Automotive Technology Information Session

Presented by:

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Automotive Technology Information Session

Agenda

- Welcome and overview of the event
  - *Sarah Williams, Admissions and Outreach Coordinator, Macomb Community College*

- Overview of the Vehicle Engineering Technician (VET) Program
  - *Ben Cruz, Director for the Center for Advanced Automotive Technology, Macomb Community College*

- Opportunities at Roush Enterprises
  - *Amanda Alanouf, Director of Workforce – Prototype Services, Roush Enterprises*
  - *Paul Bowser, Director Garage Service Operations, Roush Enterprises*

- Q&A Session

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Vehicle Engineering Technician Program
Macomb Community College
Associate of Applied Science in Automotive Technology

Ben Cruz

Director- Center for Advanced Automotive Technology (CAAT)

Macomb Community College

14500 East 12 Mile Road

Warren, MI 48088-3896

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Macomb
Community College
Education • Enrichment • Economic Development
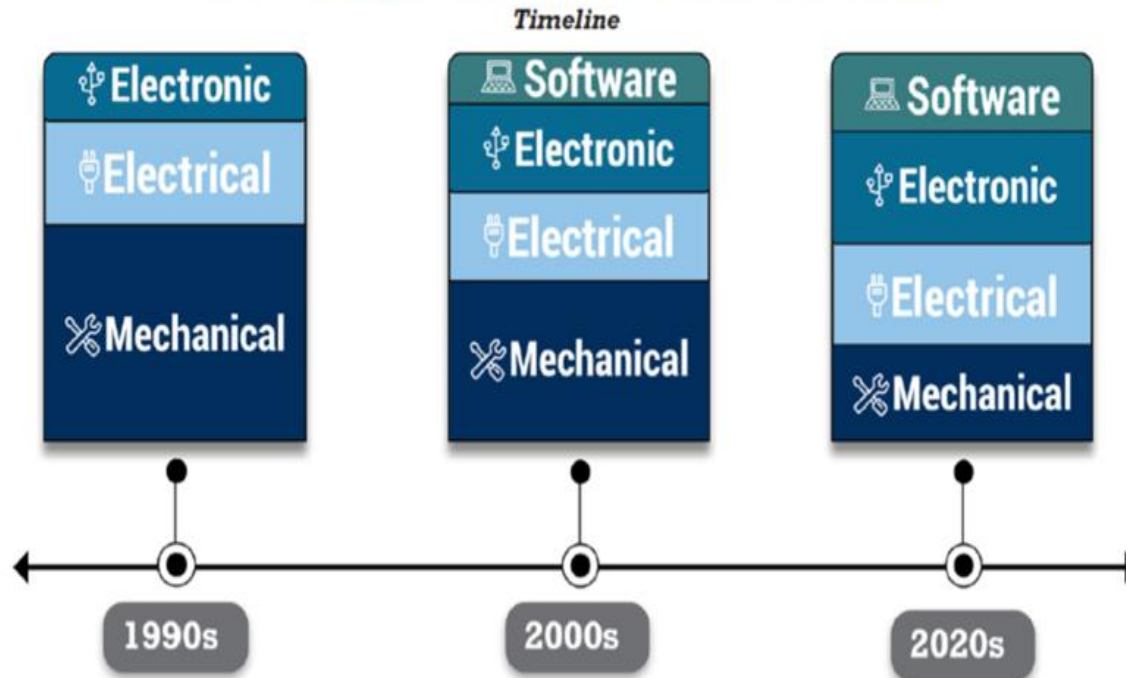Discover. Connect. *Advance.*

WAYNE STATE

New Automotive Trends Driving Change in the Auto Industry

- The emergence and advancement of Automated and Electric Vehicle Technologies is having a significant impact on the automotive industry.

- The trends driving change: Connectivity, autonomous and automated driving, mobility as a service, drivetrain electrification, and the need for high-performance computing.

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EV, Connected and Automated Vehicles

Technician Workforce General Skills Timeline

1990s: Electronic, Electrical, Mechanical

2000s: Software, Electronic, Electrical, Mechanical

2020s: Software, Electronic, Electrical, Mechanical

The complexity and number of skills are increasing

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Automotive Technicians Must Understand
The New Vehicle Systems and Changing Technology

- Vehicles are becoming electro-mechanical devices controlled by computers and embedded software.

- Power Electronics, High voltage batteries, power conversion, electric motors, electrification of powertrains & controls.

- Advanced Driver Assistance Systems (ADAS)

- The connected vehicle and communication systems

- Computer and software control of all vehicle systems including VTX communication.

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Macomb's CAAT Has Developed a Program Aimed at Up-Skilling Technician

• Automotive service technicians will need enhanced electronic, software, and troubleshooting skills to maintain, and repair future vehicles

• The Vehicle Engineering Technicians (VETs), with enhanced electronics, software, and laboratory testing skills are needed by OEMs and suppliers to assist engineers in the development of highly automated and highly electrified vehicles

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Vehicle Engineering Technician Program
Macomb Community College
Associate of Applied Science in Automotive Technology

Course	Course Title	Semester 1	Semester 2	Semester 3	Semester 4
AUTO-1000	Automotive Systems	3			
TMTH-1150	RCL Analysis	4			
ELEC-1161	Electronics Technology 1	3			
ELEC-1171	Electronics Technology 2	3			
AAS/ABA	Gen Ed - English or Composition, Group I.A	3			
AUTO-1040	Automotive Electrical 1		3		
AUTO-2600	Automotive Cybersecurity		3		
ELEC-1211	Digital Electronics Basics		3		
ITNT-1500	Principles of Networking		4		
PHSA-150	Gen Ed - Physical Science 1050, Group II		4		
ELEC-2150	LabVIEW Basics			3	
ITCS-1140	Intro to Programing Design & Development			4	
ITCS - 1300	Embedded C Programming for Automotive Systems			4	
PRDE-1250	Basic Blueprint Reading			2	
AAS/ABA	Gen Ed - Economics or Sociology, Group III			3	
AUTO 2060	Automotive Electrical 3				3
AUTO-2000	Connected, Automated & Intelligent Vehicles				3
ELEC-2310	Vehicle Experimental Testing				4
AAS/ABA	Gen Ed - Creative Writing, Group IV				3
AAS/ABA	Gen Ed, need 15 credit hours, Group I, II, III, IV				2
		16	17	16	15
				Total Credits	64

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ROUSH.

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Thank you for inviting us!

Who is Roush?

Our Culture

"There is a boundless energy, work ethic, and technical curiosity in Jack Roush that is key to what this company has become."

Evan Lyall, CEO

Who is Roush?

We fuse technology and engineering expertise to create solutions that spark enthusiasm, improve quality of life, and help conserve natural resources.

Our unique combination of creativity and tenacity activates big ideas on a global stage.

We provide innovative solutions to complex challenges.

What We Do

We specialize in transforming ideas into results.

OUR CAPABILITIES

At Roush, our unique advantage is the breadth of services that we provide our customers. This gives us the ability to provide tremendous value by offering enterprise-wide solutions in engineering, testing and development, prototyping and manufacturing.

Roush has Auto Tech and Auto Tech Internships NOW!!

Are you interested in gaining hands on experience while working with todays cutting edge technology?
ROUSH Prototype has opportunities working with experimental vehicles built with brand new parts.

We have large, multi-hoist garages and a clean, indoor shop environment. Come work with us on these cool projects and be part of our growing team! We are looking for Automotive Tech Summer Interns to work on our day or afternoon shift in our Allen Park, MI facility. This is a paid internship that offers you real world experience!

To be considered as an Automotive Tech Summer Intern, you will need:

- Minimum 6 months of automotive technician schooling or equivalent experience
- High school diploma or equivalent
- A basic understanding of alignments, electrical, tires and HVAC
- Good organizational skills
- Good attention to detail
- The skills to read, comprehend and execute written procedures
- To be a self-starter, self-motivated and willing to learn
- Have reliable attendance and be willing to work overtime/weekends

If you share our passion for providing innovative solutions to complex challenges, we want you on our team.

Please visit our careers page and apply by clicking on this link: https://roush.applytojob.com

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We bridge the gap
between concept and reality.

We bridge the gap
between concept and reality.

We enable innovative products.

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We enable innovative products

We Build Exciting Vehicles.

We Build Exciting Vehicles.

We Develop the Future!

We Develop the Future!

How Can I get Started?

EMPLOYER EXPECTATION

- Potential Employee <u>MUST</u> pass a drug screen.
- Employee should:
  - Be Prompt and consistent.
  - Be Professional.
  - Be Courteous.

- Be Honest.
  - And willing to admit when they are wrong.
- Be Energetic.
- Have good work ethic.
- Be willing to ask questions.
- Be willing to learn.

How Can I get Started?

INVESTMENTS AND REQUIREMENTS

- When entering the job market, one must be prepared to make investments:
  - These investments will span your entire career if you plan to be successful.
    - Investing yourself means giving your best effort. – Work Ethic
    - Sometimes this may be monetary. – Professionalism (Appearance & Preparedness)
    - Other times it will be investing of yourself. – Education (Energy and Time)
    - Dedication is an investment over time that will turn into – Experience.

If you invest In yourself consistently and provide an honest day of work, you will achieve:

Success!

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Questions?

Thank You for Attending!

If you have specific questions about the VET program, email cruzb800@macomb.edu.

If you have questions about being a student at Macomb or applying for admission, contact us at admissions@macomb.edu or 586.445.7999.

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