



DEPARTMENT OF AUTOMOTIVE AND PARTS

COURSE OUTLINE – WINTER 2013 SEMESTER B

HA 201 HYDRAULIC BRAKE SYSTEMS – 2.5 CREDITS 40 HOURS

INSTRUCTOR: Ryan Peterson **PHONE:** 780.835.6733
TBA
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OFFICE Monday through Friday.
HOURS: 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*:

- 090105 a Brake System Fundamentals
- 090105 b Hydraulic System Components
- 090105 c Drum Brake System
- 090105 d Disc Brake System
- 090105 e Power Brakes
- 090105 f Brake System Diagnosis and Service

*Part of the AIT General Mechanics Module Package.

CALENDAR DESCRIPTION: This theory course includes hydraulic brake fundamentals, disc and drum brake operation, vacuum and hydraulic brake boosters operation, brake system diagnostics, inspecting and repair procedures. Anti-lock brake system operation and diagnostics is included in this course.

Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 2.5 credits; 40 hours.

DELIVERY MODE(S): Classroom Instructor led and demonstrations.

OBJECTIVES:

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

1. Explain the operating principles especially force, pressure, friction, velocity, kinetic energy.
2. Recognize legal safety requirements influence on brake repair.
3. Explain the operating principles, construction and design features of master cylinders, wheel cylinders, wheel calipers, brake lines and hoses and brake system valves.
4. Describe the operation of the hydraulic components in brake systems.
5. Describe the operation and construction of drum and disc brake base and parking brake systems.
6. Explain the construction, operation and design features of vacuum and hydraulic brake boosters.
7. Identify type and explain the operation of basic antilock brake systems (ABS).
8. Explain construction, design features, operation and function of common drive line components.

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. Pass mark of 63%.

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: Tests: 80% of final mark; Quizzes 20% of final mark.

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 B.