



Technology & Engineering Majors at UWB



Side-by-side comparisons of different majors that have similar courses, qualities, or career options. Majors are not listed in any particular order.

COMPUTER SCIENCE & SOFTWARE ENGINEERING

What is it?

The CSSE degree program offers a multidisciplinary approach that will enable students to develop a wide range of competencies needed for success in the dynamic and varied field of software applications. These include analysis and problem solving techniques; communication and business management skills; in-depth understanding of the software design and development process; and a solid technical foundation to allow students to continue to learn new and complex techniques.

What will I study?

CSS courses offer a broad range of topics from the theory of computer science the application of both leading edge and mature technologies. Students gain essential knowledge in object oriented programming, data structures, analysis of algorithms, software engineering, management principles, hardware architecture and operating systems.

What are the prerequisites?

Calculus I
Calculus II
Computer Programming I
Computer Programming II
Composition
Research Writing

Where can I learn more?

uwb.edu/bscsse

COMPUTER ENGINEERING

What is it?

The Bachelor of Science in Computer Engineering (CE) combines education in hardware and software development, with students gaining the background necessary to become broadly-educated professionals who are knowledgeable in both domains, understanding how the domains interact, restrict, or enable interdependent capabilities.

What will I study?

Core coursework encompasses the physical and mathematical sciences, object-oriented programming, algorithms, data structures, software engineering, technical communications, circuits and systems, microprocessors, embedded systems, and operating systems.

What are the prerequisites?

Calculus I
Calculus II
Calculus III
Computing Programming I
Computer Programming II
Mechanics
Electromagnetism & Oscillating Motion
Composition

Where can I learn more?

uwb.edu/bscompe

APPLIED COMPUTING

What is it?

The Bachelor of Arts in Applied Computing is a multidisciplinary degree that allows students to become experts in integrating computer technology across their minor elective field.

What will I study?

In their CSS coursework, students concentrate on programming, software engineering, management, communications, and hardware and operating systems from an application perspective. These core classes create a solid foundation of knowledge in computer hardware, programming, and software development.

What are the prerequisites?

Calculus I
Computer Programming I
Computer Programming II
Composition
Research Writing

Where can I learn more?

uwb.edu/appliedcomputing



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ELECTRICAL ENGINEERING

What is it?

The Bachelor of Science in Electrical Engineering provides students with a strong foundation for pursuing careers or graduate studies in Electrical Engineering. Students in the program master the fundamentals and applications of electricity, electronics, and electromagnetism.

What will I study?

A multidisciplinary learning environment provides experience in teamwork, design, ethics, entrepreneurship, and civic responsibility, with a focus on understanding the impact of engineering solutions in a global, economic, environmental, and societal context.

What are the prerequisites?

Calculus I
Calculus II
Calculus III
Mechanics
Electromagnetism & Oscillating Motion
General Chemistry I
Composition

Where can I learn more?

uwb.edu/ee

MECHANICAL ENGINEERING

What is it?

As an ABET accredited engineering program, the Bachelor of Science in Mechanical Engineering curriculum emphasizes hands-on experience, collaborative problem solving, and societal implications in the design, production, and implementation of mechanical and thermal fluid systems.

What will I study?

It also complements the existing Bachelor of Science in Electrical Engineering major by providing additional learning and research opportunities in biomedical engineering and in power engineering, where electrical and mechanical technologies interweave.

What are the prerequisites?

Calculus I
Calculus II
Calculus III
Multivariable Calculus
Differential Equations
Mechanics
Electromagnetism & Oscillating Motion
General Chemistry I
Composition
Statics
Mechanics of Materials
Dynamics

Where can I learn more?

uwb.edu/mechanical

MATHEMATICS

What is it?

The Bachelor of Science in Mathematics provides students with a strong applied and theoretical foundation in mathematics that enables them to pursue either industry employment or graduate studies.

What will I study?

Students in the program gain experience using a variety of modeling techniques in combination with technology to solve real-world problems as well as develop a deep understanding of the generalizations and rigor that mathematics has to offer.

What are the prerequisites?

Calculus I
Calculus II
Calculus III

Where can I learn more?

uwb.edu/math



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PHYSICS

What is it?

A major in physics gives students the opportunity to master fundamental laws and model-building techniques, awakens them to the power of the universe, and supports knowledge in mathematics, engineering, and other fields.

What will I study?

Physics students develop high-demand skills, such as numeracy, problem solving, data analysis, and the communication of complex ideas, that are valued in industry and all types of organizations.

What are the prerequisites?

Calculus I
Calculus II
Calculus III
Mechanics
Electromagnetism & Oscillating Motion
Waves

Where can I learn more?

uwb.edu/physics

SCIENCE, TECHNOLOGY & SOCIETY

What is it?

How have the fields of science and technology evolved over time, and what does the future hold? How should societies manage those fields to achieve just and sustainable communities? The Science, Technology & Society (STS) major prepares students to address these important questions through an integrated approach to science, technology, and their relationships to culture, history, and society.

What will I study?

STS students work with faculty members trained in disciplines ranging from biology and mathematics to political economy and philosophy

What are the prerequisites?

Composition
Research Writing
10 credits in each Area Of Knowledge
Quantitative & Symbolic Reasoning course

Where can I learn more?

uwb.edu/science-technology-society