



Program Planning Guide

Motorcycle Mechanics Diploma (D60260)

Program Length: 3 semesters

Program Sites: Lee Main Campus - Day Program

Career Pathway Options: Diploma in Motorcycle Mechanics

Suggested Course Schedule		Class	Lab	Work	Credits	Notes:
1st Semester (fall)						
CIS 111	Basic PC Literacy	1	2	0	2	
MCM 111	Motorcycle Mechanics	3	8	0	7	
MCM 115	Motorcycle Chassis	1	6	0	3	
TRN 110	Intro to Transport Tech	1	2	0	2	
Select one:						
MAT 110	Math Measurement & Literacy	2	2	0	3	
PHY 110 & 110A	Conceptual Physics & Lab	3	2	0	4	
Total Semester Hours		8/9	20	0	17/18	
2nd Semester (spring)						
ENG 102	Applied Communications II	3	0	0	3	
MCM 117	Motorcycle Dyno Tuning I	1	4	0	3	
MCM 122	Motorcycle Engines	2	9	0	5	
MEC 111	Machine Processes I	1	4	0	3	
TRN 120	Basic Transp Electricity	4	3	0	5	
Total Semester Hours		11	20	0	19	
3rd Semester (summer)						
MCM 114	Motorcycle Fuel Systems	2	6	0	5	
MCM 217	Motorcycle Dyno Tuning II	1	4	0	3	
TRN 180	Basic Welding for Transp	1	4	0	3	
Total Semester Hours		4	14	0	11	
Total Semester Hours Credit Required for Graduation: 47						



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Course Descriptions

CIS 111 Basic PC Literacy

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

ENG 102 Applied Communications II

Prerequisites: Take RED 080 and ENG 090 (minimum grade C)

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications.

MAT 110 Math Measurement & Literacy

Corequisite: MAT 010

Local RISE corequisites: MAT 010; Local RISE Prerequisites: Take one group: 1) MAT 003 P1; 2) DMA 010, DMA 020, DMA 030; 3) MAT 060; 4) DMA 025

This course provides an activity-based approach that develops measurement skills and mathematical literacy using technology to solve problems for non-math intensive programs. Topics include unit conversions and estimation within a variety of measurement systems; ratio and proportion; basic geometric concepts; financial literacy; and statistics including measures of central tendency, dispersion, and charting of data. Upon completion, students should be able to demonstrate the use of mathematics and technology to solve practical problems, and to analyze and communicate results.

MCM 111 Motorcycle Mechanics

This course covers the proper nomenclature of parts and components of motorcycles, ATVs, and personal watercraft. Topics include theory of operation, differences of operation, preventive maintenance, and operating principles involved in servicing and repairing motorcycles, ATVs, and personal watercraft. Upon completion, students should be able to perform basic inspection, diagnosis, repair, and/or adjustment of motorcycles, ATVs, and personal watercraft.

MCM 114 Motorcycle Fuel Systems

This course introduces various types of fuels and fuel systems used in motorcycle internal combustion engines. Emphasis is placed on the theory and principles of carburetion and fuel injection. Upon completion, students should be able to service, disassemble, inspect, reassemble, and adjust to manufacturers' specifications the components of various fuel systems.

MCM 115 Motorcycle Chassis

This course covers chassis adjustments, components, and types and uses of frames and suspensions. Emphasis is placed on proper and safe use of tools and equipment in servicing and maintaining motorcycle chassis. Upon completion, students should be able to service and repair motorcycle chassis systems and suspension components.

MCM 117 Motorcycle Dyno Tuning I

This course introduces the theory and safe operation of motorcycle chassis dynamometers. Topics include types of dynamometers, theory of operation, differences of operations, preventative maintenance and safe operating principles involved in motorcycle dynamometer tuning and diagnostics. Upon completion, students should be able to safely use motorcycle dynamometers to measure horsepower and torque, to optimize air-fuel metering and exhaust-flow, and to diagnose performance problems.

MCM 122 Motorcycle Engines

This course covers the construction and operation of components in internal combustion engines used in modern motorcycles. Topics include two- and four-cycle engines, power trains, and final drive systems. Upon completion, students should be able to disassemble, inspect, measure, reassemble, and operationally test two- and four-cycle motorcycle engines.

MCM 217 Motorcycle Dyno Tuning II

Prerequisites: MCM 117

This course provides advanced instruction in motorcycle dynamometers that are utilized in high performance engine tuning. Topics include safe modification and customization of components and their effect on horsepower, torque, air-fuel metering, exhaust flow, fuel economy, acceleration and speed. Upon completion, students will safely use motorcycle dynamometers to optimize performance when customizing motorcycles and/or ATV's for racing and high performance street or off-road use.

MEC 111 Machine Processes I

This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to manufacture simple parts to specified tolerance.



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PHY 110 Conceptual Physics

Corequisite: PHY 110A

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in Natural Sciences.

PHY 110A Conceptual Physics Laboratory

Corequisite: PHY 110

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in Natural Sciences.

TRN 110 Intro to Transport Tech

This course covers workplace safety, hazardous materials, environmental regulations, hand tools, service information, basic concepts, vehicle systems, and common transportation industry terminology. Topics include familiarization with major vehicle systems, proper use of various hand and power tools, material safety data sheets, and personal protective equipment. Upon completion, students should be able to demonstrate appropriate safety procedures, identify and use basic shop tools, and describe government regulations regarding transportation repair facilities.

TRN 120 Basic Transp Electricity

This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns.

TRN 180 Basic Welding for Transp

This course covers the terms and procedures for welding various metals used in the transportation industry with an emphasis on personal safety and environmental health. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, cutting processes and other related issues. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standard.