

MONROE COUNTY COMMUNITY COLLEGE

# TECH UPDATE

NEWS FROM THE APPLIED SCIENCE AND  
ENGINEERING TECHNOLOGY DIVISION

[www.monroeccc.edu](http://www.monroeccc.edu)

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JANUARY 2016

## Happy New Year!

EUROPE  
AMERICA  
ASIA  
AFRICA

EUROPE  
AMERICA  
ASIA  
AFRICA

PEOPLE  
FORUMS  
MAIL  
SHOP  
SALES

INTERNET  
LIVE CHAT  
MEDIA  
PHOTOS  
VIDEOS  
MUSIC

INSIDE

## AUTO SERVICE TECHNOLOGIES PROGRAM TO START IN FALL



INTERNET  
LIVE CHAT  
MEDIA  
PHOTOS  
VIDEOS  
MUSIC

- CULTURE  
- ECONOMIC

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# AUTO SERVICE TECHNOLOGIES PROGRAM TO START IN FALL

The Applied Science and Engineering Technology Division will offer a new program starting Fall Semester: automotive service technologies. The program and its curriculum were approved at the October Curriculum Committee meeting. The AST program will provide students with two options:

- A basic certificate in automotive service technologies
- An associate of applied science degree in automotive service technologies

The certificate program will prepare students for employment as general service technicians. The associate of applied science degree will expand on the courses in the certificate program with an emphasis on diagnostics and the rebuilding of major automotive components, including engines and transmissions.

The curriculum was developed by Rouzbeh "Ross" Oskui, auto service program coordinator, who is a National Institute for Automotive Service Excellence master technician

with more than 25 years of industry experience. In addition to eight years of providing automotive education, he has owned independent repair facilities and a used car dealership, serviced vehicles at multiple new car dealerships, managed the largest Michigan Bridgestone Firestone store location and worked as a diagnostic engineer for Fiat Chrysler of America. He holds a bachelor's degree from Siena Heights University and an associate degree from Macomb County Community College.

## More Than 400 Attend X-Tech Open House

More than 400 people attended the Applied Science and Engineering Technology Division's free X-TECH open house for prospective students exploring career and technical higher education opportunities, including many fields that fall into the category of "STEM" (Science, Technology, Engineering and Mathematics).

About 300 students from the Monroe County Intermediate School District and Ida, Monroe, Monroe, Jefferson, Dundee, SMCC, Whiteford and Summerfield high schools pre-registered for X-TECH; approximately 100 additional attendees participated as well. They took part in many hands-on activities, classroom demonstrations and presentations by industry partners. Additionally, a special presentation on STEM careers hosted by successful women in technology was part of the open house. The event demonstrated high-demand and high-wage jobs opportunities in the fields of welding, three-dimensional computer-aided design, green construction, manufacturing, electronics, robotics, nuclear engineering technology, automotive service technologies and metrology.

*Top right: Ida High School Students  
Bottom right: Whiteford High School Students*



### WHAT THE PARTICIPANTS SAID

"This was a great event."

"Thank you to everyone who was involved in getting our high school students onto your campus. As Summerfield's counselor, I do understand what an undertaking it was to make it all happen, so I appreciate all that was done for us."

"I was very interested in hearing about the individual classes and certification programs that could lead to a very good job."



# ASET Faculty Member Creates New Finial for Historic Sawyer Homestead



Alex Babycz, assistant professor of construction management technology, recently created and installed a new finial on the cupola of the historical Sawyer Homestead in Downtown Monroe.

The finial is in a hexagon shape and comes to a point similar to the finials on the churches in the area. Made entirely of wood – pine and red cedar – it is joined together primarily by marine glue.

This is the second time Babycz has created a finial for the home.

Jeff Green, city planner and historic preservation officer, approached Babycz in the spring about recreating the finial.

“I thought it would be a good project for my class, but because of the timing, I knew it would have to wait until the fall,” Mr. Babycz explained.

After sketching it out and deciding it would be a bit more complicated, Mr. Babycz decided to take on the project himself.

“There are over 50 pieces in the finial,

which is constructed without any metal fasteners, save for four stainless steel screws that hold the upper and lower sections together,” said Green.

The new piece differs from the one made years ago, which was created from a solid chunk of wood.

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## MCCC WELDING STUDENTS AWARDED AWS SCHOLARSHIPS

In September, three MCCC welding students were awarded 2015-2016 scholarships from the American Welding Society, Detroit Section. Awards were presented by, AWS President David Landon at an event at Schoolcraft College. The Amos and Marilyn Winsand Scholarship of \$3,000 funded by the AWS Foundation, was awarded to Michael Bilbrey, II. Two \$1,000 AWS Scholarships were awarded to Sherrod Caver and Travis Lindquist, respectively.



L-R, Parmeshwar (Peter) Coomar, dean of the Applied Science and Engineering Technology Division; Perry Tsipis, adjunct instructor in the ASET Division; scholarship recipients Travis Lindquist, Sherrod Caver and Michael Bilbrey, II; and Dr. Roop Chandel, professor or materials technology.

# ASET HOSTS AWS DETROIT SECTION TECHNICAL MEETING

In October, the Applied Science and Engineering Technology Division hosted the American Welding Society's Detroit Section Technical Meeting. The meeting was unique in that it was a combined event with American Society for Nondestructive Testing (NDT), Detroit Section. The event permitted the AWS Detroit Section and ASNT Detroit Section to gather in one location and learn how their respective industries overlap.

The meeting featured a panel discussion moderated by Viji Kuruvilla, president and CEO of Genesis Quality Systems, Inc. The panel represented a broad spectrum of the welding community and addressed the issues of diversity in the welding workplace.

Panel members included:

Ross Reynolds, *ASNT Detroit Section (NDT)*  
Marc Lopez, *Miller Electric (Welding Products)*  
Glover Donohoe, *Ventower Industries (Manufacturing)*  
Frank Beaker II, *Ventower Industries (Manufacturing)*  
Perry Tsipis, *Midway Products Group, Inc. (Manufacturing)*  
Robert Wilcox, *AWS District 11 Director (AWS)*  
Dr. Roop Chandel, *MCCC (Higher Education)*



*Left to right: Ross Reynolds, Marc Lopez, Glover Donohoe, Frank Beaker II, Perry Tsipis, Robert Wilcox and Dr. Roop Chandel*

*The technical meeting was made possible by industry sponsors RoMan Manufacturing and Midway Products Group, Inc.*

## NEARLY 70 STUDENTS PARTICIPATE IN STEM SUMMER CAMPS

The Monroe County Career and Technical Education Committee, in partnership with the Monroe County Intermediate School District, Monroe County Community College, the Monroe County Business Development Corporation and all nine school districts held several STEM (Science, Technology, Engineering and Math) summer camps at MCCC. The Applied Science and Engineering Technology Division offered four camps in the areas of welding, construction, computer-aided design and automotive service.

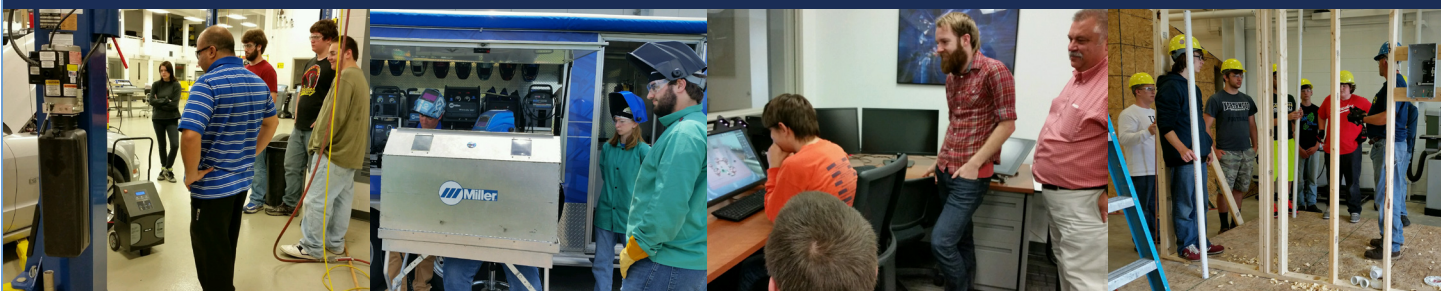
The camps had a discounted price that was made possible by sponsorships from National Galvanizing, Ventower Industries, RoMan Manufacturing, Inc., Flat Rock Metal, Diamond Technical Services, Baker's Gas and Welding Supplies, Laibe Electric, Michigan Regional Council of Carpenters, Monroe Master Plumbers Assoc. - Loc. 671 Miller and the Carl D. Perkins Grant. A total of 68 students benefited from the camps.

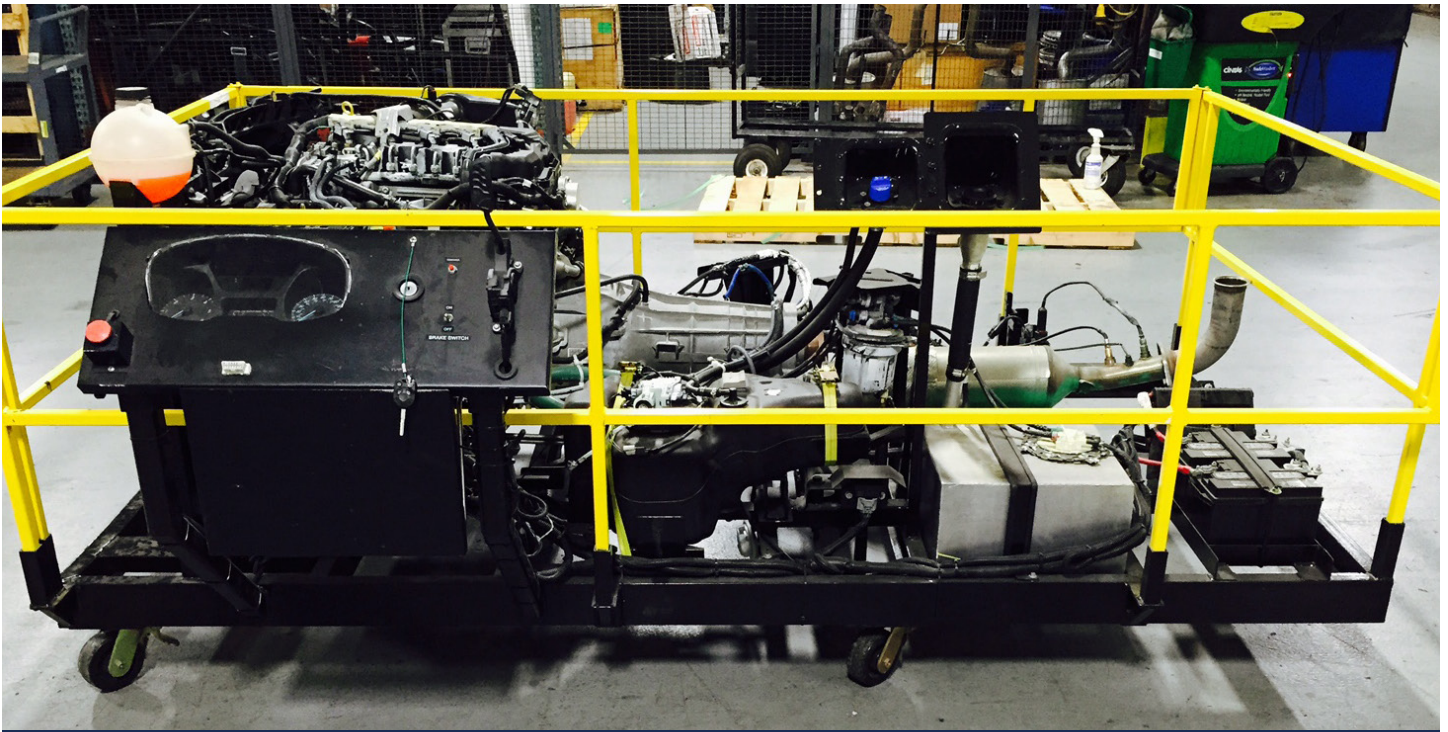
*STEM Automotive Service Summer Camp*

*STEM Welding Summer Camp – Miller Electric*

*STEM CAD Summer Camp*

*STEM Construction Camp with Local 671SUNMME*





*Roush Ford Transit diesel powertrain engine*

## New Equipment Includes Laser Scanning Arm, Robodrill, Diesel Powertrain Engine

As part of an ongoing effort to equip the new Career Technology Center with the latest industry-standard equipment, the Applied Science and Engineering Technology Division has acquired several new items to help improve hands-on experience and certification options for students in multiple programs.

For the metrology program, a new **Articulated Laser Scanning Arm (Romer)** was recently acquired, along with a top-of-the-line mobile workstation to run PolyWorks rapid prototyping scanning software. This combination of hardware and software provides a portable coordinate measurement system that allows users to take individual point measurements via a standard ruby-tipped probe or thousands of point measurements in a just few seconds via a modern laser scanning system. This allows for comparison of production parts to existing three-dimensional, computer-aided design models for quality control, as well as the importing of new part scan data for use in reverse engineering applications.



*Bob Leonard, instructor of product and process technology*

The product and process technology program has purchased a new piece of equipment, which not only offers new lab experience options for students but also offers additional certification opportunities. The **FANUC Robodrill** is a high-speed, high-precision and high efficiency compact machining center. This will allow for performing computer numerical control milling duties in conjunction with the college's existing Hass CNC mill and CNC lathe. Now, in addition to being able to get certified for the Hass machines, students will be able to get certification through FANUC.

The automotive engineering technology program acquired a self-contained, 3.5L Ford Transit, **diesel powertrain engine**. The engine has fuel, cooling, power steering, A/C and charging systems on board and a control panel that allows the operator to run the rig as if it were in a vehicle. There is an OBD-II port that enables scan tool interface as well. The students will disassemble and reassemble the engine in the dynamometer room.

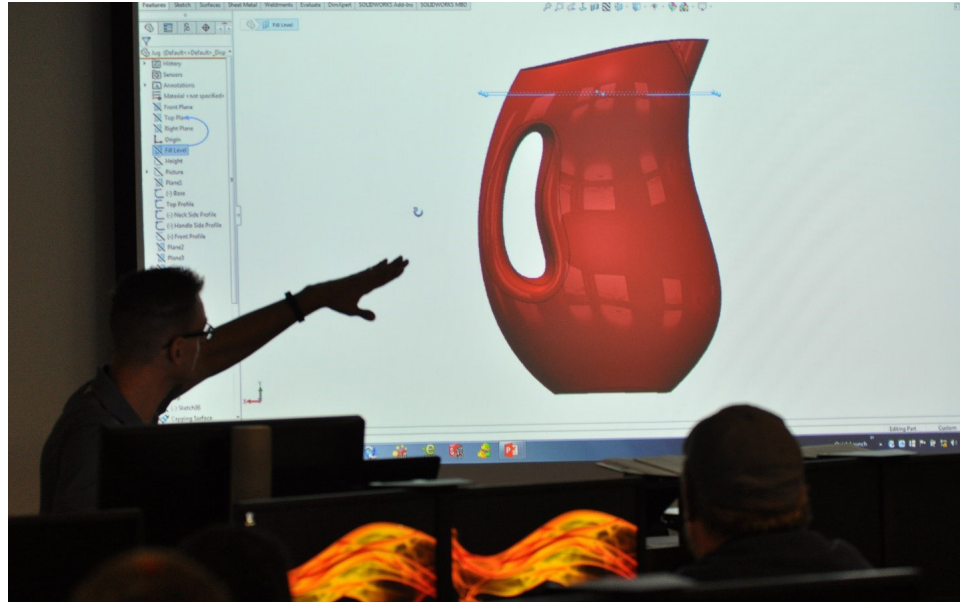
# SOLIDWORKS USER GROUP CONFERENCE AT MCCC SETS ATTENDANCE RECORD

In October, the Applied Science and Engineering Technology Division hosted the Southeast Michigan and Northwest Ohio SolidWorks User Group Conference. This was the fifth meeting to date and set a record for attendance with 125 participants.

SolidWorks is three-dimensional, parametric modeling software that is widely used in mechanical design and engineering applications. Currently there are more than 28,000 educational institutions teaching the software in 80 countries. There are also more than 260 SolidWorks user groups worldwide.

"The user group provides a venue for our students but also brings in regional employers in the design and engineering fields," said Dr. Dean Kerste, professor of mechanical design technology and SE Michigan and NW Ohio SolidWorks user group leader. "For many of these employers, this is their first exposure to MCCC and the offerings of the ASET Division."

The conference is an opportunity for SolidWorks users to network with colleagues and peers to see how others are using the software in their workplace. It is free and open to students, teachers, designers, engineers, employers and anyone with an interest in SolidWorks and the mechanical design industry. For more information regarding future meetings, please contact Dr. Dean Kerste at [dkerste@monroeccc.edu](mailto:dkerste@monroeccc.edu).



*SolidWorks User Group Presenter Darren Grosse of DASI*



*SolidWorks User Group attendees*



*Christopher Setzler*

## Student Earns Highest Level Of Solidworks Certification

Christopher Setzler, MCCC mechanical design technology student and mechanical design engineer at Detroit Stoker Company, recently earned the highest level of SolidWorks certification – Certified SOLIDWORKS

Expert (CSWE). Chris is the first MCCC student to receive CSWE certification.

An individual who has earned CSWE certification is regarded as being well-rounded in his or her knowledge of all areas of SolidWorks software and is able to solve practically any modeling problem given to them. To qualify to take the CSWE exam, a candidate must have successfully passed the

Certified SolidWorks Professional (CSWP) exam along with at least four of the CSWP advanced topic exams.

While there are more than 108,000 Certified SolidWorks Associates (CSWA) and 56,000 CSWPs, there are only 2,399 CSWE's worldwide and just 28 in the State of Michigan. Congratulations Christopher Setzler, CSWE!



# KERSTE ATTENDS INVITATION-ONLY SOLIDWORKS CORPORATE EVENT

Dean Kerste, professor of mechanical design technology, recently attended a three-day SolidWorks corporate event in Boston. The event commenced with an evening meet and greet with SolidWorks executives followed by a daylong session presenting the future of SolidWorks, along with new products and features in the software suite. The final day concluded with a tour of the SolidWorks headquarters and a “test drive” of its virtual reality lab.

“The invite to the corporate event is largely based on

*Above: A SolidWorks corporate event attendee experiencing an immersive virtual reality walk through of a 30-year-old male heart with a defect.*

our successful SolidWorks User Group, along with the SolidWorks certification program implemented at MCCC,” said Kerste. “The highlight of the event for me was touring the headquarters.”

The event was by invitation only and all costs were covered by the SolidWorks Corporation.

## Dubois, Coomar Attend Regional Center for Nuclear Education and Training Conference

Marty Dubois, assistant professor of mechanical engineering technology, and Parmeshwar (Peter) Coomar, dean of the Applied Science and Engineering Technology Division, were funded by an Indian River State College, Florida National Science Foundation grant to attend a two day-workshop in Atlanta in November. The workshop, the Regional Center for



*RCNET Conference at Indian River State College*

Nuclear Education and Training Conference, was held at the Institute of Nuclear Power Operators office with educators from approximately 15 different colleges that have a program related to nuclear energy.

Topics covered at the workshop included best practices in teaching energy-related programs, the future of such programs at community colleges around the country and employment opportunities for graduates.

# ENCOURAGING CAREER AND TECHNICAL EDUCATION

In an experiment encouraging area high school students to investigate career and technical education programs, the Applied Science and Engineering Division provided STEM (Science, Technology, Engineering, and Mathematics) experiences for Orchard High School students as they worked through hands-on skill building exercises in four separate STEM areas. Each of the four experiences built from safety and fundamental skills through the completion of a project that incorporated the skills attained. Experiences included automotive maintenance, construction trades, computer-aided design and welding. Employability and soft skills were also taught and reinforced throughout all



Orchard Center High School

areas. A cohort of 15 students were served over a period of two months. Four of the students are currently enrolled in college credit courses at MCCC. Originally the Orchard students had participated in X-TECH,

MCCC's annual Applied Science and Engineering Technology Division open house in the fall of 2014. This sparked their interest in exploring certain program areas within the division in a more extended meeting opportunity.

## MCCC WELCOMES TWO NEW ELECTRICAL APPRENTICES

MCCC welcomed two new apprentices from Huron Valley Steel Corporation in Belleville. Douglas Grybas is in his second semester and Matt Vyse is in his first semester. They are both taking electrical courses toward completion of the registered apprenticeship program with the U.S. Department of Labor Office of Apprenticeship.



Left to right: Doug Grybas and Matt Vyse

## TRENDS

Tom Harrill, assistant professor of electronics and computer technology, presented at the TRENDS in Occupational Studies Conference in Traverse City in October. This is the second time in the last three years



Tom Harrill, assistant professor of electronics technology at MCCC and Jung Koral, transfer and international student advisor at University of Michigan-Dearborn, present at TRENDS.

Harrill has presented. Harrill's presentation was entitled "Electronics and electrical Technology and Engineering – How Do We Create a Successful 4-Year Model?" This exploratory session investigated the possibility of having a conventional four-year university model of electrical/electronics engineering accept the first two years of a typical community college electronics degree.



## ASET Course Offerings:

Term	Subject	Section Name	Credits	Billing Credits	Short Title	Start Time	End Time	Days
WINTER 2016	AUTO	AUTO-102-01	4	6	Automotive Electricity	7:00 PM	9:55 PM	TU/TH
WINTER 2016	AUTO	AUTO-103-B1	4	6	Fuel & Emission Cntrl Systems	5:30 PM	7:55 PM	TU/W/TH
WINTER 2016	AUTO	AUTO-105-01	3	4	Automotive Transmissions	5:00 PM	6:55 PM	TU/TH
WINTER 2016	AUTO	AUTO-114-B1	4	6	Auto Instrumentation/Testing	8:00 AM	10:25 PM	M/W
WINTER 2016	CONM	CONM-102-01	3	4	Construction Practices	2:00 PM	3:55 PM	TU/TH
WINTER 2016	CONM	CONM-103-01	4	6	Residence Drafting	2:00 AM	4:55 PM	M/W
WINTER 2016	CONM	CONM-105-01	4	6	Mechanical Building Systems & Equipment	6:00 PM	8:55 PM	TU/TH
WINTER 2016	CONM	CONM-110-01	3	4	Construction Blueprint Reading	5:00 PM	6:55 PM	M/W
WINTER 2016	ELEC	ELEC-125-01	3	4	Fundamentals of Electricity	10:00 AM	11:55 AM	M/W
WINTER 2016	ELEC	ELEC-125-02	3	4	Fundamentals of Electricity	1:00 PM	2:55 PM	M/W
WINTER 2016	ELEC	ELEC-125-03	3	4	Fundamentals of Electricity	7:00 PM	8:55 PM	TU/TH
WINTER 2016	ELEC	ELEC-132-02	4	6	Electronics I	4:00 PM	6:55 PM	TU/TH
WINTER 2016	ELEC	ELEC-135-01	4	6	Digital Electronic Logic	4:00 PM	6:55 PM	TU/TH
WINTER 2016	ELEC	ELEC-136-01	3	4	Instrumentation	5:00 PM	6:55 PM	TU/TH
WINTER 2016	ELEC	ELEC-138-01	4	6	Machinery and Power Control	7:00 PM	9:55 PM	M/W
WINTER 2016	ELEC	ELEC-141-01	3	4	Indust Automation/Proc Control	8:00 PM	9:55 PM	M/W
WINTER 2016	ELEC	ELEC-141-02	3	4	Indust Automation/Proc Control	10:00 AM	11:55 AM	M/W
WINTER 2016	ELEC	ELEC-144-01	2	3	PC-Based Data Acquisition Control	9:00 AM	11:55 AM	S
WINTER 2016	ELEC	ELEC-156-01	3	4	Intro to Renew Energy Systems	4:00 PM	5:55 PM	TU/TH
WINTER 2016	ELEC	ELEC-211-01	3	3	Med Voltage Power Dist Systems	4:00 PM	6:55 PM	W
WINTER 2016	MATL	MATL-101-01	3	4	Industrial Materials	10:00 AM	11:55 AM	TU/TH
WINTER 2016	MATL	MATL-101-02	3	4	Industrial Materials	5:00 PM	6:55 PM	M/W
WINTER 2016	MATL	MATL-121-01	3	4	Nuclear Plant Materials	4:00 PM	5:55 PM	TU/TH
WINTER 2016	MDTC	MDTC-109-01	2	2	Mechanical Blueprint Reading	7:00 AM	8:55 AM	TU
WINTER 2016	MDTC	MDTC-152-01	4	6	Descriptive Geometry	4:00 PM	6:55 PM	M/W
WINTER 2016	MDTC	MDTC-160-01	4	6	Mech Drftg & CAD I	7:00 PM	9:55 PM	M/W
WINTER 2016	MDTC	MDTC-161-01	4	6	Mech Drftg & CAD II	1:00 PM	3:55 PM	M/W
WINTER 2016	MDTC	MDTC-228-01	3	4	Intro to SolidWorks-CSWA	2:00 PM	3:55 PM	TU/TH
WINTER 2016	MECH	MECH-102-01	4	6	Manufacturing Processes	7:00 PM	9:55 PM	TU/TH
WINTER 2016	MECH	MECH-103-01	4	6	Machining Basics & CNC	9:00 AM	11:55 AM	TU/TH
WINTER 2016	MECH	MECH-103-02	4	6	Machining Basics & CNC	7:00 PM	9:55 PM	M/W
WINTER 2016	MECH	MECH-104-01	3	4	CNC II	5:00 PM	6:55 PM	M/W
WINTER 2016	MECH	MECH-131-01	3	4	Intro Automated Manufacturing	2:00 PM	3:55 PM	M/W
WINTER 2016	MECH	MECH-201-01	3	4	CAD/CAM I	5:00 PM	6:55 PM	TU/TH
WINTER 2016	MECH	MECH-231-01	3	4	CAD/CAM III	5:00 PM	6:55 PM	TU/TH
WINTER 2016	METC	METC-100-L1	3	3	Intro to Engineering & Tech	ONLINE	ONLINE	ONLINE
WINTER 2016	METC	METC-170-01	3	6	Intro to Parametric CAD/CATIA	5:00 PM	7:55 PM	TU/TH
WINTER 2016	METC	METC-220-01	4	6	Statics & Strength of Material	4:00 PM	6:55 PM	M/W
WINTER 2016	NUET	NUET-103-01	2	3	Liquid Penetrant/Magnetic Particle Test	7:00 PM	9:55 PM	M/TU
WINTER 2016	NUET	NUET-104-01	2	3	Visual Testing	7:00 PM	9:55 PM	M/TU
WINTER 2016	NUET	NUET-120-01	3	4	Radiation Protection	8:00 PM	9:55 PM	TU/TH
WINTER 2016	NUET	NUET-220-01	3	4	Power Plant Components	6:00 PM	7:55 PM	TU/TH
WINTER 2016	NUET	NUET-240-01	3	4	Reactor Theory	8:00 PM	9:55 PM	TU/TH
WINTER 2016	QSTC	QSTC-150-B1	3	4	Introduction to Metrology	7:00 PM	8:55 PM	TU/TH
WINTER 2016	QSTC	QSTC-230-L1	3	3	Documentation & Audit Prep	ONLINE	ONLINE	ONLINE
WINTER 2016	QSTC	TECH-296A-01	3	4	Introduction to Automotive Service	6:00 PM	9:55 PM	W
WINTER 2016	QSTC	TECH-296-01	4	5	Automotive Electrical Systems I	8:15 AM	9:30 AM	M/TU/W/TH



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