DEPARTMENT OF AUTOMOTIVE AND PARTS

COURSE OUTLINE – FALL 2012 SEMESTER A

OCTOBER 29 – DECEMBER 21, 2012

HA 161 SUSPENSION AND STEERING – 3.5 CREDITS 60 HOURS

INSTRUCTOR: Ryan Peterson **PHONE:** 780.835.6733
TBA
OFFICE: FTI 224 **E-MAIL:** RPeterson@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*:

090104 a	Frames
090104 b	Suspension and Steering Linkage Systems
090104 c	Wheels, Hubs and Tires
090104 d	Electric Assist Steering
090104 e	Hydraulic Assist Steering
090104 f	Steering Angles
090104 g	Alignment Procedures
090104 h	Steering Columns
090104 i	Suspension and Steering Diagnosis

*Part of the AIT General Mechanics Module Package.

CALENDAR DESCRIPTION: This theory course will include diagnosis, repair and adjustment of automotive steering and suspension systems used on automobiles and light 2-wheel and 4-wheel drive trucks. Typical component testing, replacement, and wheel aligning procedures will be performed by the student in a safe manner. Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 3.5 credits; 3 hours per day; 4 weeks; 60 hours.

DELIVERY MODE(S): Instructor led classroom theory and demonstrations.

OBJECTIVES:

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

1. Identify frame damage by analyzing frame measurements.
2. Recognize and explain design features, and operation of common suspension systems.
3. Identify and explain operation of common steering linkages.
4. Explain the construction, ratings and design features of tires and wheels.
5. Explain the construction and design features and operation of common manual and power steering gears.
6. Recognize power steering pump types and explain their operation.
7. Explain the operation of common powering, steering systems.
8. Describe the function and effect of caster, camber, steering axis inclinations, toe and thrust angle, on vehicle operation.
9. Describe the measurement and adjustment procedure for each angle.
10. Explain the construction, design features, and operation of steering column safety features.
11. Diagnose problems related to steering and suspension systems.

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. Credit 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: Four week period in Semester A.