

Bachelor of Applied Science - Engineering Technology

Degree Type

Bachelor of Applied Science

The WVC Bachelor of Applied Science-Engineering Technology (BAS-ET) degree is designed to serve the educational and workforce needs of the region. The new program is for two groups of students: 1) Those who have completed a related technical associate degree (such as the associate of technical science in industrial technology), and 2) Those who have completed an associate of arts and sciences-direct transfer agreement (AAS-DTA).

The BAS-ET degree program at WVC provides students with the depth of knowledge, critical thinking skills, problem solving skills and practical skills in key engineering areas that are necessary to begin a career in engineering technology. The degree focuses on electronics and mechatronics. As an emerging field, mechatronics is comprised of multiple facets of engineering, including mechanical engineering, electrical engineering, telecommunications engineering, controls engineering and computer engineering. After completing this degree, students will possess the technical skills to be immediately productive in the workforce and have successful careers in regional, state or national electronic and mechanical product and system development industries.

Through a combination of face-to-face, hybrid and online classes, this full-time program will take traditional students four years to earn the BAS-ET degree. Students who have earned an associate degree can complete the BAS-ET in two to three years, depending on coursework previously taken.

A GPA of 2.0 or higher is required to graduate.

Application

Students may apply online at wvc.edu/EngineeringTech. There is a \$50 application fee.

Required courses for Bachelor of Applied Science-Engineering Technology (BAS-ET):

Total Credits	89-91
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Course Sequencing

Third Year - Fall Quarter

Course ID	Title	Credits
MATH& 151	Calculus I	5.0
ELEC 226	Applied Circuit Analysis	5.0
ENGR 329	Mechatronics	5.0

Third Year - Winter Quarter

Course ID	Title	Credits
ENGR 201	Introduction to Engineering Safety	1.0
MATH& 152	Calculus II	5.0
ELEC 325	Instrumentation	5.0
ENGR 315	Introduction to Materials Science	5.0

Third Year - Spring Quarter

Course ID	Title	Credits
MATH& 153	Calculus III	5.0
ENGR& 214	Engineering Statics	5.0
ENGR 326	Mechanical: Fluid Mechanics	5.0

Fourth Year - Fall Quarter

Course ID	Title	Credits
ENGR 327	Mechanical: Dynamic Systems and Control	5.0
ENGR 330	Mechatronics II- Microcontrollers, Microprocessors, and Embedded Systems	5.0
ENGR 325	Mechanical: Strength of Materials	5.0
ENGR 310	Project Management	2.0

Fourth Year - Winter Quarter

Course ID	Title	Credits
ENGR 328	Hydraulic Control System	5.0
ENGR 401	Advanced Engineering Safety	2.0
ENGR 405	Engineering Technology Capstone Preparation	1.0
ENGR 410	Advanced Engineering Project Management	5.0

Fourth Year - Spring Quarter

Course ID	Title	Credits
ENGR 412	Engineering Technology Internship	3.0-5
ENGR 415	Engineering Technology Capstone Project	10.0

General program requirements:

An associate degree or nearing completion of the degree is required to enter the program. To qualify for direct entry into the BAS-ET program, the following courses should be completed*:

- MATH& 141, MATH& 142, MATH& 146
- PHYS& 114, PHYS& 115, PHYS& 116
- CHEM& 161, CHEM& 162
- ENGR 105, ENGR 106
- ELEC 115 or ELTRO 101
- ELEC 225 or ELTRO 121
- ELTRO 240
- ENGL& 101, ENGL& 235
- CMST& 220
- The following social science and humanities courses are required but can be completed throughout years three and four (if not before) as time permits: PSYC& 100, ECON& 201 or ECON& 202, SOC& 101, PHIL 211.

**Students who have not completed all prerequisites can still be enrolled in the BAS-ET. They should contact the program director to develop an individual academic plan.*

Program educational objectives

Graduates of the BAS-ET degree program at WVC will have:

- A commitment to lifelong learning, quality and continuous improvement through the clear ability to assume increasing levels of technical and/or management responsibility or through participation in professional societies, earning advanced degrees, receiving additional training or certifications.
- The ability to contribute to engineering teams that design and/or support effective and efficient new products, system and processes.
- Leadership skills while working on teams involved in the analysis, development, implementation, or oversight of electrical and/or mechanical systems and processes.

Student outcomes

Upon completions of BAS-ET courses students have an ability to:

- an ability to technology to solve broadly-defined engineering problems appropriate to the discipline;
- design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
- apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
- function effectively as a member as well as a leader on technical teams.