Program Overview
You will be prepared for a career in the marina and marine service and repair business. The program includes instruction in marine engine service, operation, diagnosis, repair, equipment installation, maintenance, and rigging new boats. You will work on two- and four-cycle gasoline engines, drive systems, transmissions, fiberglass boat hulls, electrical systems, and consumer supplied products.

Special Features
- Unique in the state of Wisconsin
- Service school options
- 6,000-square-foot up-to-date lab
- EFI and direct injection engines
- American Boat and Yacht Council (ABYC)
- Association of Marine Technicians (AMTECH)
- Off-site training at local marinas and dealerships
- Actual service experience through community-supplied projects

Student Profile
As a Marine Repair Technician student, you should be able to:
- Demonstrate mechanical aptitude
- Demonstrate physical agility through fine and gross motor skills
- Work in a service environment
- Differentiate between colors

Preparation for Admission
The following experiences will help you prepare for this program:
- English/Communications
- Mathematics
- Small Engine or Auto Mechanics
- Basic Computer Skills

Program Outcomes
Employers will expect you, as a Marine Repair Technician graduate, to be able to:
- Service, operate, diagnose, and repair outboard motors.
- Service, operate, diagnose, and repair sterndrive and inboard engines.
- Service and repair marine transmissions and sterndrive units.
- Communicate technical information and data orally, in writing, mathematically, and visually.
- Demonstrate safe and proper equipment and tool use.
- Act responsibly in the workplace.
- Demonstrate good customer service skills.
- Use service materials.
- Repair minor damage to fiberglass boat hulls.

Career Outlook
Graduates of the Marine Repair Technician program find great demand for their skills. You will be ready to start your career as a:
- Inboard Engine Technician
- Outboard Motor Technician
- Boat Rigging Technician
- Electronic Equipment Installation Technician
- Marine Sales Representative
- Marine Service Technician
- Marine Service Supervisor

Curriculum

<table>
<thead>
<tr>
<th>Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>32461348</td>
<td>Outboard Motors 1</td>
<td>5</td>
</tr>
<tr>
<td>32461349</td>
<td>Inboard Engines 1</td>
<td>5</td>
</tr>
<tr>
<td>32461352</td>
<td>Boat Hulls and Accessories</td>
<td>2</td>
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<tr>
<td>32461357</td>
<td>Outboard Steering/Transmissions</td>
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<td>32461375</td>
<td>Outboard Motors 2</td>
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Program Requirements
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- This course requires a prerequisite and/or corequisite, and must be completed with a grade of “C-” or better.
Course Descriptions

32461348  
**Outboard Motors 1 - Credits: 5**  
This course provides an overview of outboard motorboats. Students will learn rigging of new boats, motors, and trailers. Different types of boat trailers are studied and procedures such as adjustment, bearing repair, and lighting repair are completed. Installing boat electrical accessories such as depth sounders and transducers will also be covered.

32461349  
**Inboard Engines 1 - Credits: 5**  
This course provides an overview of inboard motorboats and diesel engines. Students will prepare rigs for usage and winter storage; inspect a basic inboard motor and sterndrive; check and align engines for optimum performance; troubleshoot and repair exhaust systems; install a fuel filter kit, and throttle and shift cables. Safe working conditions and safety procedures will also be addressed. COREQUISITE: 32461359 Inboard Transmission Systems.

32461352  
**Boat Hulls and Accessories - Credits: 2**  
Various types of boat hulls and different types of hull construction will be examined in this course. Students will study methods of repairing fiberglass boat hulls. The assembly and rigging of new boats, motors, and trailers is also experienced. Different types of boat trailers are studied and procedures such as adjustment, bearing repair, and lighting repair are completed. Installing boat electrical accessories such as depth sounders and transducers will also be covered.

32461357  
**Outboard Steering/Transmissions - Credits: 5**  
Outboard motor drive systems (transmissions), trim and tilt units, and steering systems are covered in this course. Students will learn how to repair, replace, identify, and measure all types of steering systems and their related components. Trim and tilt units will be tested and repaired. This will give students a good working knowledge of hydraulics and troubleshooting procedures for various brands of trim and tilt systems. COREQUISITE: 32461375 Outboard Motors 2.

32461358  
**Steerdrive Systems - Credits: 5**  
Steerdrive transmissions, steerdrive transom plates, steerdrive trim and tilt, and power steering are covered in this course. Students will learn how to diagnose failures, rebuild, and shim a variety of gearcases. Different types of transom brackets will be covered and will include shift, bellows, gimble ring, and bell housing repairs. Hydraulic lift systems will be studied and the student will learn how to repair and diagnose failures of cylinders, pumps, motors, and electrical systems related to lift. Marine power steering systems include the study of control valves, power steering pumps, and boat steering systems. PREREQUISITE: 32461374 Inboard Engines 2 and COREQUISITE: 32461359 Inboard Transmission Systems.

32461359  
**Inboard Transmission Systems - Credits: 3**  
Inboard straight shaft transmissions are covered in this course. Velvet Drive transmissions will be the main training project. Hirth and Paragon transmissions will be covered to a lesser degree. Related components such as engine alignment, shafts, couplers, stuffing boxes, struts, strut bearing replacement etc., will be examined also. PREREQUISITE: 32461374 Inboard Engines 2 and COREQUISITE: 32461358 Steerdrive Systems.

32461360  
**Marine Electricity - Credits: 2**  
This course is designed to present the student with electric, electronics, and schematic interpretation required in the marine repair field. The student will be presented the knowledge necessary to diagnose, troubleshoot, and correctly use test equipment to repair related electrical malfunctions. Emphasis is placed on safety, tools, and proper use of test equipment, specifications, and schematics. Practical applications will include on-the-job malfunctions and experiences that will reinforce theoretical concepts.

32461361  
**Marine Mechanical Systems 1 - Credits: 5**  
This course is designed to present the student with an analysis of two-stroke engines, drives, propulsion, ignition systems, fuel systems, and corrosion protection. Design features are studied regarding two- and four-stroke engines of the marine industry as compared to that of automotive engines. COREQUISITE: 32461348 Outboard Motors 1.

32461362  
**Marine Mechanical Systems 2 - Credits: 5**  
This course provides in-depth instruction in repair, maintenance, overhaul, and operation of marine mechanical systems. Attention is focused on ancillary systems including onboard water, sewage, and electrical. You will become familiar with the use of marine adhesives, sealers, and finishes. PREREQUISITE: 32461361 Marine Mechanical Systems 1 and COREQUISITE: 32461349 Inboard Engines 1.

32461363  
**Marine Welding - Credits: 1**  
Marine Welding is intended to provide the technician with a sound basic background in the marine welding field. Upon completion the student will be able to select the proper materials for repairing or fabricating welding projects, choose the correct welding method for a specific application, and complete a welding project safely.

32461370  
**Marine Internship - Credits: 3**  
Internship is designed to provide students with on-the-job experience in actual work situations. These experiences strengthen student competencies through participation in a wide variety of occupational experiences, ranging from routine maintenance to specialized troubleshooting and repair. The student will gain knowledge on how a marine repair facility conducts business. PREREQUISITES: Completion of the first year of the Marine Repair program and instructor approval.

32461374  
**Inboard Engines 2 - Credits: 5**  
Inboard motors, four-stroke engines, and their related systems will be covered. This course provides hands-on training in troubleshooting, removing, cleaning, repairing, and replacing exterior components of an inboard four-stroke marine engine. Areas covered include ignition systems, fuel systems, electrical and charging systems, shift and throttle control systems, electronic fuel injection principles, winterization procedures, and related boat components. PREREQUISITE: 32461349 Inboard Engines 1 and COREQUISITE: 32461375 Outboard Motors 2.

32461375  
**Outboard Motors 2 - Credits: 5**  
This course will help prepare you to work in the marine repair field. You will learn to repair, troubleshoot, and test various sizes and brands of outboard motors. It provides experience in troubleshooting electrical, ignition, fuel, and oiling systems. PREREQUISITE: 32461348 Outboard Motors 1 and COREQUISITE: 32461374 Inboard Engines 2.

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**Graduate Employment Information (WITC Graduate Survey Responses 2005-2006)**

<table>
<thead>
<tr>
<th>Number of graduates</th>
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<tbody>
<tr>
<td>Number employed</td>
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<tr>
<td>Percent employed</td>
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<tr>
<td>Employed in related field</td>
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<tr>
<td>% employed in WITC district</td>
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<td>Range of yearly salary</td>
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<tr>
<td>Average yearly salary</td>
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800.243.9482  witc.edu

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**Programs and Course Descriptions**