

Detroit Auto Scene

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MCC STEAM Program Shows Area Students Possible Automotive Careers

by Jim Stickford

It was full STEAM ahead last week at the annual Macomb Community College student technology and manufacturing review.

Now known as Auto STEAM (Science Technology Engineering Arts Mathematics) Day, the event originally got its start 14 years ago as MCC's Robotics and Technology Day, said Tim Pawlowski, dean of MCC's Applied Technology - Automotive and Technical Education.

"We changed the name and for the last three years we have brought in about 3,000 high school and middle school students from schools across metro Detroit," Pawlowski said. "For two days, we hold events at our Warren campus to demonstrate what kinds of STEAM careers are out there for students interested in jobs in the auto industry."

This year MCC was able to get seven different manufacturing and tech companies – Ford, FCA, Kuka, Siemens, AAM, Magna and

Magna – to set up demonstrations at MCC's Sport Expo Center. Pawlowski said that MCC has a working relationship with GM's clay modeling department. So

students were able to see a video that showed how GM creates full-size clay models of proposed vehicle designs.

The FCA demonstration showed

how designers create the first paper vehicle designs and then transfer the design from paper to a computer.

The Ford display showed how

a computer rendering can be transformed into 3D Virtual Reality (VR) computer designs using

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While attending a recent MCC STEAM event, students had the opportunity to see vehicles go from the initial design to actual product.

It Was Full STEAM Ahead at MCC Auto Technology Event

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the latest 3D computer rendering equipment.

The idea, said Pawlowski, is to show the automotive design process that moves a design from paper to full-size three-dimensional models that can be viewed in real space.

On the second day of the event, a special evening gathering is held where people from MCC and the sponsor organizations answer questions about how students can create an education path toward STEAM careers in the auto industry.

"The parents really like the evening event," Pawlowski said. "They're able to learn about what is out there for students."

This year, AAM of Detroit set up a demonstration of how different vehicles use different drives.

Greg Woodside, engineering manager at AAM, said the demonstration was created using remote control models. One was an All-Wheel Drive (AWD), one was a Rear-Wheel Drive (RWD) and one was Front-Wheel Drive (FWD).

"During the demonstration, it's not so much that students ask us questions," Woodside said. "Rather, we ask them questions like which drive system will accelerate faster and which one can go up a slope faster. We then show which drive systems perform best under different circumstances and explain why."

In addition to having RC mod-

els, AAM brought an actual vehicle – a Jaguar that uses the company's I-Pace EV powertrain.

"When we get to the question part of the program, we do get a lot of questions about electric vehicles," Woodside said. "Being able to show them an actual EV powertrain in a car is something they really enjoy."

Bringing full-sized vehicles to the event is important, Pawlowski said. It makes STEAM Day a more interactive experience because students have the chance to see what was once theoretical is now a reality.

"We were very happy that FCA and Ford brought vehicles that were not only on display but were also able to be touched and explored by our students," Pawlowski said. "It makes the whole day much more interactive."

"The kids get to see how designs are made, but they also get to explore the vehicles by going inside them and this lets them see how design works in the real world. It's very exciting."

Getting schools to attend the event isn't difficult, Pawlowski said.

The event is designed to be educational and not put pressure on students to make a life-altering decision right on the spot, Pawlowski said.

"That's something schools, parents and students really appreciate," Pawlowski said.

"This isn't a job fair," Pawlowski said. "Students can feel real



Woodside shows a scale model to demonstrate torque in front a Jaguar that uses AAM's new EV power train.

pressure at job fairs. But the idea is to offer students ideas on where they can go with their education. They don't have to make a decision 'right away' and they are able to see what's out there in a more low-pressure atmosphere."

Pawlowski said that MCC has a strong working relationship with

local school districts as well as technology and manufacturing companies that operate in Michigan.

Planning for the 2020 STEAM Day began right after the conclusion of the 2019 event.

"This takes a lot of work," Pawlowski said. "But it's worth it."

Woodside agreed, saying that the next generation of engineers and designers are today's students and getting them interested in the business matters.

"Our future depends on students, so anything we can do to let them know just what kinds of careers await them is to the good," Woodside said.