Redesigned Manufacturing Programs at Northwest Iowa Community College

Three redesigned programs have been developed within the Manufacturing Department at Northwest Iowa Community College. The programs are: Manufacturing Technology, formally known as General Machining; Engineering Design, formally known as Engineering Drafting/CAD; and Design Technology, formally known as Computerized Manufacturing Technology.

Ryan Steffen, Engineering Design/Design Technology Instructor, stated “We have changed the programs to keep up with industry standards. There has been a paradigm shift in technology and we need to stay current in technology to train students for the workforce. Local industry has already made the shift to three dimensional drafting so NCC needed to reflect that change in our curriculum/education as well.”

Manufacturing Technology will start in the fall of 2010. In Manufacturing Technology, students learn to make “life-sensitive” parts that are critical in everything from tractors to medical equipment to jet engines. Students will learn the latest techniques on state-of-the-art equipment how to program and use Computer Aided Control; (CNC) machines to manufacture parts “hands-off”. In addition students will learn “hands-on” skills including the use of bench tools, measurement devices, drills, lathes, milling machines, grinders and more.

Engineering Design will start in the fall of 2010. In this program a student will learn to prepare detailed working drawings for the manufacturing industry. The program provides extensive training in Computer Aided Drafting, CAD, and Parametric Modeling Software. Emphasis is placed on CAD drawing techniques and solid product description methods as prescribed by the ASME Dimensioning and Tolerancing standards. Students will also gain valuable hands-on training with manual and Computer Numerical Control, CNC, manufacturing equipment.

Design Technology will start in the fall of 2011. This is the second year of the Engineering Design Program and builds on that curriculum. This unique program bridges the gap between production and engineering by creating a well-defined graduate who has knowledge of machining and computer aided drafting. The Design Technology program offers extensive hands-on and hands-off machining applications in both manual and computer-aided manufacturing.

Students will learn to prepare detailed working drawings for the manufacturing industry. These drawings will be created in both two-dimensional and three dimensional parametric modeling software, abiding by industry recognized standards. The program will provide many interactive scenarios between machining and drafting. NCC prides itself in operating state-of-the-art equipment and software currently being used by area manufacturers. This program benefits the student by increasing the skills needed in the machining and drafting worlds, allowing for a diversified graduate.

Jay Kleinwolterink, CMfgT, Plant Engineering Manager at Quatro Composites, Orange City, Iowa stated, “Manufacturing is extremely important to the advancement of Iowa and the United States. CAD (Computer Aided Drafting) and CNC (Computer Numerical Control) machines are an integral part of designing and manufacturing parts used by everyone in everyday life. Training is a necessity for anyone wanting to excel in Engineering and Manufacturing. The Engineering Design program course gives the students the basic knowledge and hands on training needed for success. Quatro Composites has hired many
NCC graduates to help us achieve success in manufacturing carbon fiber products for the medical and aerospace industry.

Jeremy Oliver, Product Improvement Engineer at Rosenboom Machine & Tool, Inc., Sheldon, Iowa, commented “I've always been impressed with the drafting fundamentals demonstrated by NCC Drafting students. NCC Design Drafters provide the critical bridge between degreed engineers and manufacturing floor. I always try to hire NCC drafting graduates when I can because of positive past experiences. Top notch is how I describe the training courses I've attended taught by NCC drafting instructors.”

Adam Besaw, Product Designer at Maintainer Corporation of Iowa, Inc., Sheldon, Iowa, said, “The Great Recession has changed the manufacturing sector forever. To compete in today’s global economy, companies need well rounded manufacturing technicians. NCC’s Design Technology program gives its students hands on training with the latest equipment. Graduates can hit the ground running and make an immediate impact.”

The employment after graduation for these graduates is usually 100%. There is a demand for employees with these skill-sets in northwest Iowa and throughout the United States. A graduate could work in a small or large company as a drafting technician, machinist, CNC programmer, shop supervisor, or start their own business. The average salary for graduates of these programs is expected to be $14- $18/hour.

For more information contact the Admissions Office at studentservices@nwicc.edu or call 324-5061 or 800-352-4907. Visit our website at www.nwicc.edu. At NCC There’s a Place For You!