**COURSE SYLLABUS**

**MTRC 1405**

**Instructor** **Can be reached at: awiliam@austin.cc.tx.us (512-223-6276)**

**Course Description:**

Principles of operation of two and four stroke motorcycle engines and their associated systems. Emphasis on troubleshooting and analysis of faulty systems and their individual components.

**PREREQUISITES:**None

**TEXTS AND REFERENCES USED:**

1.  **MOTORCYCLE FUNDAMENTALS, SERVICE, REPAIR.** (Bruce A Johns/ David D. Edmunson

2. Manufacturer's service manuals.

3. Selected films and charts from various sources.

4. Books can be found in the RVS bookstore located downstairs in Bldg. G

**CLASS AND LAB REQUIREMENTS:**

1. Regular attendance is required. Only limited absences and tardies will be accepted if a grade better than a "D" is expected. \*(1C-1,4, 2A-4)

2. Students are required to maintain a "C" **average,** or a grade point average of 2.00**.** This means thatthe **average** of **all** classes must be a "C" in order to obtain either a certificate of completion, or degree. Students who either arrive late for class, leave early, and/or bring no tools cannot expect to complete lab assignments in a timely manner and receive a grade better than "D". For further information see the sections on "graduation" and "Academic Suspension" in the administration Information area of the current ACC Catalog. \*(1A-1,1C-1,2,4,5, 2A-4)

3. Each student will have his/her own tools available for shop work at the beginning of each class period. Loaning or borrowing of tools between students is discouraged. Specialty tools, tools not on the student tool list, are available from the Tool Room.

**GRADING:**

1. Lab activities will constitute 70% and tests will make up 30% of total grade.

2. Homework assignments and pop quizzes will be given. A student will not be given a passing grade, "D", without 100 per cent participation in pop quizzes and completion of homework assignments. \*(1A-4, 1C-1, 2A-4)

3. A passing grade, "D", will not be awarded to any student who has not achieved an average letter grade of "C" or higher on exams.

4. A positive constructive attitude, also plays an important part in the overall evaluation of the shop work and will be directly related to the shop grade. \*(1C-1,2,4,5, 2A-4)

5. Any withdrawals are the responsibility of the student. If the student fails to make the withdrawal by the drop date, an automatic grade of "F" will be awarded. \*(1C-1,4, 2A-4)

**PROJECTS FOR SHOP WORK:**

Although projects are always needed for shop, whose project and which project is worked on first is not considered an important part of the course. All projects being worked on in the shop must first be approved by the instructor. Even though emergencies occur with equipment breaking down, we are not here to schedule work as a garage would. Time schedules will not be considered or given as related to repair work of any given project. Only work related to the course will be considered. No work will be performed on any equipment if the subject has not first been covered in the classroom.

**CARE AND CLEANING OF TOOLS,EQUIPMENT AND SHOP AREA (including class room).**

All students will be expected to participate in shop and classroom cleanup at the end of each class period. Ample time will be allotted by the instructor for this purpose. All tools will be cleaned and put in the proper place before class will be dismissed. \*(1A-4, 2B-1, 2A-2)

**SCANS SKILLS**

Listed below and identified \* with activities throughout this syllabus are the generalized Scans Skills. A complete explanation of these headings are found in the GUIDELINES FOR INSTRUCTIONAL PROGRAMS IN WORKFORCE EDUCATION by the Texas Coordinating Board.

1. FOUNDATION SKILLS

A. BASIC SKILLS:

I. Reading

II. Writing

III. Arithmetic and Mathematical Operations

IV. Listening

V. Speaking

B. THINKING SKILLS:

I. Creative Thinking

II. Decision Making

III. Problem Solving

IV. Visualize

V. Reasoning

C. PERSONAL QUALITIES

I. Responsibility

II. Self-Esteem

III. Sociability

IV. Self-Management

V. Integrity and Honesty

2. WORKPLACE COMPETENCIES

A. RESOURCES:

I. Time

II. Money

III. Material and Facilities

IV. Human resources

B. INTERPERSONAL SKILLS:

I. Participate and Member of a Team

II. Teach Others New Skills

III. Serve Clients/Customers

IV. Exercise Leadership

V. Negotiate

VI. Work with Diversity

C. INFORMATION

I. Acquire and Evaluate Information

II. Organize and Maintain Information

III. Interpret and Communicate Information

IV. Use Computers to Process Information

D. SYSTEMS:

I. Understand Systems

II. Monitor and Correct Performance

III. Improve or Design Systems

E. TECHNOLOGY

I. Select Technology

II. Apply Technologies to Task

III. Maintain and Troubleshoot Equipment

**SCANS SKILLS AND OTHER NOTATIONS**

Notated and identified \* with activities throughout this syllabus are the generalized Scans Skills. A complete explanation of these headings are found in the GUIDELINES FOR INSTRUCTIONAL PROGRAMS IN WORKFORCE EDUCATION by the Texas Coordinating Board.

**COURSE DESCRIPTION:**

Principles of operation of two and four stroke motorcycle engines and their associated systems. Emphasis on troubleshooting and analysis of faulty systems and their individual components.

**COURSE OUTLINE and Task Evaluation:**

**P1: Theory and Operation**

**P2: Visual Compliance and diagnostics with Supervision**

**P3: Visual Compliance and diagnostics with Minimum Supervision**

**P4: Testing with Proper Equipment, Test Procedures using Proper Service Literature With Supervision**

**P5: Testing with Proper Equipment, Test Procedures using Proper Service Literature Minimum Supervision**

**P6: Removal and Repair With Supervision**

**P7: Removal and Repair with Minimum Supervision**

1. ORIENTATION/WORK SAFETY

A. Personal: eyes, skin, jewelry

B. Tool, Equipment, Lift (P1)

C. Carbon Monoxide (P1)

D. Fire and electrical (P1)

2. Service principals

A. Introduction to motorcycle systems (P1)(P2)(P3)(P4)(P5)(P6)(P7)

B. Tools and there use (P1)(P2)(P3)(P4)(P5)(P6)(P7)

C. Measurements and part cleaning (P1)(P2)(P3)(P4)(P5)(P6)(P7)

D. Special operations (P1)(P2)(P3)(P4)(P5)(P6)(P7)

E. Four-stroke engine components (P1)(P2)(P3)(P4)(P5)(P6)(P7)

F. Two-stroke engine components (P1)(P2)(P3)(P4)(P5)(P6)(P7)

G. Fuel systems (P1)(P2)(P3)(P4)(P5)(P6)(P7)

H. Storage (P1)(P2)(P3)(P4)(P5)(P6)(P7)

I. Lubrication systems (P1)(P2)(P3)(P4)(P5)(P6)(P7)