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

Course Outline Cover Page

Starters, Engine Maintenance & Troubleshooting — Course Title

VSM 104 — Department and Number

Course Description: This course covers basic troubleshooting and tune-up procedures for two and four stroke small engines including analysis, engine maintenance, starter, and safety compliance systems. Emphasis on the use of appropriate manual, equipment and procedures.

Prepared by: Pablo H. Lamsis, Jr. **State:** Pohnpei Campus

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture	3	16	48	3
Laboratory	3	16	48	1
			Total Semester Credits:	4

Purpose of Course

Degree Requirement	
Degree Elective	
Advanced Certificate	
Certificate	XX
Remedial	
Other (Workshop)	

Prerequisite Course(s): VTM 101, VTM 102 & VTM 103

Signature, Chairman, Curriculum Committee — **Date Approved by Committee**

Signature, President, COM-FSM — **Date Approved by the President**

I. LEARNING OUTCOMES:

A. General Learning Outcomes: Upon successful completion of this course the student will be able to:

1. Explain the theory and operation of manual and electrical starters used in small engines.
2. Explain what is preventative maintenance and enumerate PM schedules.
3. Describe the procedures for off season storage.
4. Demonstrate a systematic check sequence and discuss some engine performance problems and remedies.

B. Specific Learning Outcomes: On completion of this course the student will be able to:

Learning Outcome 1: Explain the theory and operation of manual and electrical starters used in small engines.

Assessment Criteria:
a. Explain the difference between manual and electrical starters and describe how they function.
b. Demonstrate how to check a manual starter.
c. Explain or demonstrate how to check the electrical starting circuit.

Assessment Method: Multiple choice questions
Short answer questions
Practical exercises/tests

Learning Outcome 2: Explain what is preventative maintenance and enumerate PM schedules.

Assessment Criteria:
a. Explain what is preventative maintenance and why it is needed.
b. Enumerate PM schedules and what are the checkpoints for each.
c. Demonstrate performing a PM schedule.

Assessment Method: Multiple choice questions
Short answer questions
Practical exercises/tests

Learning Outcome 3: Describe the procedures for off season storage.

Assessment Criteria: a. Define the need why storage procedures are required.
b. Explain or demonstrate how to prepare engine for off season storage.

Assessment Method Multiple choice questions
Short answer questions
Practical exercises/tests

Learning Outcome 4: Demonstrate a systematic troubleshooting check sequence and discuss some engine performance problems and remedies.

Assessment Criteria: a. Discuss how a systematic approach to troubleshooting is done.
b. Demonstrate how to carry out troubleshooting procedures.
c. Discuss engine performance problems encountered and explain how you will fix them.

Assessment Method Multiple choice questions
Short answer questions
Practical exercises/tests

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.

II. COURSE CONTENTS:

1. Starters
   - Manual
   - Electrical
   - Troubleshooting the electrical starting circuit
2. Engine maintenance
   - Preventative maintenance
   - Off season storage
3. Troubleshooting
   - Problem solving
   - Systematic check sequence
   - Performance problems

III. TEXTBOOK:

Small Engine Technology, (Workbook) by William Schuster ISBN: 0-8273-7701-0

IV. REQUIRED COURSE MATERIALS:

1. Instructor:

a. Classroom with whiteboard
b. Laboratory equipment with tools of the trade
c. Text, Teacher's Resource Guide, workbook
d. Computer, Overhead projector, transparencies

2. Student:

a. Text(s), handouts provided when deemed necessary by the Instructor
b. Ring binder
c. College ruled note sheet, pencil or pen

V. REFERENCE MATERIALS:

Small Engine Technology by William Schuster (ISBN: 0-8273-7700-2)
Small Engine Technology by William Schuster (0827377789)
Small Engine Care & Repair by Briggs & Stratton
Small Engines Fundamentals and Service, Eugene W. Stagner, 1998
How Stuff Works, www.howstuffworks.com
Manufacturer's Service Manuals
Selected Films and Charts from Various Sources

VI. METHODS OF INSTRUCTION:

Computer Aided Instruction
Practical/Experimentation
Lecture/Demonstration

VII. EVALUATION:

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

90% - 100%	A – Excellent
80% - 89%	B – Above Average
70% - 79%	C – Average
60% - 69%	D – Below Average
0 % - 59%	F – Failure

Credit by Examination is allowed

VIII. ATTENDANCE POLICY:

The COM-FSM attendance policy will apply.

IX. ACADEMIC HONESTY POLICY:

The COM-FSM attendance policy will apply.