DEPARTMENT OF

COMPUTER SCIENCE & ELECTRICAL ENGINEERING

Why Should I Go Into Computing and Technology?

Computers and technology play a major role in nearly every industry today. Because of that, even early in your career, you can have a large impact on people's daily lives and can make the world a better place in very real ways.

There is a great demand for people with these skills. Our students find great paid internships and when graduated, they are offered well-paying jobs at all kinds of companies, large and small. These jobs often offer flexible work environments with lots of perks.

There is a misconception that computing and technology are only for geeks who sit at a keyboard all day and don't interact with others. The truth is that these careers involve lots of creativity and working with others to solve challenging but impactful problems.

Will I Be a Good Fit?

The short answer is: Yes!!

The longer answer is: Because there are so many opportunities, it's not a matter of whether you are a good fit for one certain career path, but how you find the right path in this area. To help with this, we have designed our majors to give you experiences in many areas upfront. This will have you gain actionable skills in those areas and discover which ones resonate with your specific interests and abilities.

David Miller

DEPARTMENT CHAIR
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Welcome to the Computer Science and Electrical Engineering Department! My name is David Miller, and I currently serve as the department chair. Our department offers courses and majors in areas that are a lot of fun and in huge demand right now. We have over 2500 students and our programs encompass a wide range of fields and career options from artificial intelligence to large scale software development or robotics and power systems.

Which Major Should I Pick and How Are They Different?

The short answer:
They have a lot of similarities that overlap and start with many of the same courses, so don't worry too much--pick one and get started. Then, when you learn more of the nuances of these areas you can switch around a little if needed.

The longer answer:

- Software Engineering: Focuses on programming and how software is written in the real world, including designing large systems, gathering requirements, working with teams, and current technologies.
- Computer Science: Like software engineering, but with a little less focus on the process of software development and a little more focus on the computing fundamentals behind it, including emerging areas like machine learning.
- Electrical Engineering: Focuses on the hardware and the physical components like circuits and robotics, and the electrical systems behind how these work.
- Computer Engineering: A hybrid of Electrical Engineering and Computer Science but instead of going as deep into either side, you learn a lot about both the hardware and software.

Another thing to note, Electrical Engineering requires the most math, Computer Science and Computer Engineering are in the middle, and Software Engineering requires the least.

What Majors Are There?

In our department, we have these bachelor's degree majors:

- Software Engineering
- Computer Science
- Electrical Engineering
- Computer Engineering
- Cloud Computing
- Cybersecurity
- Web Design and Development
- Computer Information Technology

As a part of these majors, you will also customize your experience by choosing a specialty and/or other electives to match your interest and passion.

Why Come to BYU-Idaho For These Programs?

We are a completely undergraduate, teaching-focused institution. You aren't in the way of other things the faculty are focused on. Instead, you are who they are focused on!

Speaking of the faculty, we place a large emphasis on helping you prepare for the industry, so when we hire people, we make sure they have great industry experience. They'll be able to guide you through the principles you're learning and how they'll be used in your career.

In addition, our students develop a great sense of community with each other. Our university learning model focuses on the power of teaching one another, and you'll see that not only in every class, but also in societies, creative works conferences, and hack-a-thons.

What Courses Should I Take My First Semester?

Our I-Plan software will help you start a graduation plan with recommended courses, but here are a few great ones to consider for your first semester:

COMPUTER SCIENCE AND SOFTWARE ENGINEERING

- CSE 100 - Introduction to Computing
- CSE 110 - Introduction to Programming
- ECEN 106 - Introduction to Computer Systems
- CSE 170 - Technical Teamwork
- WDD 130 - Web Fundamentals

COMPUTER ENGINEERING AND ELECTRICAL ENGINEERING

- ECEN 101 - Introduction to Electrical Engineering
- CSE 110 - Introduction to Programming
- ECEN 106 - Introduction to Computer Systems
- Math 112x - Calculus I

If you're going into Computer or Electrical Engineering, many of your courses depend on Calculus, so it's important to get started on it as soon as you can.

What Should I Do Now to Prepare?

If you have a chance to take a programming or electronics course, that's great. But if not, don't sweat it. Just keep working on your problem-solving skills and study habits and you'll be in great shape.

Once you get here, your teachers or assigned faculty mentor will be happy to answer any other questions that come up.

We look forward to seeing you soon!

Brother Miller

Do I Need a Masters or Ph.D. For These Opportunities?

We help you get prepared for a great job right out of your bachelor's program. Then, if you choose to pursue a graduate degree afterward to open additional doors, we want you to be prepared for that, too. But in any case, you'll be ready for great opportunities right after you graduate.

What Societies Are There?

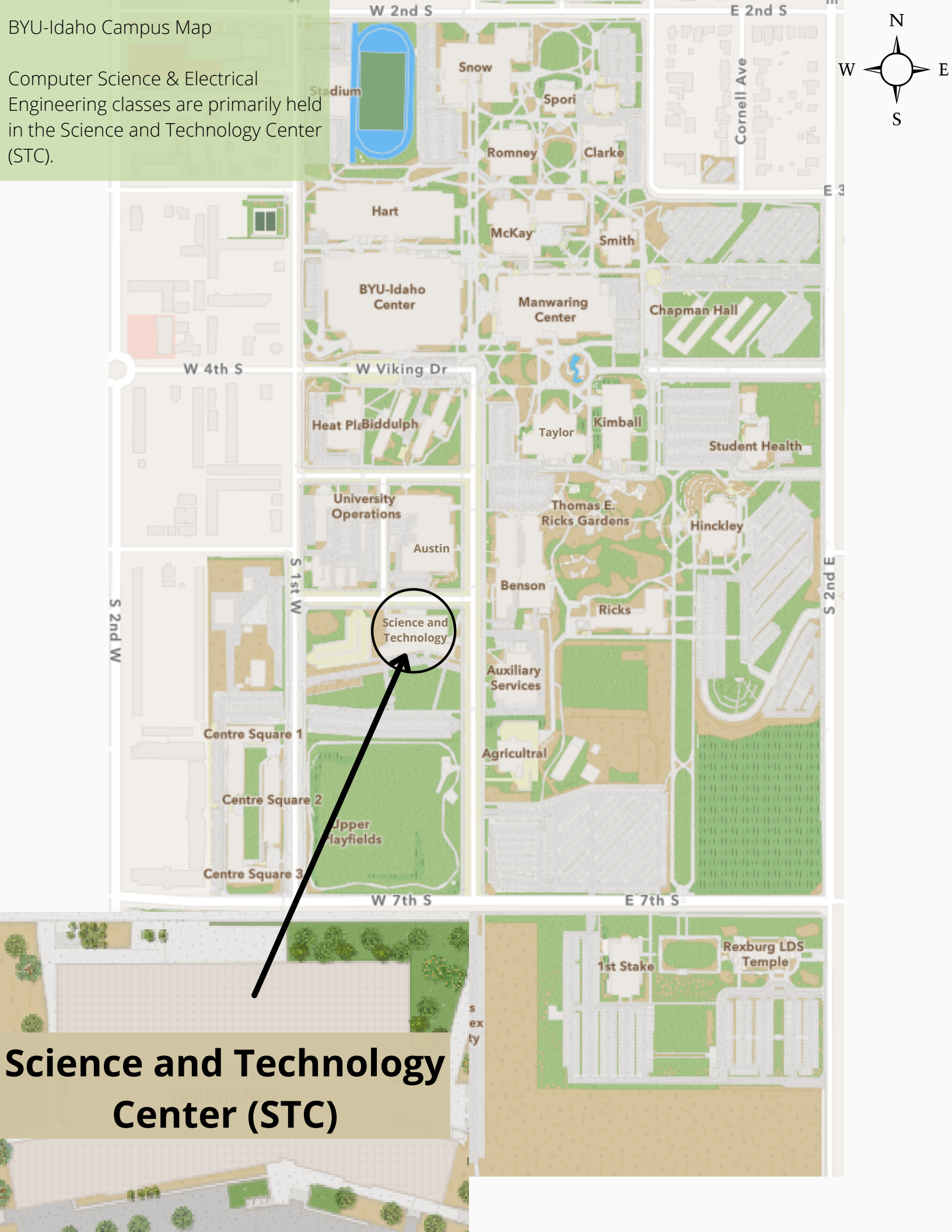
In our department and neighboring ones, we have the following societies:

- Society of Women Engineers (SWE)
- IEEE - A local chapter of the international organization for electrical engineers
- ACM - A local chapter of the international organization for computer scientists
- Society of Artificial Intelligence
- Ham Radio society
- Data Science society
- Cybersecurity society
- And more!

BYU IDAHO

BYU-Idaho Campus Map

Computer Science & Electrical Engineering classes are primarily held in the Science and Technology Center (STC).



Science and Technology Center (STC)