

## Technology (TECH)

### Courses

#### **TECH 161. Technology, Engineering, and Design. 4 Credits.**

An introductory course that examines the engineering design process and its use to solve technological challenges. The course will cover the nature of technology, technology systems, and the history, evolution, and characteristics of technology, as well as learning activities to apply technology, science, and mathematics concepts.

**Typically Offered:** Fall, Spring.

#### **TECH 199. Special Topics. 1-4 Credits.**

Courses not offered in the regular catalog that provide an opportunity to extend student learning.

**Typically Offered:** On sufficient demand.

**Repeatable:** Up to 12 Credits.

#### **TECH 299. Special Topics. 1-4 Credits.**

Courses not offered in the regular catalog that provide an opportunity to extend student learning.

**Typically Offered:** On sufficient demand.

**Repeatable:** Up to 12 Credits.

#### **TECH 300. 3D Modeling and Design. 2 Credits.**

An introduction to the engineering design process, and the principles of graphics and 3D parametric modeling in the creation and visualization of engineering designs. SolidWorks modeling software is used to illustrate parametric 3D part modeling, assembly modeling, rendering, and production of working drawings from design ideas.

**Typically Offered:** Fall, even years.

#### **TECH 300L. 3D Modeling and Design Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 300 course.

**Typically Offered:** Fall, even years.

#### **TECH 330. Exploring Technology. 2 Credits.**

A course designed to prepare prospective teachers to teach technology concepts in middle school. Students explore the widest possible range of technologies and their impact on society, including the most significant developments of the modern world.

**Typically Offered:** Spring.

#### **TECH 330L. Exploring Technology Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 330 course.

**Typically Offered:** Spring.

#### **TECH 356. Safety and Management in Technical Education. 3 Credits.**

An examination of safety issues utilizing a systems-based team approach to ensure a safe technical education classroom or laboratory. The course covers essential discussions of inherent hazards, machine tool operations, as well as laboratory systems and management issues. By completing all elements of the course the student will produce materials required for a well-documented safety program.

**Typically Offered:** Spring.

#### **TECH 371. Technology Systems. 2 Credits.**

A focus on content and processes associated with technological systems with a middle school emphasis. Students apply systems concepts to design and problem solving activities.

**Typically Offered:** Spring.

#### **TECH 371L. Technology Systems Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 371 course.

**Typically Offered:** Spring.

#### **TECH 391. Foundations of Technology. 2 Credits.**

An exploration of the foundations of technology. Through group and activities based on science, mathematics, and engineering in a secondary education setting. Creating ideas, developing innovations, and engineering practical solutions are explored.

**Typically Offered:** Fall, odd years.

#### **TECH 391L. Foundations of Technology Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 391 course.

**Typically Offered:** Fall, odd years.

#### **TECH 394. Independent Study. 1-3 Credits.**

Directed reading, study, and/or activities in selected topics.

**Typically Offered:** On sufficient demand.

**Repeatable:** Up to 12 Credits.

#### **TECH 399. Special Topics. 1-4 Credits.**

Courses not offered in the regular catalog that provide an opportunity to extend student learning.

**Typically Offered:** On sufficient demand.

**Repeatable:** Up to 12 Credits.

#### **TECH 416. Innovations in Technology. 2 Credits.**

A focus on how the student applies his or her knowledge and research to areas of mass production, manufacturing, resources, management, marketing of inventions and innovations, analytical thinking, decision-making, and continuous design improvements are emphasized.

**Typically Offered:** Fall.

#### **TECH 416L. Innovations in Technology Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 416 class.

**Typically Offered:** Fall.

#### **TECH 456. Intelligent Machines. 2 Credits.**

A focus on practical interfacing of computers to peripheral devices such as digital cameras, scanners, printers, storage devices, robots, actuators, motors, black boxes, and data capture probes. Commercial software components are also explored.

**Typically Offered:** Spring, even years.

#### **TECH 456L. Intelligent Machines Lab. 1 Credit.**

Activities in a lab format that support the TECH 456 course.

**Typically Offered:** Spring, even years.

#### **TECH 478. Technology Assessment. 2 Credits.**

Familiarizes the student with issues surrounding technology assessment in a secondary school including the need for assessment, the role of the citizen, the role of the expert, the role of the government, the strengths and limitations of assessment.

**Typically Offered:** Spring, odd years.



**TECH 478L. Technology Assessment Lab. 1 Credit.**

An opportunity to participate in lab-format activities that support the TECH 478 course.

**Typically Offered:** Spring, odd years.

**TECH 491. Senior Portfolio. 1 Credit.**

A course to assist the student in developing the digital portfolio used to assess the completion of the program outcomes. The course addresses both technical application and content and allows the student to demonstrate program outcome competencies.

**Typically Offered:** Fall, Spring.

**Grading:** S/U only.

**TECH 497. Internship. 3-12 Credits.**

An opportunity for students to apply classroom learning to an on-the-job work experience. Internship must be related to the student's major or minor course of study and may be in any geographic location. Credit is granted in the range of three to twelve hours per semester and may be repeated up to a maximum of 12 credit hours. Application and approval through Career Services.

**Typically Offered:** Fall, Spring, Summer.

**Prerequisites:** Junior Standing or Senior Standing and cum GPA of 2.50 or higher.

**Grading:** S/U only.

**Repeatable:** Up to 12 Credits.

**TECH 499. Special Topics. 1-4 Credits.**

Courses not offered in the regular catalog that provide an opportunity to extend student learning.

**Typically Offered:** On sufficient demand.

**Repeatable:** Up to 12 Credits.