

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

Bridge Operations
 Course Title

MM 232
 Department and Number

Course Description: This course provides the student with the knowledge and skills required to manage bridge operations on a vessel of up to 1600 gross tons.

Prepared by: Brent Villiers

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 212 Navigation & Position Determination II
 MM 213 Instrumentation & Navigation Aids
 MM 215 Nautical Knowledge III

 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 to manage bridge operations on a vessel of up to 1600 gross tons.

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

1. Effectively manage bridge resources.
2. Use ship routing and reporting systems for the safe navigation of the vessel.
3. Prepare a passage plan for a range of conditions.
4. Demonstrate an understanding of the nature of errors involved in navigation.
5. Apply International Regulations for Preventing Collisions at Sea.

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. Bridge Resource Management
 - Aims and objectives
 - Advantages
 - Effective bridge working system
 - Efficient bridge organization
 - Error chains
 - Bridge preparation
 - Responsibilities and duties of personnel
 - Watch-keeping principles
 - Records.
2. Passage Planning
 - Routing and Reporting systems
 - Passage planning through TSS, tidal restricted areas, and VTS controlled areas.
3. Navigational Errors
 - Accuracy and precision
 - Random and systematic errors
 - Limitations of navigational equipment
 - Performance standards for navigational equipment.
4. Prevention of Collisions
 - Determination of risk of collision

- Avoidance of close quarter situations
- Content and application of the International Regulations for Preventing Collisions at Sea.

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

Learning Outcome 1 Effectively manage bridge resources.

Assessment criteria

- 1.1 Aims and objectives of bridge resource management are explained.
- 1.2 Advantages of BRM including team management are listed.
- 1.3 Elements of an effective bridge working system are identified.
- 1.4 The mechanism of error chains is explained.
- 1.5 Causes of casualties and groundings are identified.
- 1.6 The elements of an efficient bridge organization are listed and the role of the individual is identified.
- 1.7 The elements of bridge preparation are described.
- 1.8 Responsibilities and duties of the watch-keeping officers towards the master and pilot, and the master towards the pilot are explained.
- 1.9 Watch-keeping principles in accordance with STCW-95 are described.
- 1.10 Watch handover procedures are explained.
- 1.11 Means of keeping records of vessel movements and operations are described.

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 short answer questions, descriptive answer questions, multiple choice questions
- Oral questioning
- Observation during practical exercises.

Learning Outcome 2	Use ship routing and reporting systems for the safe navigation of the vessel.
Assessment criteria	<p>2.1 The function and operation of ship routing and reporting systems are described.</p> <p>2.2 The responsibilities of a vessel with regard to routing and reporting systems are described.</p> <p>2.3 Use of routing and reporting systems for the safe navigation of the vessel is explained.</p> <p>2.4 Ability to send reports in accordance with the requirements of a ship reporting system is demonstrated.</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 short answer questions, descriptive answer questions, multiple choice questions • Oral questioning • Observation during practical exercises.
Learning Outcome 3	Prepare a passage plan for a range of conditions.
Assessment criteria	<p>3.1 Ability to prepare a passage plan in accordance with established practice is demonstrated in the following conditions:</p> <ul style="list-style-type: none"> • Passage through a traffic separation scheme • Passage through a tidal restricted area • Passage through a VTS controlled area.
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 short answer questions, descriptive answer questions, multiple choice questions • Written assignments • Oral questioning • Observation during practical exercises.

Learning Outcome 4	Demonstrate an understanding of the nature of errors involved in navigation.
Assessment criteria	<p>4.1 The difference between the terms ‘accuracy’ and ‘precision’ in relation to navigational equipment is explained.</p> <p>4.2 The characteristics of the following types of errors are described.</p> <ul style="list-style-type: none"> • Mistakes • Systematic Errors • Random Errors <p>4.3 The limitations of navigational equipment imposed by operational errors are described.</p> <p>4.4 Means of monitoring performance standards of navigational equipment in comparison with manufacturer's specifications and international standards 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 short answer questions, descriptive answer questions, multiple choice questions • Oral questioning • Observation during practical exercises.
Learning Outcome 5	Apply International Regulations for Preventing Collisions at Sea.
Assessment criteria	<p>5.1 Ability to use all available means to determine risk of collision is demonstrated.</p> <p>5.2 Ability to avoid close quarter situations through the knowledge of collision prevention regulations is demonstrated.</p> <p>5.2 A thorough understanding of the content and applications of the collision prevention regulations is demonstrated.</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"> • Oral questioning • Observation during practical exercises.
<u>Delivery strategy</u>	<p>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.</p>

<u>Resource requirements</u>	Delivery of the training will require: <ul style="list-style-type: none"> • A suitable theory teaching space • Simulation and/or laboratory equipment • Vessel in survey
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.