



Technical Skills – AUST 101 Autonomous Systems Technician Program

Course Outline

COURSE IMPLEMENTATION DATE: September 2020
OUTLINE EFFECTIVE DATE: September 2020
COURSE OUTLINE REVIEW DATE: March 2025

GENERAL COURSE DESCRIPTION:

This course provides the required skills for the student to perform the tasks that will be encountered in the practical phases of the Autonomous Systems Technician program. Theoretical concepts as well as practical applications are included. Safety concerns for the electronics industry including Workplace Hazardous Material Information System (WHMIS) requirements are addressed. Training will be provided in the use of small hand tools used in the telecommunications industry concluding with the construction of a small electronics project. Math skills used by a technician will be studied in this course focusing on the trigonometric functions and logarithmic functions which apply in communications systems. Training will be given in basic report writing including graphing as related to electronics.

Program Information: This course is required for the first year of the Autonomous Systems Technology program.

Delivery: This course is delivered face to face.

COTR Credits: 3

Hours for this course: 120 hours

Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	60
Seminars / Tutorials	
Laboratory / Studio Hours	60
Practicum / Field Experience	
Other Contact Hours	
Total	120

Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-Job Experience	
Formal Work Experience	
Other	
Total	N/A

Course Outline Author or Contact:

Joy Brown, BEd

Signature

APPROVAL SIGNATURES:

Department Head
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Dean of Trades and Technology
Dr. Jack Moes
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Department Head Signature

Dean Signature

EDCO

Valid from: September 2020 – March 2025

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: None

Corequisites: None

Flexible Assessment (FA):

Credit can be awarded for this course through FA Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Student should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: N/A

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Floyd, Thomas and Buchla, David, *Electronic Fundamentals: A System Approach*.

Buchla, David, *Experiments in DC/AC Fundamentals*.

Autonomous Systems Technician Level 1 Package

Please see the instructor's syllabus or check COTR's online text calculator <http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

LEARNING OUTCOMES:

Upon the successful completion of this course, students will be able to

- identify hardware and cabling used in the electronics industry;
 - identify chemicals and lubricants used in the electronics industry;
 - describe the safe storage, handling and disposal of chemicals and hazardous materials;
 - demonstrate soldering and de-soldering techniques;
 - perform simple wiring tasks;
 - demonstrate the safe usage of hand and small power tools;
 - use scientific notation and engineering notation as related to electronics;
 - perform fundamental mathematical and logarithmic calculations;
 - use sine, cosine and tangential functions to solve trigonometric equations;
 - use complex number systems to represent vectors;
 - interpret and draw graphs, as required for a technical report; and
 - write a simple report on a topic related to electronics.
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COURSE TOPICS:

- Workplace Safety
- Hand tool usage
- Electronics
- Trigonometric Functions
- Logarithmic functions
- Graphing
- Basic Report writing

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

WORKPLACE HEALTH AND SAFETY COURSES:

Courses	Approx. hours	Assessment
Workplace Hazardous Material Information System (WHMIS: PVHE-700)	4	COM/NCG
Total hours:	4	

COM	Completed to defined standard
NCG	No Credit Granted

EVALUATION AND ASSESSMENT (Face-to-Face Delivery):

Assignments	% of Total Grade
Lab Tests (x2)	20%
Project	10%
Math Test (x2 @ 15% each)	30%
Graphing Assignment	10%
Technical Writing Test	10%
Final Exam	<u>20%</u>
Total	100%

Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.