

# COMPUTER ENGINEERING



*Dr. McCullough instructs students on use of the 3D printers in the Makerspace.*

## Degree offered

- B.S. Computer Engineering

## What can I do with this major?

Students with a degree in computer engineering work professionally in many areas including:

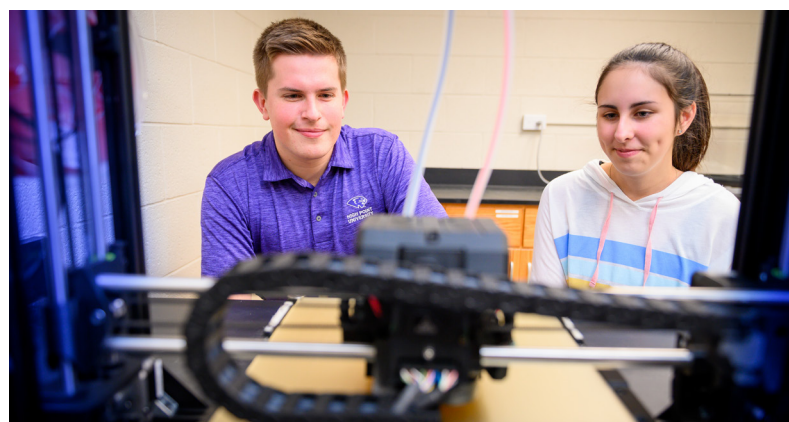
- computer hardware and software design
- embedded systems
- computer networks
- cyberphysical systems
- robotics
- system integration
- electronic design automation

**Mid-career median pay for  
computer engineering majors:  
\$115,120**

*15% faster growth than the average for all occupations  
- U.S. Bureau of Labor Statistics*

## Relevant curriculum

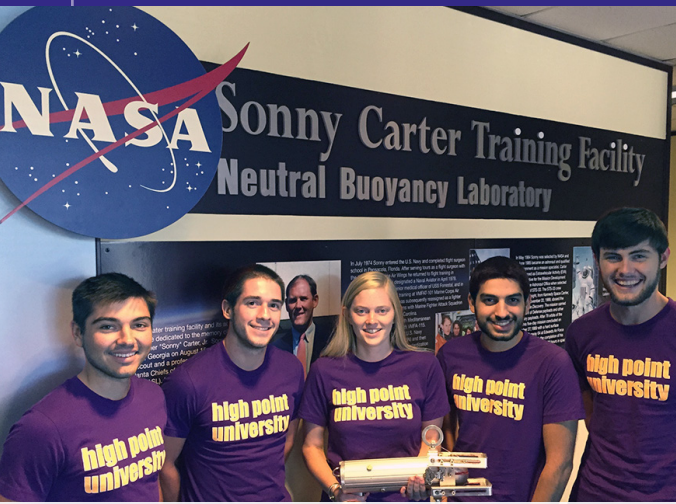
A Bachelor of Science in Computer Engineering is a professional degree program that prepares students for careers in computer engineering. The degree prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer hardware, embedded systems, software systems and related equipment and facilities; and the analysis of specific problems of computer applications to various tasks. A computer engineering graduate is able to design and implement a computer system for general purpose or embedded computing. Students learn to incorporate best practices and state-of-the-art solutions into a variety of computing problems in an ethical and socially-responsible manner. This includes systems which have both hardware and software components, whose design requires a well-defined interface between the two, and the evaluation of the associated trade-offs. Graduates will have strong communication skills and are capable of communicating with a range of audiences, as well the ability to work as a productive member of an interdisciplinary team.



## Why study at the Webb School of Engineering?

- World-class facilities and modern, state-of-the-art equipment specifically for use by undergraduate students.
- Emphasis on the student- each student has a success coach to help them succeed.
- Balance between theory and practical aspects across the entire curriculum. Students have the opportunity to put what they learn into practice through practical applications. This is supported by an excellent makerspace with the tools for students to be creative and explore.
- Broad range of technical courses prepare the students well for a career in Electrical Engineering or Computer Engineering.
- Experience working in interdisciplinary teams is provided in several projects throughout the program.
- Emphasis on educating the entire person- in addition to engineering classes, students will learn to write well, to speak well, to work in teams, and to understand engineering ethics and aspects of entrepreneurship.

# COMPUTER ENGINEERING



HPU students at the NASA Johnson Space Center in Houston, Texas with their handheld apparatus, the "Chip n Ship," that NASA tested

## Student outcomes

Skills students will possess at the time of graduation include:

- An ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data and use engineering judgment to draw conclusions.

## Unique course offerings

- Advanced Programming with Data Structures
- CAD/CAM Fundamentals
- Circuits
- Computer Architecture
- Digital Logic and Computer Systems
- Discrete Structures
- Electronics
- Microprocessor Applications
- Operating Systems
- Programming in MATLAB
- Real-time and Embedded Systems
- Signals and Systems

## Why study computer engineering?

- Computer engineers are involved in exciting industries in which hardware/software interaction is critical, such as robotics and autonomous vehicles.
- By incorporating strong elements of both hardware and software, computer engineers have the flexibility to work in many areas-- whether you want to program computers or build them, computer engineering will prepare you for the future.
- Computer engineers work for top companies such as Google, Microsoft, Apple, Qualcomm, Boeing, National Instruments, Intel, and Amazon.
- At High Point, students have access to state of the art equipment from top manufacturers, both in hardware courses such as electronics and in software courses, in which we have both excellent computer hardware and software.

