

# CURRICULUM STANDARD

Effective Term  
Fall 1999  
[1999\*03]

Curriculum Program Title Heavy Equipment and Transport Technology Code A6024C  
Concentration Marine Systems

## *Curriculum Description*

Marine Systems is a concentration under the curriculum title of Heavy Equipment and Transport Technology. This curriculum provides training for individuals interested in becoming technicians who service and maintain the propulsion systems of boats and other types of marine and industrial equipment.

The coursework includes the maintenance and repair procedures of mechanical, electrical, and hydraulics equipment used on marine systems. Students will inspect and test equipment to determine the cause of faulty operation, and then repair and replace defective parts.

Graduates of the curriculum should qualify as marine technicians who may be employed in marinas, shipyards, and industrial and trucking industries.

## *Curriculum Requirements\**

- I. General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.
- II. Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. (See second page for additional information.)
- III. Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	<b>AAS</b>	<b>Diploma</b>	<b>Certificate</b>
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
<b>Total Semester Hours Credit (SHC)</b>	<b>64-76</b>	<b>36-48</b>	<b>12-18</b>

\*Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.

## *Major Hours*

[ref. 23 NCAC 02E.0204 (3)]

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.
- B. Concentration** (if applicable). A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

### **Heavy Equipment and Transport Technology/Marine Systems A6024C**

	<b>AAS</b>	<b>Diploma</b>	<b>Certificate</b>
<b>Minimum Major Hours Required</b>	<b>49 SHC</b>	<b>30 SHC</b>	<b>12 SHC</b>
<b>A. CORE</b> <i>Courses required for the diploma are designated with *</i>  <b>Required Courses:</b> * HET 110 Diesel Engines 6 SHC * HET 112 Diesel Electrical Systems 5 SHC  <b>*Systems. Select one:</b> HET 116 Air Conditioning/Diesel Equipment 2 SHC HET 119 Mechanical Transmissions 3 SHC HET 125 Preventive Maintenance 2 SHC HET 134 Mechanical Fuel Injection 3 SHC HET 233 Suspension and Steering 4 SHC	<b>13-15 SHC</b>	<b>13-15 SHC</b>	
<b>B. CONCENTRATION</b> <i>Courses unique to the concentration are designated with **</i>  ** HET 121 Marine Engines 4 SHC ** HET 145 Marine Electricity 4 SHC ** HET 147 Marine Power Trains 4 SHC	<b>12 SHC</b>	<b>12 SHC</b>	
<b>C. OTHER MAJOR HOURS</b> <i>To be selected from the following prefixes:</i>  AUT, CIS, COE, CSC, ELC, ELN, HET, HYD, MAC, MEC, PHY, PME, and WLD  <i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i>			