

Kansas State Polytechnic: College of Technology and Aviation

Computer Systems Technology

Overview

Computers have made more of an impact on our society than any other invention of the past century. Beyond smartphones, computer systems continue to find more and more uses in homes, businesses and industry through the development of smart devices that are connected through the Internet. Be the person who tackles and solves 21st century problems by interconnecting these devices and developing the software that controls them. Kansas State Polytechnic's computer systems technology and Web development technology programs teach you how.

Professional options

Careers

Computer systems technologists are found in organizations of every size and industrial classification. Software developers are employed by companies of all sizes to support the manufacturing, engineering, research and development of new systems. Kansas State Polytechnic has graduates doing this at large corporations, such as Cerner Corporation and Garmin International Inc., as well as many smaller firms. The Bureau of Labor Statistics (www.bls.gov) lists software and applications developer in the top 20 occupations for future growth of new jobs.

A Web developer is responsible for creating, installing and managing a firm's web presence. Some graduates are employed by the company directly, others work for web development firms that specialize in creating web sites. The Bureau of Labor Statistics project web development employment to grow 27% by 2024 to support ecommerce and the popularity of mobile devices.

Points of pride

Kansas State Polytechnic's computer systems technology program has a very high graduate placement rate. Students in the program learn by completing realistic projects that connect the various topics and technologies in a meaningful, relevant way.

Network and system administrators are responsible for the installation and maintenance of the organization's LAN as well as the software applications distributed on the network and to mobile devices. Many work for small businesses and manufacturers as the firm's sole computer resource. All these occupations can lead to management positions which, according to the Bureau of Labor Statistics, are in the top 20 occupations with the highest median annual pay.

Academics

Degree options

Computer systems technology

The bachelor's degree option in computer systems technology builds a foundation of computer science principles and yet allows the student to apply those concepts to a variety of current and emerging technologies. Graduates will be able to design, develop and administrate a commercial-quality software system that includes database interaction, cyber security and a multi-user interface. All bachelor's degree candidates must either successfully complete the associate degree in Web development technology or transfer equivalent courses from another college or university. In their junior and senior years, students expand their experience to technologies beyond the web such as mobile devices, robots, network programming, Windows desktop programming and Web analytics.

Web development technology

The Web development technology program option leads to an associate degree. Graduates will be able to set up a web server, create a web-site on the server that supports modern ecommerce and act as both developer and administrator of the site. Course work centers on the core areas of web development, computer programming, database systems and network administration. Students learn project management techniques as they use modern programming languages and other software tools to develop Web-based applications. Students in this program can continue with the bachelor's degree option in computer systems technology or digital media technology.

Preparation

The computer systems technology program is designed for students interested in the

practical application of computer hardware and software. The ability to think through a problem in a logical, step-by-step manner is very important in this field, as is a genuine interest in hands-on laboratory activities. High school studies should concentrate on mathematics, computer applications, physical sciences with related laboratory activities and written and oral communications.

Facilities

Laboratory facilities used in the computer systems technology program provide a hands-on learning environment with state-of-the-art equipment and software. Facilities include well-equipped computer laboratories containing software with which to develop programs, database systems, website content and other applications. The computer networking laboratory is devoted to realistic, hands-on experience in installing, configuring and programming networking hardware and software.

Required coursework

Computer Systems Technology, bachelor's degree option

(120 credit hours)

Major requirements (60 credit hours)

3	CMST 103	Computing Principles
3	CMST 135	Web Fundamentals
3	CMST 137	Fundamentals of Visual Literacy
3	CMST 180	Introduction to Database Systems
1	CMST 183	Computer Systems Studio I
1	CMST 185	Computer Systems Studio II
3	CMST 247	Programming I
3	CMST 250	Hardware and Network Fundamentals
3	CMST 252	Systems and Software Fundamentals
1	CMST 283	Computer Systems Studio III
3	CMST 315	Introduction to System Administration
3	CMST 332	Web Development Project
0	CMST 333	Computer Systems Portfolio Defense
3	CMST 335	Programming II
3-6	CMST 383	Programming & Data Structures Studio*
3-6	CMST 385	Systems and Database Administration Studio*
3	CMST 460	Software Engineering
3-6	CMST 483	Emerging Technologies Studio*
6	CMST 485	Computer Systems Senior Capstone Project

Other courses may be used if approved by the BETB-CP program coordinator

Math requirements (9 credit hours)

Choose from these courses:

- 3 MATH 100 College Algebra
- 3 MATH 150 Plane Trigonometry
- 3 MATH 205 General Calculus and Linear Algebra
- 4 MATH 220 Analytic Geometry and Calculus I
- 4 MATH 221 Analytic Geometry and Calculus II
- 4 MATH 222 Analytic Geometry and Calculus III

Other math courses may be used if approved by the BETB-CP program coordinator.

Other requirements (51 credit hours)

- 3 COMM 106 Public Speaking I
- 1 EDCEP 111 University Experience
- 3 ENGL 100 Expository Writing I
- 3 ENGL 200 Expository Writing II
- 3 ENGL 302 Technical Writing
- 3 PHILO 105 Introduction to Critical Thinking
- 3 PHILO 390 Business Ethics
- 3 STAT 325 Introduction to Statistics
- 3 Business elective
- 3 Business elective
- 3 Humanities/social science elective
- 3 Humanities/social science elective
- 3 Humanities/social science/business elective**
- 4 Science elective
- 4 Science elective
- 3 Unrestricted elective
- 3 Unrestricted elective

* Students may substitute up to 9 credits of studio with appropriate courses as approved by the BETB-CP program coordinator.

** Marked electives must be upper-level courses, 300 and above.

Web development technology, associate degree option

(62 credit hours)

Major requirements (33 credit hours)

- 3 CMST 103 Computing Principles
- 3 CMST 135 Web Fundamentals
- 3 CMST 137 Fundamentals of Visual Literacy
- 3 CMST 180 Introduction to Database Systems
- 1 CMST 183 Computer Systems Studio I
- 1 CMST 185 Computer Systems Studio II
- 3 CMST 247 Programming I
- 3 CMST 250 Hardware and Network Fundamentals
- 3 CMST 252 Systems and Software Fundamentals
- 1 CMST 283 Computer Systems Studio III
- 3 CMST 315 Introduction to System Administration
- 3 CMST 332 Web Development Project
- 0 CMST 333 Computer Systems Portfolio Defense
- 3 CMST 335 Programming II

Other courses may be used if approved by the AETA-WD program coordinator.

Other requirements (29 credit hours)

- 3 COMM 106 Public Speaking I
- 1 EDCEP 111 University Experience
- 3 ENGL 100 Expository Writing I
- 3 ENGL 302 Technical Writing
- 3 Humanities/social science/business elective
- 3 Humanities/social science/business elective
- 3 Humanities/social science/business elective
- 3 Mathematics requirement*
- 4 Science elective
- 3 Unrestricted elective

* Choose from MATH 100, MATH 150, MATH 205 or MATH 220.

For more information about the computer systems technology program, contact:

Kansas State Polytechnic
Office of Admissions
2310 Centennial Road
Salina, KS 67401-8196
785-826-2640
polytechnic@k-state.edu

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KANSAS STATE UNIVERSITY

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Post-Graduation Statistics
k-state.edu/postgrad-stats
ksdegreestats.org