

Northcoast Marine Manufacturing Alliance members:

www.northcoastmma.org



Did you know?

The North Coast region employs more than 6,000 people in the marine manufacturing industry. And the industry is growing! Launch your career in shipbuilding, yacht building, or major component manufacturing. Choose from a variety of learning opportunities and career pathways – available right here in the North Coast region!



Northeast Wisconsin Technical College and Lakeshore Technical College have several technical diploma and associate degree programs to prepare you for a great career in marine manufacturing.

The University of Wisconsin-Marquette offers a Certificate Program in Modern Shipbuilding Design as well as a Shipyard Orientation course for individuals entering the industry.

The Wisconsin Technical College System and the University of Wisconsin do not discriminate on the basis of age, race, color, disability, sex, national origin, or other protected class.

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Marine Manufacturing Career Pathways



Prepare for your career in marine manufacturing—right here in the North Coast region

NWTC technical & associate degree programs:

Marine Construction

As a graduate of the Marine Construction program you're equipped for a career in the growing marine manufacturing industry. You have specific skills in marine metals, electrical, mechanical, project management as well as component and materials testing skills. You're able to build, install, operate, and maintain integral marine systems. Typical careers in this field include marine welder, marine electrician, and marine mechanic.

Welding

As a Welding graduate, you can build and repair metal components using major welding processes used by industry.

Electrical Engineering Technology

As an Electrical Engineering Technology (EET) graduate, you're skilled in testing, maintaining, and troubleshooting electrical and electronic devices found in machinery, computers, and communication.

Marine Engineering Technology

Highly-skilled marine engineering technicians are needed to design the vital marine systems for the industry. Other career opportunities include mechanical design technician, mechanical drafter, and electro-mechanical designer. With additional education and/or work experience, you may become a naval architect, marine engineer, project engineer, or lead designer.

Mechanical Design Technology

Mechanical design technicians apply knowledge of mechanical engineering technology to design, develop, and test new or revised machinery.

Industrial Mechanic

As a graduate of the Industrial Mechanic technical diploma, you are prepared to evaluate machine performance, identify trouble areas, and repair systems.

Prototype and Design

Highly-skilled professionals are needed in the design and engineering industry to build a variety of three-dimensional prototypes and models for use in manufacturing marine industry.

UW-Marquette Shipbuilding Program:

Modern Shipbuilding Design

This practical, non-credit certificate program prepares you to work as an entry-level designer using industry-standard, advanced 3D shipbuilding design software. With a background in AutoCAD and an interest in working in a creative and technical field, you can learn the language, practice and strategies of shipyard fabrication.

Introduction to Modern Shipbuilding: This 18-hr overview explores the factors influencing shipyard production & design: shipyard safety, industry terminology, marine materials & standards, vessel types & designs, regulatory bodies, and a wide range of shipbuilding concepts, including throw directions, ships systems and SWBS.

Applications of Modern Shipbuilding Design (AMSD): This 60-hr course covers all the content of the Intro course while also providing an introduction to the practical skills of hands-on 3D modeling in structure, piping, HVAC, and electrical modeling. Prerequisite: AutoCAD.

Basics of Structural Modeling: In this 50-hr, hands-on structural modeling course, you will learn to analyze 2D scantling drawings, correlate scantling drawings to build strategy/module breakdown, and create 3D parts in a planar group, a 3D structural model, assembly and profile plot drawings, and nest drawings. Prerequisite: AMSD or equivalent

Basics of Pipe/HVAC Modeling: In this 63-hr, hands-on HVAC and pipe system modeling course, you will learn to interpret a schematic, model parts and associated equipment, create parts and fittings, assign pipe runs to categories and systems, identify interferences with structural and insulation parts, create penetrations, create spool and arrangement drawings, and manage revisions. Prerequisite: AMSD or equivalent

Basics of Electrical Design: In this 60-hr, hands-on course, you will review electrical theory, identify the basics of the electrical systems, relate how rules and regulations impact electrical system design, correlate the design process/production planning to a given shipyard, create 2D electrical system drawings, and prepare a 3D electrical model. Prerequisite: AMSD or equivalent

Introduction to Design for Production: In this 60-hr, hands-on course, you'll explore the purpose of design for production (DFP) within the shipbuilding industry, learn to recognize the factors that influence DFP principles, and apply DFP principles for a given product model and to achieve cost and time savings. Prerequisite: AMSD or equivalent

Shipyard Orientation

This self-guided, fully-interactive, online orientation engages you in a 3D virtual shipyard! With your avatar you will explore the shipbuilding industry's key processes, shipyard departments and workflow. Learn basic terminology and the functions of major work units as well as safety, confined spaces, weld flash, quality control/quality assurance, environmental compliance, ergonomics, and material flow. Designed for new employees in all areas of the industry, from administrative to front-line production staff, this course demonstrates how key shipbuilding systems affect organizational performance and the quality of products and services, to enhance cost-savings and production quality.

LTC technical & associate degree programs and apprenticeships

Welding—Industrial

Evidence of welders' work is all around us— everything from battleships, cars, and piping to the amazing dome on the U.S. Capitol Building. If you like hands-on work, have solid math and reading skills, are dedicated to accuracy, and have an eye for detail, welding is the perfect career for you.

Carpentry—Apprentice

Architects create ideas and develop plans for buildings—carpenters turn ideas and plans into homes, offices, stores—all the structures in which we live, work and play. The Carpentry Apprenticeship program is an employer-sponsored, hands-on training program under the supervision of a joint apprenticeship committee. If you're detail-oriented; good at following directions; and enjoy working with your mind, hands, and tools to build things, becoming a journey-level carpenter could be a very rewarding career choice for you. According to U.S. Department of Labor Bureau of Labor Statistics, job opportunities for carpenters are expected to be plentiful well into the next decade. The outlook is best for those with solid, all-around carpentry skills.

Industrial Electrician—Apprentice

Electricity powers industry. Keeping electrical equipment running is critical to the bottom line. The Industrial Electrician Apprenticeship program is an employer-sponsored, hands-on training program in which you'll learn to maintain and repair many different types of electrical equipment. If playing an important role on an industrial organization's team is your goal, a career as a journey-level electrician is a great way to reach it. According to the U.S. Department of Labor Bureau of Labor Statistics, job opportunities for skilled electricians are expected to be good as demand outpaces the supply of trained workers.

Assoc Degree in Mechanical Design

Mechanical design technicians, under the direction of engineering staff members, help develop and test products, calculate strength and cost of materials, make drawings to scale, and work on prototypes and product improvement. Students work on acquiring high-level drafting skills and utilize Computer-Aided Drafting (CAD) software. They learn to construct and revise engineering working drawings, revise tooling drawings, research and apply information for parts and materials, and write technical reports. Mechanical designers work on teams that focus on continuous improvement, Six Sigma initiatives, and lean manufacturing efforts.



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For program information, visit www.nwtc.edu



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