Grant Coordinator Steven Fosgard and Scott Govitz discuss how their new plastics technology programme is helping to promote both the career pathway and industry as a whole.

Why should people be excited by the plastics industry?

There are so many possibilities in the plastics industry and career pathway that it is truly a field that has opportunities for students in just about every interest area. What makes this industry unique is that it is relatively new in relation to other manufacturing processes, but has its origins in ancient Egypt when they first engineered natural rubbers and plastics. Innovations in machinery, materials and product usage are being discovered on a daily basis. The key is to get people excited about the future possibilities in the field while maintaining an understanding of the history and impact that the field has had on our society. I challenge people to think of a time in their day when they do not come into contact with some form of plastic product or object. It’s harder than it sounds!

Could you elaborate on the programme’s relationship with industry?

Some of the industry’s foremost experts are from the college district and are represented on the Advisory Committee to assist in developing curriculum and provide training equipment, internships and much more. From a college leadership standpoint, we each have industry experience. Together with our work in education and training, we have brought about programme success.

Does this programme align with the current needs of business and industry in Michigan?

We have the advantage of a local economy centred on the thermoforming industry. Now, imagine this programme hitting its stride with good enrolment and individuals gaining value-added skills needed by employers. It will be a symbiotic relationship that will further enhance existing companies’ growth opportunities, while having the potential to attract the attention and hopefully the economic investment of other companies.

Our first goal is to take care of existing employer needs with a longer term strategy of working with the Michigan Economic Development Corporation (MEDC) and other economic developers, as necessary. We seek to provide training that is meaningful to our area manufacturers, and this programme does precisely that. We have worked with area manufacturers since this idea was hatched, and will continue to do so. Additionally, by working with some regional and state economic development agencies, we can eventually offer much of this training to greater Michigan and beyond to help strengthen partners from across the state.

How do you intend to attract students to MMCC?

Attracting local students is our first order of business. We are creating an information and marketing campaign and hiring a recruiter specifically for the plastics programme. The recruiter spoke with company employees and brought company leaders on board to speak about the industry and our programme to various groups throughout Mid Michigan. The Alliance partners have been instrumental in generating interest in the programme and career field as well.

Going beyond our community college boarders, grant funding provides us the opportunity to disseminate the programme of study throughout the state of Michigan, nationally and internationally. One of the ways this is being accomplished is through working with professional organisations such as the Society of Plastics Engineers and the Society of the Plastics Industry.
Building tomorrow’s plastics technology workforce

A new programme of study at Mid Michigan Community College is instilling students with well-rounded knowledge about the plastics field, with a strong focus on industry cooperation and real-world experiences.

PLASTICS ARE EVERYWHERE. It is hard to imagine life today without them, and almost every business sector reaps their benefits. From agriculture and construction, to the medical and transportation industries, plastics play an important role. For instance, plastics led to the development of Nylon, which is best known for its prominence in the textile industry for making fabrics. Plastics have also contributed to the creation of Kevlar, which is used in protective vests for the police and military.

It is not surprising that because of their widespread use and popularity, plastics are also a major contributor to the economy. In the US, plastics are the third-largest manufacturing industry, and more than 1 million people work in the sector. The plastics industry is valued at nearly US $400 billion and constitutes 4.4 per cent of all US merchandise exports.

One state that contributes enormously to the country’s plastics industry is Michigan, which is home to numerous plastics manufacturers and innovators. When the recession hit, the Michigan Economic Development Corporation (MEDC) spotlighted plastics and rubber manufacturing as an industry that could help spur major business growth and expansion. Because of its commitment to economic and workforce development, the MEDC looked to Mid Michigan Community College (MMCC) to lead the way in helping the plastics manufacturing sector to thrive.

As a result, the National Science Foundation (NSF) Plastics Grant Technology Team was established and is currently working on a number of projects that will culminate in the development of the Plastics Technology programme at MMCC. The aim of the project, entitled ‘Creating Plastics Technology Career Pathways in Rural Michigan’, is to encourage students to explore STEM field, which will in turn give them a strong foundation for pursuing a career in the plastics technology industry. “The current inhibiting factor for manufacturing in general is a lack of qualified applicants for the many job openings,” Grant Coordinator Steven Fosgard and Principal Investigator Scott Govitz who lead the project explain. “This programme aims to recruit those students and upon successful completion, offer them an opportunity for immediate employment or additional laddered credentialing at a higher level.”

PARTNERING WITH INDUSTRY
In addition to the project’s strong academic commitment, there is also a focus on meeting the training needs of area manufacturers. Therefore, the project coordinators seek to strike a balance between meeting the immediate needs of industry and providing a broader academic experience to students so they can explore their individual interests in the field. This balance is made possible, in part, because Fosgard and Govitz both have a strong background in and relationship with industry. They highlight this as a great asset to the project and a key to its success: “When
The aim of the project is to encourage students to explore STEM fields, which will in turn give them a strong foundation for pursuing a career in the plastics technology industry.

The Associate degree programme provides students with an advanced understanding of plastics technology as well as allowing them to explore electives recommended by industry, such as economics, advanced design courses, entrepreneurial management and accounting. The core plastics courses train students in a number of crucial areas, including a survey of the industry, plastics and polymer materials, testing and manufacturing, product development and manufacturing processes. This range of courses gives students a strong basic understanding of plastics and eventually leads into more advanced topics of study. “This programme sequencing also allows students at various professional and educational levels to enter the programme at different stages and even exit the programme once their individual goals are met,” Fosgard and Govitz add.

Throughout the duration of the programme of study, the focus on real-world applications is never lost. In fact, the courses culminate in a final project that lets students work together with inventors and experts across disciplines to develop a new product that could be used in the real world.

EXPANDING OPPORTUNITIES

While the programme currently focuses its attention on college-level students, Fosgard and Govitz have plans to include programmes developed specifically for secondary schools in the future. By reaching out to students at a much younger age, an interest in the field of plastics can be instilled much earlier, and help to build a more stable and well-educated workforce.

For the time being, however, Fosgard and Govitz are working hard to ensure their programme is a success for many years to come: “It takes the support of the local industry partners, a tailored and flexible programme and a strong marketing effort to not only create this academic opportunity, but more importantly, to sustain it beyond the period of the grant.”

TEACHING THE FUTURE WORKFORCE

A number of projects are being undertaken as part of the NSF grant for the creation of the new Plastics Technology programme at MMCC. The project team began by bringing together people involved in industry, business and educational staff to form the Mid-Michigan Plastics Alliance. The aim of the Alliance is to encourage communication between these stakeholders and support a growing economic base for the future.

Beyond the Alliance, the project also set up a laddered programme of study, which begins with non-credit Rapid Response training programmes. Fosgard and Govitz expand on this aspect of their project: “The Rapid Response programmes are designed as entry level training programmes in the areas of welding, computer numeric controls and advanced manufacturing. Students completing these then have the opportunity to articulate their courses into the Certificate of Achievement in Plastics Engineering Technology or the Associate of Applied Science in Plastics Engineering Technology”.

INTELLIGENCE

CREATING PLASTICS TECHNOLOGY CAREER PATHWAYS IN RURAL MICHIGAN

OBJECTIVES

• To formalise the advisory role of regional plastics industry leaders
• To develop curriculum for plastics technician training
• To recruit and retain students

The success of the programme relies on these three objectives working in conjunction with one another to close the current skills gap while maintaining a pipeline of students and future industry professionals.

KEY COLLABORATORS

Mid Michigan Community College: President Carol Churchill; Director Carol Darlington; Vice President Lillian Frick, Finance and Administration

PARTNERS

As listed in the grant: Midland Molecular Compouders • Huhtamacki Packaging Worldwide • CMPG – CM Packaging Group • Vantage Plastics • Robinson Industries • Brown Machine • Modern Machine of Beavertont • Lyle Industries • E&D Engineering • Manitowoc of Mt Pleasant Michigan (Formally Delfield) • Alro Steel of Clare • Future Mold • Numerous Economic Development and Workforce Development Agencies in the State of Michigan • Society of Plastics Engineers – Thermoforming Division and the Detroit/ Mid-Michigan Chapter • Ferris State University • Dr Adrian Merrington

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SCOTT GOVITZ is an economic development professional with a vast amount of experience in industry, government and higher education. This background provides him with a unique perspective as he works with business to promote their vitality.