

DEPARTMENT OF HEAVY EQUIPMENT HEAVY EQUIPMENT SERVICE COURSE OUTLINE – WINTER 2014 MARCH 3 – APRIL 25, 2014

HES231 AIR BRAKES - 1.5 (48 HOURS)

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OFFICE HOURS: 8.00am to 4.30pm

PREREQUISITE(S)/COREQUISITE: Successful completion of Semester 1.

REQUIRED TEXT/RESOURCE MATERIALS:

Caterpillar Material

Power Train II

Unit 2: Brakes

Lesson 2 – Brake Systems

Alberta Apprenticeship and Industry Training Individual Learning Modules Heavy Equipment Technician (HET)

190105a – Air Brake System Fundamentals

190105b – Air Brake System Mechanical Components

190105cA – Truck / Tractor Air Brake System Components – Part A

190105cB – Truck / Tractor Air Brake System Components – Part B

190105d – Trailer Air Brake System Components

190105e – Air Brake System Testing and Service

190105f – Air Antilock Brake System Fundamentals

190402d – Air Antilock Brake Systems

190402e – Air Antilock Brake System Diagnosis

190402f – Hydraulic Antilock Brake Systems

CALENDAR DESCRIPTION: This course covers the fundamentals and operation of pneumatically actuated braking systems including component function and diagnostics. A section on antilock brakes is included.

Delivery Option: Fairview Campus Only

CREDIT/CONTACT HOURS: Credits: 1.5 / Contact Hours: 48.

DELIVERY MODE(S): Lecture and lab.

TRANSFERABILITY: None.

GRADING CRITERIA: Students must complete all required courses with a grade point average of no less than 2.7 and no failing (F) grades. A passing grade in this course is a **minimum of 70%.**

Air Brakes	
Exams Average =	x 45%
Class Assignments/Quizzes =	x 30%
Shop Total	x 25%

HES231 FINAL MARK = _____ %

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

STUDENT RESPONSIBILITIES:

This is an adult education environment. Enrolment at Grande Prairie Regional College assumes that the student will become a responsible citizen of the College. As such, each student will display a positive work ethic, take pride in and assist in the maintenance and preservation of Institute property, and assume responsibility for his/her education by researching academic requirements and policies, demonstrating courtesy and respect toward others; and respecting instructor expectations concerning attendance, classroom and shop rules, safety, assignments, deadlines and appointments. Students are learning skills to prepare them for the work environment.

Following the guidelines in "Student Rights and Responsibilities" in the GPRC College calendar assist us all in maintaining an adult learning environment. 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:

Refer to the Student Conduct section of the GPRC Calendar at http://www.gprc.ab.ca/programs/calendar/ Pages 44 to 46 or the College Policy on Student Misconduct: Plagiarism and Cheating at http://www.gprc.ab.ca/about/administration/policies/. **

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

COURSE SCHEDULE/TENTATIVE TIMELINE:

- Fundamentals
- Mechanical Components
- Truck/Tractor Air-Brake System Components
- Trailer Air-Brake System Components
- Testing and Service
- Air Antilock Brake Systems
- Air Antilock Brake Diagnosis