

Electronics Technology (ELT)

Community & Technical College

Process Technology Program (<https://www.ctc.uaf.edu/programs/process-technology/>)
907-455-2800

ELT F101 Basic Electronics: DC Physics

4 Credits

Offered Fall

Basic terms and units. Use of test equipment, hand tools and techniques of soldering. Ohm's law, fundamentals of magnetism, DC circuit analysis, inductance and capacitance in DC circuits.

Prerequisites: Placement in MATH F054 or TTCH F131.

Lecture + Lab + Other: 4 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F102 Basic Electronics: AC Physics

4 Credits

Offered Spring

Principles of alternating current, vectors, phase relationships, inductive and capacitive reactance and impedance. AC circuit analysis, series and parallel resonant circuits, transformers and network analysis.

Prerequisites: ELT F101 or MATH F105 (may be taken concurrently).

Lecture + Lab + Other: 4 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F108 Arithmetic/Dc Circuits

3 Credits

Offered As Demand Warrants

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F109 Arithmetic/Ac Circuits

3 Credits

Offered As Demand Warrants

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F111 FCC Amateur and General Radiotelephone Operator Licensing

1-3 Credits

Offered As Demand Warrants

An introduction to the study of radio frequency transmission and receiving will be taught. Basic AC electronics in the radio frequency ranges will be studied. Some of the circuits studied are oscillators, modulators, mixers, amplifiers and filters. The classes will include a hands-on demonstration as part of the lecture.

Special Notes: Completion of the class will give the student the instruction necessary to complete an Amateur Radio License test and a background for the General Radiotelephone Operator commercial test (GROL).

Lecture + Lab + Other: 1-3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

Repeatable for Credit: May be taken 3 times for up to 3 credits

ELT F122 Intro/Electronic Devices

3 Credits

Offered As Demand Warrants

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F123 Electronic Circuit Fund

3 Credits

Offered As Demand Warrants

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F171 National Electric Code Study

3 Credits

Offered As Demand Warrants

Systematic study of the National Electric Code and rules governing minimum requirements for installation of electrical services, feeders and branch circuits, and requirements for construction and installation of electrical equipment.

Prerequisites: ELT F102.

Recommended: MATH F105.

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus

ELT F246 Electronic Industrial Instrumentation

3 Credits

Offered Spring

Methods of analog electronic signal transmission. Discussion of the details of several pieces of equipment in-depth, providing practice in establishing correct interconnections. Basic concepts used in troubleshooting this type of equipment are also introduced.

Prerequisites: ELT F102.

Recommended: MATH F105.

Lecture + Lab + Other: 3 + 0 + 0

Grading System: Letter Grades with option of Plus/Minus