DEPARTMENT OF MOTORCYCLE AND RECREATIONAL POWERSPORTS

COURSE OUTLINE – WINTER 2013, SEMESTER 2

JANUARY 7 – MARCH 28, 2013

MCM 250 SHOP II – 14 CREDITS 240 HOURS

INSTRUCTOR:	Dan Bruce	**PHONE:**	780.835.6740 Press 1
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	Monday through Friday.		
OFFICE HOURS:	8:00 – 5:00 p.m.		

PREREQUISITE(S)/COREQUISITE: MCM 150.

REQUIRED TEXT/RESOURCE MATERIALS:

Alberta Apprenticeship and Industry Training Individual Learning Modules
Shop Procedures Package:

090101aA	Communication – Part A
090101aB	Communication – Part B
090101b	Measuring Tools
090101c	Specialty Hand Tools
090101d	Fastening Devices
090101e	Safety
150101n	Hand Grinding Machines
150101o	Drilling Machines
190101f	Oxy-Fuel Equipment, Heating and Cutting

Other Textbooks:

Modern Motorcycle Technology (text and workbook) Edward ABDO – Delmar

Other Required Supplies:

- pencils
- pens
- 3-ring binder (1")
- notepad (for Shop use)
- shop towels
- welding beanie (MANDATORY)
- rubber gloves (MANDATORY)
- safety glasses (MANDATORY)
- welding gloves (MANDATORY)
- metal for shop projects
- permanent black felt pen (Sharpie)
- clipboard (MANDATORY for Skill/Task Sheets)
- Skill/Task Sheets (provided by Instructor)
- smock/coverall (local supplier, MANDATORY)
- steel toe footwear (CSA approved – highly recommended!)
- components for electronic project

Note: This list has been prepared for safe participation in a workshop environment.
It is a minimum guideline only.
Hearing protection will be available to students as required (from the tool room).

CALENDAR DESCRIPTION: Subjects covered in Shop II include: charging, starting and ignition systems, four-stroke tuning, four-stroke top end diagnosis, inspection and reconditioning procedures, transmissions, two-stroke and roller bearing crankshaft inspection and repair, plain bearing crankshaft inspection and repair and fuel injection.

Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 14 credits; 20 hours per week; 12 weeks; 240 hours.

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

OBJECTIVES: The Pre-Employment Motorcycle Mechanic program has been developed to provide students with entry level skills in the motorcycle mechanic technologies and provide pre-apprenticeship opportunities for those who may be interested in pursuing apprenticeship.

Motorcycle Mechanic Training Goal

I. PROFICIENT

A. A thorough competence derived from training and practice (skilled).
   1. COMPETENCE – having suitable or adequate ability.
   2. ABILITY – physical and/or mental power to perform.

B. Well advanced in an occupation or branch of knowledge.

II. OCCUPATION

A. An activity serving as one's regular employment.

III. PRACTICE

A. To perform or work at repeatedly to become proficient (acquire skill).
   1. SKILL – specialized knowledge and ability.

B. To do repeated exercises for proficiency.

C. To pursue a profession actively.
   1. PROFESSION – occupation requiring advanced education.

- The goal of apprenticeship training is to develop a competent journeyman through a combination of on-the- job and technical training.

TRANSFERABILITY: None.

GRADING CRITERIA: Students must complete all required courses with a grade point of 2.0 or higher; a percentage of 63% or higher; a "C" letter grade or higher, and no failing grades. A student must pass each course individually in order to receive a Certificate of Achievement in Pre-Employment Motorcycle Mechanic.

Absence for tests or assignment missed will result in a score of zero.

A grade of less than 45% on a practical exam will result in an opportunity to retest at a mutually agreed time, within the original deadline. A 20% reduction will apply to all retests.

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^-	**0.0**	**60 – 62**	**FAIL**
D^+	**0.0**	**55 – 59**	
D	**0.0**	**50 – 54**	
F	**0.0**	**0 – 49**	
WF	**0.0**	**0**	**FAIL, withdrawal after the deadline**

EVALUATIONS:

Areas of Evaluation	Percentage of Total Course Mark
Practical Tests	40%
Quality of Work	20%
Productivity	10%
Attitude Towards Daily Work	5%
Ability to Follow Instructions	5%
Daily Clean Up	5%
Professionalism	5%
Attendance	10%

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

PROFESSIONAL CONDUCT

Students are in a public facility and will be expected to act accordingly. This includes: attitude towards others and refraining from use of offensive language. Everyone is entitled to experience a cordial environment. Remember, you are responsible for the attitude you bring to class every day!

GPRC Fairview Campus property is public domain, therefore Alberta traffic rules and laws apply to all parking lots and roadways (enforced by R.C.M.P.).

GPRC TRAINING UNITS ARE NOT TO BE RIDDEN AT ANY TIME!

Helmet usage is mandatory, and insurance and licensing requirements will be met by all students involved in operating powered vehicles.

ATTENDANCE

Lack of regular attendance will have a bearing on student evaluation. Regular attendance and punctuality in all courses is mandatory. Failure to maintain the necessary level of attendance may result in the student being withdrawn from the program.

Certain unavoidable absences may be excused by the instructor(s). In such cases the student shall make every effort to inform the instructor(s) prior to an absence. If this is not possible the student shall at the earliest opportunity (next regularly scheduled class) provide a descriptive note explaining the absence. Failing to provide a note or acceptable explanation at the beginning of the next attended class will result in an unauthorized absence. Any missed information is the student's responsibility!

Absence for tests or assignment missed will result in a score of zero.

Absence reporting is <u>solely</u> the student's responsibility!

Based on a percentage of the total hours in a program involving unauthorized absences (i.e. MCM 100/150 = 480 hours).

1. 2.5% of total hours: (12 hours) — Student will be given a verbal warning by the Instructor (to be recorded).

2. 3.75% of total hours: (18 hours) — Student will be advised in writing by the Program Leader or designate.

3. 5.0% of total hours: (24 hours) — Student may be withdrawn from the program!

STATEMENT ON PLAGIARISM AND CHEATING:

<u>ACADEMIC DISHONESTY</u>

Dishonesty by students will not be tolerated. Any academic dishonesty will results in a score of zero on that test, assignment or lab. Subsequent activity of this nature may be dealt with in a harsher manner. (Subject to Student Conduct Guidelines.)

Refer to the Student Conduct section of the College Admission Guide at http://www.gprc.ab.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/. These are serious issues and will be dealt with severely.

**Note: all Academic and Administrative policies are available on the same page.

- ***Every effort has been made to ensure the accuracy and completeness of this outline. The instructors will advise students of any necessary changes to the course.***

COURSE SCHEDULE/TENTATIVE TIMELINE:

MCM 200/250

12 Weeks	30.0 Hours Per Week	360 Hours
Week 1	4-Stroke Tune-Up	
Week 2	4-Stroke Diagnosis	
Week 3	4-Stroke Top End Disassembly and Inspection	
Week 4	Clutch and Transmission Inspection and Service	
Week 5	Crankshaft Inspection and Service	
Week 6	Charging Systems	
Week 7	Electric Start and Ignition Systems	
Week 8	Practical Testing	
Week 9	4-Stroke Reconditioning	
Week 10	4-Stroke Reassembly	
Week 11	Fuel Injection Introduction	
Week 12	Review, Shop Wrap-Up and Final Exam	

SKILL/TASK LIST – SESSION 2

01. 4-Stroke Compression Test (2 models)

01a. 4-Stroke Compression Test

02. 4-Stroke Cylinder Leakage Test (2 models)

02a. 4-Stroke Cylinder Leakage Test

03. R&R Dual Ignition Point (Timing and Dwell) **Optional*

04. Adjust Valve Clearance (Threaded single)

05. Adjust Valve Clearance (Threaded double)

06. Adjust Valve Clearance (Shim O.B.)

07. Adjust Cam Chain **Optional*

07a. Adjust Primary Chain

08. Change Oil and Filter

09. Check Oil Pressure Roller Brg.

09a. Check Oil Pressure Plain Brg.

10. Synchronize Dual Carbs

11. Synchronize Four Carbs **Optional*

12. Pre-Disassembly Diagnosis

13. Engine Removal

14. 4-Stroke Top End Disassembly

15. Inspect Cylinder Head Assembly

16. Inspect Cylinder and Piston Assembly

17. Recondition Valve and Seat

18. Deglaze 4-Stroke Cylinder

19. Top End Reassembly

20. Engine Start-Up

21. Transmission Inspection

22. Oil Pump Inspections

23. Clutch Inspections

24. Check Primary Gear Backlash

25. Adjust Clutch Release (3 models)

25a. Adjust Clutch Release

25b. Adjust Clutch Release

26. 2-Stroke Single Cylinder Crankshaft

27. Charging System Inspection 1∅ **Optional*

28. Charging System Inspection 3∅ (2 models)

28a. Charging System Inspection 3∅

29. Electric Start – Mechanical Inspection

30. Electric Start – Voltage Drop (2 models)

30a. Electric Start – Voltage Drop

31. Test Ignition Coil (Static) (2 models)

31a. Test Ignition Coil (Static)

32. Test Ignition Coil (Dynamic) (2 models)

32a. Test Ignition Coil (Dynamic)

33. Test Condenser (Static and Dynamic)

Remember, competency improves with practice!