

**MOTO - 1003 Intro to Shop Service Basics, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will familiarize the student with the general operation of a motorcycle and powersports repair facility. Topics will include: typical business operating procedures, safety, tools, equipment, and hazardous materials.

**MOTO - 1005 Basic Electrical Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will introduce the students to electrical fundamentals including circuit designs and circuit calculations. Common electrical components, operation, and testing will also be included.

**MOTO - 1015 Welding & Fabrication, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will familiarize the student with all common welding and fabrication techniques, using a variety of equipment including oxy-acetylene torches, arc welders, M.I.G. welders, T.I.G. welders, plasma cutters, metal breaks, and metal sheers.

**MOTO - 1025 Brake Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover brake systems used on all types of motorcycles and powersport vehicles. Topics covered include: component identification, hydraulic principles and component operation including anti-lock brakes; diagnosis and service of brake systems.

**MOTO - 2005 Starting & Charging Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover starting and charging systems used on all types of motorcycles and powersports vehicles. Topics covered include: starter types, alternator/generator types, system wiring, testing and diagnosis.

**MOTO - 2013 Inspection & Preventative Mntn, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course focuses on NYS vehicle inspection and vehicle maintenance related to the motorcycle and powersports industry.

**MOTO - 2015 Suspension & Steering Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover suspension and steering systems used on all types of motorcycles and powersport vehicles. Topics covered include: component identification, operation of suspension and steering systems; wheel alignment principles, measurement, and adjustments; diagnosis of steering and suspension concerns; steering and suspension component removal and replacement.

**MOTO - 2035 Fuel & Ignition Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover ignition and fuel systems used on all types of motorcycles and powersport vehicles. Topics covered include: carburetion, fuel injection, points type ignitions, and electronic ignition.

**MOTO - 3003 Diesel Engines, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover diesel engines used on all types of power sports vehicles. Topics covered included: engine operation, fuel systems, diagnosis, and service procedures.

**MOTO - 3005 Two & Four Stroke Engines, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover the air and water cooled two and four stroke engine used on all types of motorcycles and power sports vehicles. Topics covered include: engine operation, diagnosis, and service procedures.

**MOTO - 3010 Adv Engines & Transmissions, 10.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover the air and liquid cooled engines and transmissions used on all types of motorcycles and power sports vehicles. Topics covered include engine operation, transmission and clutch operation, diagnosis, and service procedures.

**MOTO - 3023 Final Drive Systems, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover all types of motorcycle and powersport vehicle drive systems. Topics covered include drive system types, operation, diagnosis, and service procedures.

**MOTO - 3035 Drive Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover all types of motorcycles, power sport, and marine vehicle drive systems. Topics covered include: Drive system types operation, diagnosis, and service procedures.

**MOTO - 3045 Adv Fuel and Exhaust Systems, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover fuel and exhaust systems used on all types of motorcycles and powersport vehicles. Topics covered include intake, fuel and exhaust systems, forced induction, diagnosis, and service.

**MOTO - 4005 Advanced Drivability, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover the use of technologies and procedures to diagnose and repair drivability concerns. Instruction will focus on the use of various types of test equipment available to assist in the diagnosis of problems found on motorcycles and powersport vehicles.

**MOTO - 4015 Advanced Electrical, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover the use of advanced technologies and procedures to diagnose and repair electrical components. Instruction will focus on the use of various types of test equipment and tools used to diagnosis all electrical systems used on modern motorcycles and powersport vehicles.

**MOTO - 4023 Exhaust & Induction Systems, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover exhaust and induction systems used on all types of motorcycles and power sports vehicles. Topics covered include: exhaust, intake, and forced induction; diagnosis and service.

**MOTO - 4025 Advanced Applications, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course focuses on repair facility management practices. Paperwork processing, employee and customer relations are included.

**MOTO - 4043 Advanced Applications, 3.00 Credits**

Level: Lower

Applied Learning-Practicum

This course focuses on repair facility management practices. Paperwork processing, employee and customer relations are included.

**MOTO - 4055 Adv Chassis and Suspension, 5.00 Credits**

Level: Lower

Applied Learning-Practicum

This course will cover all types of motorcycles and powersport vehicle chassis and suspension systems. Topics covered include chassis design, front and rear suspension types, operation, diagnosis, and service procedures. Wheels and tire replacement and repair will also be included.