

College of Micronesia – FSM
P.O. Box 159
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Course Outline Cover Page

Cargo Operations II
 Course Title

MM 234
 Department and Number

Course Description: This course provides the student with the knowledge and skills required by the master of a vessel of up to 1600 gross tons to monitor the handling, stowage, and care of cargoes.

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State: FSM-FMI

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture	3/6/12/24	16/8/4/2	48	3
Laboratory	3/6/12/24	16/8/4/2	48	1
Total Semester Credits:				4

Purpose of Course

Degree Requirement	_____XX_____
Degree Elective	_____
Advanced Certificate	_____
Certificate	_____
Remedial	_____
Other (Workshop)	_____

Prerequisite Course(s): MM 217 Cargo Operations I

 Signature, Chairman, Curriculum Committee

 Date Approved by Committee

 Signature, President, COM-FSM

 Date Approved by the President

General Objective: By successfully completing this course, students will have been provided with the skills required by the master of a vessel of less than 1600 gross tonnes to monitor the handling, stowage, and care of cargoes.

Learning Outcomes: On successful completion of this course the student will be able to:

1. Manage cargo operations in accordance with legislative requirements and international standards.
2. Use various types and configurations of lifting gear.
3. Plan the stowage of a range of cargoes.
4. Safely handle, stow and secure a range of cargoes including dangerous cargo.
5. Care for the cargo.

STUDENTS SHOULD BE MADE AWARE OF OCCUPATIONAL HEALTH AND SAFETY ISSUES IN ALL SITUATIONS AND BE EXPECTED TO DEMONSTRATE SAFE WORKING PRACTICES AT ALL TIMES.

Outline of Content:

This course contains:

1. Legislative Requirements
 - Regulations concerning cargo handling equipment
 - BC code
 - Timber deck cargoes
 - Grain code
 - IMDG code.
2. Lifting Gear
 - Swinging derrick
 - Union purchase
 - Cranes.
3. Stowage Planning
 - Carrier's responsibilities and obligations
 - Principles of handling, stowage and carriage of a range of cargoes
 - Determination of cargo quantity
 - Weight and volume calculations
 - Stowage plans.
4. Handling, Stowage & Securing
 - Hold preparation
 - Use of dunnage
 - General precautions
 - Methods of securing

5. Cargo Care

- Causes and prevention of damage
- Temperature control
- Sweat
- Contamination
- Ventilation.

Learning Outcomes:	On completion of this course the learner will be able to:
Learning Outcome 1	Manage cargo operations in accordance with legislative requirements and international standards.
Assessment criteria	<p>1.1 Content, purpose, and use of "Code of Safe Practice for Solid Bulk Cargo" is outlined.</p> <p>1.2 Content, purpose, and use of "Code of Safe Practice for Ships carrying Timber Deck Cargo" is outlined.</p> <p>1.3 Content, purpose, and use of "International Grain Code" is outlined.</p> <p>1.4 Content, purpose, and use of "International Maritime Dangerous Goods Code" plus its supplement is described.</p> <p>1.5 Requirements for tests, inspections, and maintenance of cargo handling equipment in accordance with national regulations is described.</p>
Conditions and Method of assessment	<p>As specified in the Assessment Strategy listed at the end of this outline and by a combination of:</p> <ul style="list-style-type: none"> • Written test involving the use of sketching, diagram interpretation, short answer questions, descriptive answer questions, multiple choice questions • Oral questioning
Learning Outcome 2	Use various types and configurations of lifting gear.
Assessment criteria	<p>2.1 Single swinging derrick operations are described.</p> <p>2.2 Union purchase derrick operations are described.</p> <p>2.3 Deck crane operations are described.</p> <p>2.4 General precautions when using cargo-lifting gear are described.</p>
Conditions and Method of assessment	As specified in the Assessment Strategy listed at the end of this outline and by a combination of:

- Written test involving the use of sketching, diagram interpretation, short answer questions, descriptive answer questions, multiple choice questions
- Oral questioning
- Observation during practical exercises

Learning Outcome 3**Plan the stowage of a range of cargoes.**

Assessment criteria

- 3.1 Carrier's responsibilities and obligations with regard to the carriage of cargo are stated, with reference to the following:
- Make holds fit and safe for reception, carriage and preservation of cargo
 - Make the ship seaworthy
 - Properly handle, equip and supply the ship.
- 3.2 Principles and practice of safe handling, stowage and carriage of the following types of cargo are outlined:
- General cargo
 - Unitised cargo
 - ro-ro cargo
 - Reefer cargo
 - Solid bulk cargo
 - Dangerous cargo
- 3.3 Methods of determining cargo quantity including draft survey are outlined.
- 3.4 Calculations involving weights, capacities, and stowage factors are performed.
- 3.5 Given all necessary information, a stowage plan is prepared.

Conditions and
Method of assessment

As specified in the Assessment Strategy listed at the end of this outline and by a combination of:

- Written test involving the use of sketching, diagram interpretation, descriptive answer questions, short answer questions, multiple choice questions, calculations
- Oral questioning
- Written assignments
- Observation during practical exercises.

Learning Outcome 4	Safely handle, stow and secure a range of cargoes including dangerous cargo.
Assessment criteria	<p>4.1 General procedures for preparing holds for the reception of cargo are described.</p> <p>4.2 The use, function and types of dunnage used in stowing and securing of cargo are outlined.</p> <p>4.3 General precautions to be observed during loading and unloading operations are described.</p> <p>4.4 Recommended procedures for securing a range of cargoes are outlined.</p>
Conditions and Method of assessment	<p>As specified in the Assessment Strategy listed at the end of this outline and by a combination of:</p> <ul style="list-style-type: none"> • Written test involving the use of sketching, diagram interpretation, short answer questions, multiple choice questions • Oral questioning • Written assignments • Observation during practical exercises.
Learning Outcome 5	Care for the cargo.
Assessment criteria	<p>5.1 The causes of cargo damage are listed and preventative measures are explained.</p> <p>5.2 The methods of temperature control of reefer cargoes are outlined.</p> <p>5.3 The causes, effects and prevention of sweat are explained.</p> <p>5.4 The causes, effects and prevention of contamination of cargo are outlined.</p> <p>5.5 The principles of cargo ventilation are explained.</p> <p>5.6 Cargo ventilation methods and systems are outlined.</p> <p>5.7 Contents of a typical Cargo Securing Manual are described.</p>
Conditions and Method of assessment	<p>As specified in the Assessment Strategy listed at the end of this outline and by a combination of:</p> <ul style="list-style-type: none"> • Written test involving the use of sketching, diagram interpretation, short answer questions, multiple choice questions • Oral questioning • Observation during practical exercises.

<u>Delivery strategy</u>	This course provides for off-the-job delivery in a classroom, supported by simulation and/or laboratory equipment and access to a vessel in survey.
<u>Resource requirements</u>	<p>Delivery of the training will require:</p> <ul style="list-style-type: none"> • A suitable theory teaching space • Simulation and/or laboratory equipment • Vessel in survey • Access to a vessel's cargo handling gear • Access to IMO publications concerning the carriage of bulk, timber, grain, and dangerous cargoes. • Access to national and local regulations concerning cargo handling and stowage, and cargo handling equipment.
Assessment Method	Knowledge, skills and attitudes may be measured by using a combination of practical exercises, oral assessment, and written tests.
Condition of Assessment	This course may be assessed on-the-job and off the job. Competence may be assessed in the following situations: a vessel under survey; approved training vessel/facility; approved equipment laboratory; approved simulator facility.

Evaluation:

Final Grade for this course will be based on meeting the course requirements at the following percentage rates:

96% - 100%	A – Superior
90% - 95%	B – Above Average
80% - 89%	C – Average
69% - 79%	D – Below Average
0 % - 69%	F – Failure

Attendance:

The COM-FSM attendance policy will apply.