

## Transportation, Distribution, and Logistics Career Cluster

### Foundations of Marine Engine Technology

#### Course Number 47.58000

### Course Description

The Foundations of Marine Engine Technology is the foundational course for the Marine Engine Pathway. Students will be introduced to basic principles and skills associated with the field of marine engine service and repair. Students learn and apply basic skills including shop and boat safety, safe and appropriate use of tools and measuring devices, technical writing, shop management skills, and marine engine computer applications. Mastery of these standards through project-based learning and leadership development activities of SkillsUSA will help prepare students with a competitive edge for the marketplace. The pre-requisite for this course is advisor approval.

### Course Standard 1

#### TDL-FMET-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

#### **Standard: Demonstrate employability skills required by business and industry.**

The following elements should be integrated throughout the content of this course.

##### **1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.**

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application

Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé
Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

**1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.**

<b>Teamwork and Problem Solving</b>	<b>Meeting Etiquette</b>
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

**1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.**

<b>Problem Solving</b>	<b>Customer Service</b>	<b>The Application Process</b>	<b>Interviewing Skills</b>	<b>Finding the Right Job</b>
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

**1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.**

<b>Workplace Ethics</b>	<b>Personal Characteristics</b>	<b>Employer Expectations</b>	<b>Business Etiquette</b>	<b>Communicating at Work</b>
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger

Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

**1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.**

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

**1.6 Present a professional image through appearance, behavior and language.**

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:**

Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses. Additional Georgia Standards of Excellence ELA/Literacy standards for Speaking and Listening are listed in the foundational course standards below.

## Course Standard 2

### TDL-FMET-2

#### **Demonstrate employability skills required by business and industry.**

- 2.1 Act as a responsible and contributing citizen and employee.
- 2.2 Apply appropriate academic and technical skills.
- 2.3 Attend to personal health and financial well-being.
- 2.4 Communicate clearly, effectively, and with reason.
- 2.5 Consider the environmental, social, and economic impacts of decisions.
- 2.6 Demonstrate creativity and innovation.
- 2.7 Employ valid and reliable research strategies.
- 2.8 Model integrity, ethical leadership, and effective management.
- 2.9 Plan education and career path aligned to personal goals.
- 2.10 Use technology to enhance productivity.
- 2.11 Utilize critical thinking to make sense of problems and persevere in solving them.
- 2.12 Work productively in teams while using cultural/global competence.

## Course Standard 3

### TDL-FMET-3

#### **Understand basic concepts and practices necessary for effective marine shop operation.**

- 3.1 Demonstrate basic shop safety skills.
- 3.2 Identify and demonstrate US Coast Guard and US Boating safety rules and regulations.
- 3.3 Operate hand tools safely and properly.
- 3.4 Operate tools and precision instruments for observing, measuring, and manipulating equipment and materials.
- 3.5 Set up, use, and maintain power tools safely and properly.
- 3.6 Identify all applicable federal, state and local laws, OSHA and EPA regulations in the operation of a marine shop.

## Course Standard 4

### TDL-FMET-4

#### **Demonstrate knowledge of various fasteners and their applications.**

- 4.1 Identify and use different grades and types of fasteners.
- 4.2 Measure the torque of various fasteners used in the marine engine industry.
- 4.3 Identify the properties and apply various sealants appropriately.

#### **Support of CTAE Foundation Course Standards and Georgia Standards of Excellence**

**ELACC9-10SL1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

## Course Standard 5

### TDL-FMET-5

#### **Describe shop management systems and procedures.**

- 5.1 Describe inventory management procedures.
- 5.2 Operate personal computers and software to access inventory databases.
- 5.3 Demonstrate customer service skills.
- 5.4 Write customer service orders.

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence**

**ELACC9-10SL1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

**Course Standard 6**

**TDL-FMET-6**

**Use and interpret information from various industry literature sources.**

- 6.1 Select and apply service manuals for all types of marine engines.
- 6.2 Interpret and use service bulletins.
- 6.3 Interpret and apply service bulletins for all brands and types of marine engines.
- 6.4 Select appropriate online parts information for model engine undergoing service.

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence**

**ELACC9-10SL1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

**Course Standard 7**

**TDL-FMET-7**

**Develop an understanding of marine engine careers, describe the principal fields of specializations and identify associated career opportunities.**

- 7.1 Identify education requirements for marine engine occupations and locations where programs of study are available.
- 7.2 Match marine engine job titles with qualifications and responsibilities.
- 7.3 Participate in activities related to career interests.

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence**

**ELACC9-10SL4:** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

**Course Standard 8**

**TDL-FMET-8**

**Examine how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects and competitive events.**

- 8.1 Explain the purpose, mission, objectives, motto, colors, official dress and other distinguishing characteristics of SkillsUSA.
- 8.2 Explain how participation in SkillsUSA can promote lifelong responsibility for community service, professional growth and development.
- 8.3 Explore the impact and opportunities SkillsUSA can develop to bring business and industry together with education in a positive working relationship through innovative leadership and career development programs.
- 8.4 Explore the local, state, and national opportunities available to students through participation in SkillsUSA including but not limited to conferences, competitions, community service, philanthropy, and other SkillsUSA activities.

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence**

**ELACC9-10SL1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**ELACC9-10SL4:** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.