UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education
Power Equipment and Motorcycle Technology
FY2028 / 30 Credits (900 Clock-Hours)

Foundational Courses

TEPM 1010 Power Equipment Engine Fundamentals and Repair **6 Credits / 180 Clock-Hours**

Designed to give experience from all aspects of small engines. Theory and operation are reviewed from the textbook during class, and students will service and repair engines and machine systems during lab. Students complete work on two- and/or four-cycle engines. Safe shop practices and professional behavior will be emphasized. This course is part 1 of 2.
Objectives:
● Recognize and maintain safety in the shop as well as personal work habits.
● Identify different choices between fasteners, including sealants and gaskets. Demonstrate the appropriate use, torque and tightening sequence for the situation.
● Describe and summarize the structure of an atom, fundamentals of electricity and electrical circuits, relationship of magnetism with electricity, and electrical component construction and operation.
● Describe and summarize the principles of two and four-stroke engines and be able to identify the strengths of each.
● Identify the differences between carburetion and fuel injection systems, understanding the components and operating principles of each system.
● Identify and use correct tools, including precision measuring instruments.

TEPM 1020 Advanced Power Equipment Engine Systems and Repair **6 Credits / 180 Clock-Hours**

Second half of PE Engine Fundamentals. Designed to give experience from all aspects of small engines. Theory and operation are reviewed from the textbook during class, and students will service and repair engines and machine systems during lab. Students complete work on two- and/or four-cycle engines. Safe shop practices and professional behavior will be emphasized. This course is part 2 of 2.
Objectives:
● Recognize and perform effective troubleshooting and preventative maintenance.
● Inspect and summarize the purpose of all engine components in the fuel, ignition, electrical, crankcase, cylinder camshaft and valve systems.
● Describe and perform effective engine reassembly and break-in process.
● Identify the purpose and become familiar with engines in their varieties of applications.

TEPM 1030 Power Equipment and Motorcycle Fundamentals **6 Credits / 180 Clock-Hours**

Program consisting of safety, proper use of hand and shop tools, fasteners, fuels, lubricants and coolants, 2 and 4 stroke motorcycle engine theory, proper use of reference materials, and physical principles of engine operation. Course includes electrical theory and repair of chassis harnesses, charging, starting, ignition and lighting systems, and fuel systems. This course is part 1 of 2.
Objectives:
● Recognize and maintain safety in the shop as well as personal work habits.
● Identify, use and differentiate choices between correct tools, including precision measuring instruments, understanding the appropriate tool for the situation.
● Identify, describe and summarize the structure of an atom, the fundamentals of electricity and electrical circuits, the relationship of magnetism with electricity, and electrical component construction and operation.

TEPM 1040 Motorcycle, Drive, Suspension and Steering Systems **6 Credits / 180 Clock-Hours**

A comprehensive program consisting of safety, proper use of hand and shop tools, motorcycle drive systems, steering and suspension, proper use of reference materials, and physical principles of engine and drive train operation. Course includes transmission and final drives, clutches, suspension, and braking systems from various manufacturers. This course is part 2 of 2.
Objectives:
● Recognize and maintain safety in the shop as well as personal work habits.
● Identify the purpose of suspension and steering system components including wheels, tires, brakes, shocks, forks, springs, and alignments.
● Describe and summarize the purpose of all transmission components including clutches and Final drive systems.
● Demonstrate the ability to perform routine maintenance and troubleshooting steps in diagnosing issues.

TEPM 1050 Motorcycle, Drive, Suspension and Steering Systems **6 Credits / 180 Clock-Hours**

In this class students will be given a fundamental knowledge of the service and repair of Marine engines and Snowmobiles. Students will learn the function of various powersports engines in marine and snowmobile applications. Students will also be given a fundamental knowledge of servicing these machines. Students will learn the drive and propulsion systems for outboard boat motors as well as personal watercraft. Students will learn to service snowmobile belt and track systems, suspension adjustments, and variable transmission systems. Students will also learn to effectively prep marine and snow machines for storage. Students will be given hands-on testing in the lab and written testing in the classroom.

Objectives:
● Understand, recognize and maintain safety in the shop as well as personal work habits.
● Demonstrate an understanding of marine propulsion systems, including outboard and inboard, as well as personal watercraft.
● Identify and understand the purpose of snowmobile system components including belts and tracks, steering, fuel systems, and electrical diagnosis.
● Understand, describe and summarize the purpose of winter and summer storage, as well as demonstrating the proper procedures.