DEPARTMENT OF AUTOMOTIVE AND PARTS

COURSE OUTLINE – FALL 2012 SEMESTER A

OCTOBER 29 – DECEMBER 21, 2012

HA 151 HYDRAULICS – 2 CREDITS 30 HOURS

INSTRUCTOR: Rob Young **PHONE:** 780.835.6730
OFFICE: FTI 225 **E-MAIL:** RYoung2@GPRC.ab.ca

OFFICE HOURS: Monday through Friday.
8:00 – 8:30 a.m. and 4:00 – 5:00 p.m.

PREREQUISITE(S)/COREQUISITE: None.

REQUIRED TEXT/RESOURCE MATERIALS:

Alberta Apprenticeship and Industry Training Individual Learning Modules*:

190105 a A	Hydraulic Fundamentals – Part A
190105 a B	Hydraulic Fundamentals – Part B
190105 b	Hydraulic Systems Components: Reservoir, Filters, Hoses and Coolers
190105 c	Hydraulic Systems Components: Pumps, Valves, Cylinders and Accumulators

*Part of the AIT General Mechanics Module Package.

CALENDAR DESCRIPTION: This theory course includes hydraulic system fundamentals, components such as pumps, reservoirs, valves, coolers, cylinders and accumulators. Component disassembly, reassembly and testing are included in the course.
Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 30 hours lab; 30 hours theory.

DELIVERY MODE(S): Instructor led.

OBJECTIVES:

Upon completion of this course the student will be able to:

1. Explain hydraulic systems, principles of operation.
2. Calculate pressure, force, area, volume, flow rates, cycle times, power.
3. Interpret and draw hydraulic schematic diagrams.
4. Safely service hydraulic systems and components.
5. Explain hydraulic fluid properties and select fluid.
6. Explain functions of reservoirs, filters and heat exchangers.
7. Explain the construction and application of common hydraulic hoses.
8. Explain common pump operation.
9. Explain the operation and application of pressure relief and flow control valves, accumulators, and hydraulic actuators.

TRANSFERABILITY: None.

GRADING CRITERIA: Students must complete all required courses with a grade point average of no less than 2.00 and no failing (F) grades. Course pass mark is 65%.

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	
F	0.0	60 – 62	FAIL
F	0.0	55 – 59	
F	0.0	50 – 54	
F	0.0	0 – 49	
WF	0.0	0	FAIL, withdrawal after the deadline

EXAMINATIONS: Theory grade: multiple choice test. Credit 63%. Workshop skills are assessed and graded throughout the course. Credit 63%.

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.

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: Semester A.