Department of Motorcycle & Recreational Powersports

PRE-EMPLOYMENT OUTDOOR POWER EQUIPMENT PROGRAM

COURSE OUTLINE – WINTER, SEMESTER 2

SM 205 ATV Shop

INSTRUCTOR: Les Ashton — **PHONE:** 780.835.6687
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OFFICE HOURS: Monday through Friday. 9:00 a.m. – 5:00 p.m.

PREREQUISITE(S)/COREQUISITE: None.

REQUIRED TEXT/RESOURCE MATERIALS:

Textbooks:

Printed course pack.

Other Required Supplies:

- clipboard (legal size preferred)
- safety glasses (mandatory)
- suitable shop footwear; not open-toed; (safety footwear recommended)
- pencils
- coveralls (cotton) or shop coat (cotton)
- wireless enabled laptop computer (optional)

CALENDAR DESCRIPTION: Students will become familiar with ATV repair by applying theory from SM 200 in a hands-on shop environment. Students will identify machines, PDI ATV's, and look up parts using computers and catalogues. Complete disassembly and inspection of engines, power trains, drive systems, and braking systems is also performed. The student will also have the opportunity to work with ATV aftermarket performance parts as well as perform detailed ATV electrical diagnostic procedures.

Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 9.5 credits; 20 hours per week; 8 weeks; 160 hours.

DELIVERY MODE(S): Workshop projects; procedures; instructor led; hands on.

OBJECTIVES: The Outdoor Power Equipment Technician program has been developed to provide students with entry level skills in the ATV equipment technologies.

TRANSFERABILITY: None.

GRADING CRITERIA: Students must complete all required courses with a grade point average of 2.0 or higher; in order to receive a Certificate of Achievement in Pre-Employment Outdoor Power Equipment Technician.
Absence for tests will result in a score of zero.

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	**4-point Equivalent**	**Percentage Guidelines**	**Designation**
A+	**4.0**	**90 – 100**	**EXCELLENT**
A	**4.0**	**85 – 89**	
A-	**3.7**	**80 – 84**	**FIRST CLASS STANDING**
B+	**3.3**	**77 – 79**	
B	**3.0**	**73 – 76**	**GOOD**
B-	**2.7**	**70 – 72**	
C+	**2.3**	**67 – 69**	**SATISFACTORY**
C	**2.0**	**63 – 66**	
C-	**1.7**	**60 – 62**	**FAIL**
D+	**1.3**	**55 – 59**	
D	**1.0**	**50 – 54**	
F	**0.0**	**0 – 49**	
WF	**0.0**	**0**	**FAIL, withdrawal after deadline**

EVALUATIONS: Shop Evaluation includes guidelines listed below.

1. Application of theory to shop practices. **2.** Safety: • organization and cleanliness. • eye protection. • proper procedures. • attitude and adherence. **3.** Use of Service Manuals: • recommended procedures. • special tool usage (as available). • specific information. **4.** Completion of Exercises: • worksheets filled in. • all procedures performed. • participation of all group members. **5.** Cooperation with fellow students, instructors and supervisors.	**6.** Use of Tools and Equipment: • safety and cleanliness. • reporting damage. • proper techniques. **7.** Application of Techniques: • ability to follow instructions. • Are repeat demonstrations required? **8.** Workmanship: • quality of work performed. • proper parts request information supplied. • correct procedure usage. • service procedures performed in a logical and orderly manner. • parts shortage. • time management. **9.** Request assistance when needed/ offer assistance as required.

STUDENT RESPONSIBILITIES:

Please refer to the Student Rights and Responsibilities policy in the Grande Prairie Regional College Calendar or at www.gprc.ab.ca/downloads/documents/StudentRightsandResponsibilities.pdf.

ATTENDANCE REQUIREMENTS:

In addition, attendance will be graded as follows:

- Unavoidable absences should be relayed to the instructor prior to or immediately after the day in concern. If the instructors know the situation, it is easier to be compassionate to individual needs. If you are unable to contact the instructor, a message left at the Mech. 6 Tool Room will alert us to unexpected absences (780.835.6772).
- Note: Attendance is monitored for both shop and theory.
- Student attendance is recorded by the hour.
- If a student is late by 15 minutes = one hour missed.
- Students who are chronically late must meet with the Instructor or the Chair of the program.
- Chronic lateness will not be permitted.

ATTENDANCE REQUIREMENTS: (continued)

- If six hours are missed the student must meet with the Instructor. A written and signed record of the meeting will be completed. A copy will be given to the student and the instructor will place a copy on the student's file.
- If 12 hours are missed the student must meet with the Chair of the program. A written and signed record of the meeting will be completed. A copy will be given to the student, the instructor and the Chair.
- If 18 hours are missed the student must meet with the Chair of the program again. Disciplinary action will be taken. Such disciplinary action may include, but is not limited to, a penalty assessed to the student's marks, placed on probation, or termination from the program.
- Absence for tests will result in a score of zero.

STATEMENT ON PLAGIARISM AND CHEATING:

Please refer to www.gprc.ab.ca/downloads/documents/Student%20Misconduct%20Plagiarism%20and%20Cheating.pdf regarding plagiarism, cheating and the resultant penalties. These are serious issues and will be dealt with severely.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week 1 ATV assembly and PDI, wheel inspection and maintenance, tire mounting and repair. Trailer tire mounting, size and load rating identification. Use of parts and accessory catalogues (paper and internet) and parts acquisition.

Week 2 Disassembly and service on mechanical drum, hydraulic drum and disc brake systems. Inspect and adjust electric trailer brakes. ATV steering inspection and adjustment.

Week 3 4 - stroke top end disassemble, inspect. Inspect, and adjust CV type carburetor. Perform tune up items. Trouble shoot EFI system using factory diagnostic method. Familiarize with use of EGA equipment. Installation of aftermarket accessories such as cams, exhaust systems, A/F monitor, EFI controller option.

Week 4 Crankshaft bottom end and transmission inspection and failure analysis. Multiplate, centrifugal, and Sprag type clutches disassemble and inspect. Chassis dynamometer testing. Oil cooling inspection and radiator repair.

Week 5 Ignition systems ID and test. Lighting and accessories circuits testing and troubleshooting. Specialized diagnostic tools usage.

Week 6 Suspension inspection including springs, shocks, swing arms, pivot bearings. Universal and CV joints inspection. Wheel bearing service. Differential unit disassemble and service.

Week 7 Electric starter circuits testing. Battery testing and service. Charging systems component identification and testing.

Week 8 Final drive roller chain identification and servicing. In shop testing. Shop project completion.