



**DEPARTMENT OF HEAVY EQUIPMENT  
HEAVY EQUIPMENT SERVICE COURSE OUTLINE – FALL 2013  
SEPTEMBER 3 – OCTOBER 25, 2013  
HES121 – INTRODUCTION TO MACHINE SYSTEMS – 3.0 (80 HOURS)**

<b>INSTRUCTOR:</b>	Richard Byam Darcy Moss Rob Young	<b>PHONE:</b>	780.835.6723 780.835.6735 780.835.6730
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**OFFICE HOURS:** 8.00am to 4.30pm

**PREREQUISITE(S)/COREQUISITE:** None

**REQUIRED TEXT/RESOURCE MATERIALS:** Supplied

**CALENDAR DESCRIPTION:** This course provides the foundation for the Heavy Equipment Service Program. The student will be introduced to the major systems found on heavy equipment, the components that comprise these systems, their functions and service techniques.

Delivery Option: Fairview Campus Only

**CREDIT/CONTACT HOURS:** Credits: 3.0 / Contact Hours: 80.

**DELIVERY MODE(S):** Lecture and lab.

**OBJECTIVES (OPTIONAL):**

Upon successful completion of the course the student will:

- be familiar with shop processes, procedure and nomenclature;
- be prepared to work safely and confidently in the heavy equipment service environment.

**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%**.

**Introduction to Machine Systems ..... 80 / 240 hours = 33 %  
of Semester 1 final mark**

**Exams Average = \_\_\_\_\_ x 45%**

**Class Assignments/Quizzes = \_\_\_\_\_ x 30%**

**Shop Total \_\_\_\_\_ x 25%**

**HES 121 FINAL MARK = \_\_\_\_\_ %**

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

## **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](http://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:**

### **Overview of Engines**

- Fuel Types
- Configurations
- Components and Their Locations
- Cooling
- Lubrication
- Nomenclature
- Accessories
- Safety
- Servicing

### **Overview of Electrical**

- Components and Their Locations
- Configurations
- Nomenclature
- Belts and drives
- Safety
- Servicing

### **Overview of Hydraulic Systems**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

### **Overview of Power Train**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

### **Overview of Steering**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

### **Overview of Brakes**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

### **Overview of Wheels, Tires and Tracks**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing

### **Overview of Implements**

- Components and Their Locations
- Configurations
- Nomenclature
- Safety
- Servicing