FT 130 Department and Number

Fishing gear design and machinery

Course Title

# College of Micronesia – FSM P.O. Box 159 Kolonia, Pohnpei

# **Course Outline Cover Page**

crewmembe administration This course	rs of fishing vessels on officers of marine r is for students requirements and fishing markets.	s, in fish resources ing basic	ery busine managemen knowledge	esses, and field reset office.	earchers and
Prepared by	y: <u>Taro KAWAMOTO</u>	State: <u>FSM-FMI</u>			
Credits Lecture Practicum	Hours per Week  16 15	No. Of	Weeks 2 2	Total Hours  32 30	Semester 2 0.5
			Total Semo	ester Credits:	2.5
Purpose of	Course  Degree Requi Degree Electi Advanced Ce Certificate Remedial Other (Works	ve rtificate shop)	odule I : Ba	XX	e
Signature, Ch	airman, Curriculum Cor	Date Approved b	y Committee		
Signature, Pro	esident, COM-FSM			Date Approved by	y the President

#### **General Objective:**

This course is designed to provide the learner with the basic knowledge and skills regards Fishing gear designs, Fishing machineries and Fishing instruments.

## **Outline of Content:** This course contains:

1. Fishing gear

Fishing gear materials Fishing gear components Fishing gear design

Fishing gear selectivity

2. Fishing instruments

Fish finder

Sonar

3. Fishing machinery

Classification of fishing machineries

Power supply systems

Hydraulic systems

<u>Learning Outcomes:</u> Upon successful completion of this course the student will be able

- 1. Describe the main characteristics of materials used for fishing gear
- 2. Describe the major components of netting yeans, fiber ropes and wire ropes
- 3. Describe basic fishing gear
- 4. Make a simple fishing gear design drawing.
- 5. Describe basic concept of mesh size selectivity
- 6. Describe sound wave propagation in the water.
- 7. Analyze typical echo of fish finder
- 8. Describe sonar basics
- 9. Describe classification of fishing machineries
- 10. Outline power supply system of fishing machinery
- 11. Outline hydraulic systems

# **Assessment Criteria:**

Learning outcome	Assessment Criteria
1. Describe main character	<ul> <li>Different types of chemical groups introduced for</li> </ul>
of materials used for fishing	fishing gear are described
gear	<ul> <li>Different types of fishing gear materials are</li> </ul>
	identified
2. Describe major	Basic components of netting year are described
components of netting	<ul> <li>Different types of fiber ropes are described</li> </ul>
yeans, fiber ropes and wire	<ul> <li>Different types of wire ropes are described</li> </ul>
ropes	<ul> <li>Different types of Lay and its characters are</li> </ul>

	1 1			
	described			
	Denier and Tex systems are described			
	Tensile strength of wire and fiber ropes are estimated			
3. Describe basic fishing	<ul> <li>Typical fishing gear drawings are described</li> </ul>			
gear	<ul> <li>Hanging ratio and net depth are calculated</li> </ul>			
	Buoyant force and sinking force are calculated			
4. Make a simple fishing gear design drawing.	Drawings for simple fishing gear are developed			
5. Describe the basic	Difference between gill net and Trawl net mesh size			
concept of mesh size	selectivity are described			
selectivity	<ul> <li>By-catch reduction devices are explained</li> </ul>			
Selectivity	by-catch reduction devices are explained			
6. Describe sound wave	The difference between radio wave, light wave and			
propagation in the water.	sound wave propagation are described			
	• The relationship of ultra sonic wave frequency and			
	fish finder range are described			
	Basic concept of fish finding system are described			
7. Analyze a typical echo of	Typical sea bottom echoes are analyzed			
fish finder	<ul> <li>Typical false echoes are identified</li> </ul>			
	<ul> <li>Typical fish school echoes are identified</li> </ul>			
8. Describe sonar basics	<ul> <li>Types of sonar introduced for fishing operation are</li> </ul>			
o. Describe sonar busies	described			
9. Describe classification of	The purpose introduce fishing machinery for fishing			
fishing machinery	operation are described			
10. Outline power supply	<ul> <li>Several types of power supply system of fishing</li> </ul>			
system of fishing machinery	machinery are described			
system of fishing machinery	· · · · · · · · · · · · · · · · · · ·			
	Advantages and disadvantages of each power supply			
11 0 11 1 1	system are describe			
11. Outline hydraulic	Major parts and its function of hydraulic systems are			
systems	described			
	As specified in the Assessment Strategy listed at the end			
	of this outline and by a combination of:			
	· Written assessment			
	·Oral assessment			
	·Observation during practical sessions.			
	Observation during practical sessions.			

# **Delivery strategy**

The course provides for delivery by on or off-the-job training and assessment utilizing practical demonstration that simulate conditions found on commercial fishing vessels.

Some areas of content may be common to more than one learning outcome, and therefore integration of training and assessment may be appropriate.

Methods of instruction should include:

1. Classroom instruction;

- 2. Instructor demonstrations;
- 3. Participation in practical exercises;
- 4. Group work and
- 5. Simulation

## **Resource requirements**

Delivery of the training will require:

- Classroom
- Overhead projector
- Video and monitor
- Learners guides
- Fishing gear and materials
- Working space protected by sunlight
- Fish finder
- Fishing machinery (Hydraulic pump, winch, and line hauler)

#### **Assessment Strategy**

Assessment Method

Learning outcomes may not be assessed separately. A holistic assessment strategy is proposed that attempts to ensure as much as possible that the assessment replicate conditions that learners may encounter in their workplace.

Practical assessment will be undertaken by observing the ability of learners to correctly apply the techniques taught in the course.

Condition of Assessment

Assessment may take place on or off-the-job. Where assessment is conducted off-the-job, the environment, where possible will simulate the real work place situation.

#### **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.