



DEPARTMENT OF AUTOMOTIVE AND PARTS
COURSE OUTLINE – FALL 2012 SEMESTER A
OCTOBER 29 – DECEMBER 21, 2012
HA 291 ELECTRICAL I – 2.5 CREDITS 40 HOURS

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

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*:

- 090106 a Electrical Fundamentals I
- 090106 b Electrical Circuits
- 090106 c Fundamentals of Magnetism
- 090106 d Batteries
- 090106 e Electrical System Diagnosis I
- 090107 a Introduction to Scan Tools

*Part of the AIT General Mechanics Module Package.

CALENDAR DESCRIPTION: This theory course will prepare students to understand basic electrical concepts such as circuits, circuit controls, and circuit testing. Battery operational theory and testing, wiring diagram interpretation and circuit diagnosis and repair are included.

Delivery Option – Fairview Campus Only

CREDIT/CONTACT HOURS: 2.5 credits; 3 hours per day; 2.5 weeks; 40 hours.

DELIVERY MODE(S): Instructor led lecture/classroom.

OBJECTIVES:

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

1. Explain the physical properties and uses of conductors, insulators, and semi-conductors.
2. Explain physical qualities and units of measure for electromotive force, current, resistance and power.
3. Recognize and use common electrical symbols.
4. Identify circuit types and circuit faults.
5. Solve for volts, amperes, or ohms using Ohm's law.
6. Explain magnetism and electromagnetism and how magnetism is utilized in a typical electrical system.
7. Explain how electromagnetism can be used to convert energy from mechanical to electrical or electrical to mechanical.
8. Explain the purpose, construction, operation and ratings of batteries.
9. Describe the use and function of electrical meters.

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 65%.

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: Multiple choice 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 A.