DEPARTMENT OF HEAVY EQUIPMENT
THINKBIG SERVICE TECHNICIAN COURSE OUTLINE – FALL 2014
OCTOBER 27 – DECEMBER 19, 2014
HES121 – INTRODUCTION TO MACHINE SYSTEMS – 3.0 (80 HOURS)

INSTRUCTOR:	Richard Byam	**PHONE:**	780.835.6723
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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 = _____ %

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	
F	0.0	67 – 69	FAIL
F	0.0	63 – 66	
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:

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