

DEPARTMENT OF

# COMPUTER INFORMATION TECHNOLOGY



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DEPARTMENT CHAIR

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Welcome to Computer Information Technology! My name is David Miller. I am the CIT Department Chair.

In a world driven more and more by information and access to information, the role of Information Technology professionals is increasingly important. Our world needs people who are curious, eager to learn, and willing to persistently push on the frontiers of what is possible and how to make our society function more efficiently.

We hope to assist you as you become a disciple of the Savior that will anxiously engage in being an active and contributing member in the world while not becoming “of the world.”

Included in this letter:

- What does the future look like for a Computer Information Technology Major?
- What is the difference between Computer Information Technology (CIT), Web Design and Development (WDD), Software Engineering, Computer Engineering, Computer Science, Business Analytics, and Data Science?
- Related career titles for CIT and WDD majors.
- How can I enhance my experience beyond the coursework?
- Where and how do I start?

# What does the future look like for a Computer Information Technology major?

The United States Bureau of Labor Statistics reports that employment in computer and information technology occupations is projected to grow 13 percent from 2020 to 2030, much faster than the average for all occupations. These occupations are projected to add about 667,600 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security. The median annual wage for computer and information technology occupations was \$97,430 in May 2021, which was higher than the median annual wage for all occupations of \$45,760.

See <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>.

## Where and how do I start?

The following are recommended courses for the first semester if you think you want to pursue a Computer Information Technology degree:

### 1ST SEMESTER

- CSE 110 Programming Building Blocks
- CIT 171 Introduction to Cyber Security

The following are recommended courses for the first semester if you think you want to pursue a Web Design and Development degree:

### 1ST SEMESTER

- CSE 110 Programming Building Blocks
- WDD 130 Web Fundamentals

## Related Career Titles for CIT Majors

- Computer Support Specialist or Manager
- Network Administrator, Engineer or Architect
- Systems Administrator, Analyst or Engineer
- Database Administrator, Engineer or Architect
- Information Security Specialist or Analyst
- Cybersecurity Specialist, Analyst, or Engineer
- Software Quality Assurance Tester or Specialist
- Software Programmer, Developer or Engineer
- Cloud Services Developer, Administrator, Engineer
- Consultant or Architect
- DevOps Engineer, Specialist or Manager
- IT Project Manager
- IT Consultant
- Chief Information Officer (CIO)
- Chief Technology Officer (CTO)

## Related Career Titles for WDD Majors

- Web Developer, Administrator or Engineer
- Front-end/Back-end Developer
- Full Stack Developer
- Mobile Applications Developer
- Web Designer
- Graphic Designer
- User Interface Designer, Analyst or Engineer
- User Experience Designer, Analyst or Engineer
- SEO Specialist or Analyst

# What is the difference between Computer Information Technology, Web Design and Development, Software Engineering, Computer Engineering, Computer Science, Business Analytics, and Data Science?

## COMPUTER INFORMATION TECHNOLOGY

(54-55\* credit major) focuses on getting the technology to work so that others don't have to think about it. For example, when someone opens up a browser window on your phone, tablet, or other computing device, they don't want to have to think about the software, operating systems, wireless networking, switches, routers, servers, and other technology it takes to make their experience work. It takes multiple teams of qualified professionals to plan, create, configure, secure, and maintain those systems. The CIT major is designed to prepare you for this type of role.

## WEB DESIGN AND DEVELOPMENT

(50\* credit major) is an Interdisciplinary program provided by the CIT, Art, and Communication departments which focuses more specifically on the technologies required to design and create the pages, sites, applications, interactions, and experiences that make up today's World Wide Web.

## DATA SCIENCE

(54-58\* credit major) is an Interdisciplinary program provided by the Mathematics, Computer Science, and CIT departments which prepares individuals with the quantitative and communication skills to program, visualize, and interpret data to derive insight in a variety of scientific, research, and analytical fields.

## SOFTWARE ENGINEERING

(53-59\* credit major) specializes in the patterns of thought, creativity, teamwork, and problem solving needed to create programmatic solutions using a variety of modern computing platforms such as mobile devices, desktop, and server environments.

## COMPUTER ENGINEERING

(65-73\* credit major) specializes in the analysis and design of electrical and computing hardware and software to interface with and control that technology such as embedded systems.

## COMPUTER SCIENCE

(55-59\* credit major) provides the most in depth preparation for a variety of advanced computing careers and graduate school opportunities such as algorithm analysis and development or ground-breaking research.

## BUSINESS ANALYTICS

(53\* credit major) is an Interdisciplinary program provided by the Business, Economics, and CIT departments which takes a quantitative analysis approach to business and economic related issues and opportunities. From analyzing the stock market, to identifying the latest viewing trends online, to making decisions on which tool helps drive innovation, analytics is the study of data through statistical analysis and techniques that help drive informative decision making.

\*Number of credits indicates courses specific to major for a bachelor's degree. Students need to complete 120 credits to receive a bachelor's degree.

# How can I enhance my experience beyond the coursework?

The CIT department currently sponsors three student associations that can help expand your possibilities to engage with a variety of projects and opportunities with your peers. These include the following:

- Cloud Solutions Society (is a work in progress)
- Cyber Security Association (<https://byuicsa.org>)
- Web Design and Development Society ([WDD Society on I-Belong](#))

You'll probably find that once you let people know your major and your interests, opportunities for computer-related projects, internships, and ideas will start to come to you. Don't overstate your abilities, but don't shy away from the opportunity to learn. Let people know you are willing to try and learn as long as they will be patient with you. Then invite your peers and other classmates to take on the challenge. You'll be amazed at what you can tackle, learn, and solve when you learn to work together!

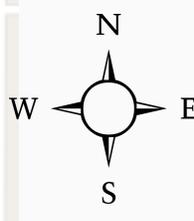
These are the kinds of experiences that make a difference when looking for that first full-time job or trying to advance your career. See <http://www.byui.edu/academic-societies/join-a-society> for more information.

If you have any questions, please feel free to contact me at the email address listed on the first page. You can also visit our website at: <https://www.byui.edu/computer-information-technology>

David Miller

# BYU-Idaho Campus Map

Computer Information Technology courses are primarily held in the Science and Technology Center (STC).



## Science and Technology Center (STC)

