin Family
Brian P. Crowe
Gary Csanady
Frances M. Cubberley
Louise M. Dagit
Melissa Anne Dalton
Anthony Daly-Leonard
Gale Davis in memory of
George William Davis, Jr.
Marjorie Feroe Davis
Patricia A. Dawson
DCCC Association of
Higher Education
DCCC Craft Show Vendors
DCCC Faculty & Staff
DCCC President & Board of Trustees
in memory of Joanne McCann
DCCC Students of the
Business Society
Paul M. de Botton
Ruth M. DeCou
Jane Barry DePaul
Lana M. deRuyter, Ph.D.
Joseph D. Debes
Lisa Marie Deeley
Ann Demkin
Barbara A. Denczi
Marilyn L. Derby
Sandra Graf Devenny
Dorothea E. Di Giovanni
Joseph A. DiJulio
The DiTommaso Family
Patricia H. Donnelly, Esq.
Suzanne Doonan
Thomas and Donna Dowd
Roben Dowling
Ajtanga Duka
Nancy Gould Dunbar, M.D.
Linda A. Durkin
Joanna and Edward Eill
Marianne Enright '90
Sandra E. Evans
Margaret B. Ewing
Donald P. Famous
Craig Richard Fitz
Beth Fitzgerald
Regina Fizzano
Carol A. Fortunato
Stephen G. Frederick
Gannett Company, Inc.
Barbara Ann Garrell
Judith A. Gentile
Ardy and Terri Giangiulio
Alice S. Gibbons
Robin Giffin
Mary Ann Gillette
Loretta and John Glavin
The Glenmede Corporation
Valerie Graff
The Reverend Mimi Greenwood
Tara A. Griffin
Honora Groody
Lee and Eileen Grout
Gary Gustin
Anne-Marie B. Guthrie
Nanci and Joseph Hagarty Family
Susan F. Haindl
Sue and Art Hankin
Katrina A. Harris
Joan Hartnett

Traci and Hans Hausmann
Shawn Heffernan
Violet F. Heness
Mary Ann Heverly
Ronald F. Hill
Joyce Hovey
Kenneth H. Huntoon
Margaret L. Huntsman
Patricia A. Imbriglia
Joam M. Immel
Thomas J. Jarvis
John S. Jerzak
Linda L. Jester
Marcia Johnson
Michael R. Johnson
Susannah J. Johnson
Daniel P. Jones
Ivy S. Jost
Eileen McKenna Kammerer
Theresa Kelly, R.N.
Jill S. Kirschman
Rachel Koons
Gary R. Kovach
Cynthia and Gene Kupniewski
Vicki LaFashia
Frances Lastowka
Melanie O. Leroy
Theodore C. Lewandowski
Steve Lin
Ann M. Loney
Lois S. Long
Jeff Luciano
Karen Ann Lungren
Herbert E. MacCombie Jr., PE,
Consulting Engineers &
Surveyors Inc
Naomi Haruko Machell
Robert Madonna
Sean J. Maguire
Jennifer Malfitano
Loretta T. Maley
Moira Kelly Marano
and Ralph Marano
Martin's Run
Raymond A. Maruca
Nuria P. Mas
Connie L. McCalla
James J. McCann
Carol A. McCarry
Judith P. McCleary
Patrick McDaid
Judy and Joe McGinn
Maryann V. McKenna
Helen, Michael and Allison McKinley
Dionne McLeod
Emily McLoughlin
Cecelia N. McMahan
Frances McVeigh
Beverly Ann Messick
and Thomas A. Messick
Barbara and Alfred Meyer
Cheryl and Gerry Meyer
Janice and James Meyer
Albert Ira Mills
Anthony, Christine
and Gayle Miraglia
Mr. & Mrs. Len Miscannon
and Family
Dorothy and Robert Mitchell
Roderick A. Morrison
Roy Ira Mosaicant
Neilda E. Mott
Peter Murphy
Gail P. Myrick
Dr. & Mrs. Mark Nagy
Carl J. Needles
George F. Negro '90
Charline Neigh
New Appearances Hair Salon
Richard M. Newberg

Albert T. Olenzak, Ph.D.
Robert B. Oliver
Douglas F. Owens
Pagoda Electrical Inc
Dan and Judy Pantaleo
Charlene M. Paolucci
Marie and John Patriarca
Pennsylvania Commission
for Community Colleges
Marie Peterman
Rose Theresa Pinto
Florence S. Piorkowski
Diana E. Plummer
Dr. & Mrs. Joseph R. Quill
Captain E. J. Quinn, USN
Catherine Craner Randall
Susan M. Rapp
James G. Raschka & Family
Margaret L. Reuger
Reynolds Construction
Management, Inc.
Elizabeth Ritchie
David J. Robson
Dr. Ralph L. Rogers
James Roman
Stewart Rose
Mary Ellen Roy
Dorothy A. Russo
Jeff Salavitarbar
Anne-Marie Samoylo
Kimberly and Domenick Savino
Kathy and Jack Schank
Ruth Schick
Margaret A. Schils
Carolyn W. Schoonover
James M. Schoppet
Jennifer R. Semple
William G. Sfida
Christine E. Shaffer
Teresa Sharrow
Sondra L. Shiffer
Labron K. Shuman
Sarah G. Singer
Christopher V. Skahan
Robert W. Slough
Joanne and Joseph J. Slouskey, Jr.
Mychell Sneed-Moore
Grant and Pat Snyder
Robert S. Snyder, Jr., Ph.D.
Tony Soong
Donald and Wendy Soslow
James A. Stokes
Susan Stranix
George Sullivan
Beatrice and Imre Szalai
Thomas Szczeurek
John Tereniac
Betty F. Thomas
Roberta and William H. Torian, Jr.
Bill and Nancy Trimbur
William and Mary Tsouris
Bianca Valente
Carol G. Videon
De Vitale
Robert VonSick
Wachovia Bank NA
Timothy Wade and Abby Lang
Ric Walliser
Bernadette Walsh
Richard B. Weakley
Bernice Webb
John E. Webb
Alan L. Winters '77
William H. Woomer II
Dorothy and Bruce Wyman
Bob and Eleanor Young
Walter H. Youngheim, Jr.