

# UNIVERSITY OF WISCONSIN STOUT

## SPE Grant Report July 14, 2020

### Introduction

The University of Wisconsin-Stout is a career-focused, comprehensive polytechnic university where diverse students, faculty and staff integrate applied learning, scientific theory, humanistic understanding, creativity and research to solve real-world problems, grow the economy and serve a global society.

As Wisconsin's Polytechnic University, UW-Stout is committed to three tenets: applied learning, collaboration and career focus. Applied learning is at the core of each of our forty-nine undergraduate and twenty-two graduate programs. Students learn theories and best practices in traditional classrooms, then apply them in a variety of laboratory settings. UW-Stout has three times as many labs as classrooms, ensuring students have the resources to fully explore their field of study. In addition, all undergraduate programs require a co-op experience, allowing students to apply their knowledge and skills in a true work environment. This blend of traditional and hands-on learning results in 98.2% of UW-Stout graduates being employed within six months of graduation.

### Packaging Program

UW-Stout's Bachelor of Science degree program in Packaging prepares students for technical or management responsibilities in the packaging industry. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solve "real" packaging industry problems in classroom/laboratory settings. Nearly 200 students are currently enrolled in UW-Stout's Packaging program.

UW-Stout's Packaging program covers a wide range of applications for diverse industries. Students may elect an "emphasis" option to further explore course and laboratory work beyond the technical core of the program. These specialty areas offer an introduction to specific segments of the wide array of career opportunities for graduates.

Areas of Emphasis include:

- Package Graphics Design
- Manufacturing/Quality
- Foods/Packaging
- Business/Sales
- Package Printing
- Package Design, Research, and Development
- Packaging Machinery
- Plastics
- Sustainability

UW-Stout recently completed its first comprehensive fundraising campaign, raising over \$40 million in support of scholarships and program improvements. This campaign was comprised of projects across campus, including the *Packaging Matters* campaign, which included upgrading equipment throughout the Packaging labs. The MAAC thermoformer supported by SPE Foundation was a significant improvement over previous lab equipment.

The MAAC thermoformer was used regularly in the Medical Packaging class representing current technology used by industry partners like Prent, Boston Scientific and Medtronic. Students learned that thermoforming is widely used to create blister packages and clamshells for many products including medical devices. Through lab exercises and discussion, students understood the many advantages of thermoforming, including that it is the least expensive way to form three dimensional packages from plastic. They also learned that usually small parts are thermoformed so large production runs can be done efficiently, and that the thermoforming process can be sterile for medical products.

In the Medical Packaging lab, students learned there are many different ways to mold a sheet of plastic in thermoforming, and how to determine the best technology and material for the product. In this lab, students thermoformed a tray using PETG, HIPS, and HDPE sheets. They learned how to use the equipment and became proficient at creating customized packages with a variety of materials. The lab exercises also taught them how specific molds impacted the performance and quality of finished products. Students regularly evaluated the results and learned how to optimize production with the MAAC thermoformer.



Use of the MAAC thermoformer enables students to use current technology to create solutions to real-world problems. Having first-hand experience of modern equipment is a vital piece to students' successful education and careers. SPE Foundation's generous support of this equipment will assist hundreds of Packaging students and professionals for many years to come.