

COMPUTER ENGINEERING TECHNOLOGY - B.S.

College of Aeronautics and Engineering
www.kent.edu/cae

Examples of Possible Careers*

Calibration technologists and technicians and engineering technologists and technicians, except drafters, all other

- 2.1% slower than the average
- 91,600 number of jobs
- \$64,190 potential earnings

Electrical and electronic engineering technologists and technicians

- 1.5% slower than the average
- 125,800 number of jobs
- \$67,550 potential earnings

Software developers and software quality assurance analysts and testers

- 21.5% much faster than the average
- 1,469,200 number of jobs
- \$110,140 potential earnings

Contact Information

- cae@kent.edu | 330-672-2892
- Speak with an Advisor
- Chat with an Admissions Counselor

Fully Offered

- Kent Campus

*Note

Source of occupation titles and labor data is from the U.S. Bureau of Labor Statistics'

Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

Description

The Bachelor of Science degree in Computer Engineering Technology provides students with the opportunity to study computer systems and software-hardware interface so that they are capable of analyzing the problems in the computer and networking industry and producing computer engineering, networking and software solutions. The major's curriculum includes materials necessary for students to be eligible for industry certifications (e.g., Cisco, Microsoft, CompTIA) for career advancement.

Computer engineering technologists focus on hardware or software issues. When companies need custom applications and network systems

designed, they call the computer engineering technologist. In this age of heavy computer usage, with companies using computers for a large variety of functions, the computer engineering technologist is invaluable in keeping equipment running, updating software, maintaining connectivity and interfacing with users.

Computer engineering technologists typically work for large companies, installing, testing, operating and maintaining the computer network ins. They may also find employment with companies that sell computers, at computer repair stores or at independent emergency repair facilities. Other common work locations include computer and peripheral manufacturing facilities, computer distribution facilities, computer research facilities and educational institutions.

Accreditation

The B.S. degree in Computer Engineering Technology is accredited by the Association of Technology, Management and Applied Engineering (ATMAE).

Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students who graduated from high school three or more years ago.

Freshman Students on the Kent Campus: The freshman admission policy on the Kent Campus is selective. Admission decisions are based upon the following: cumulative grade point average, ACT and/or SAT scores, strength of high school college preparatory curriculum and grade trends. The Admissions Office at the Kent Campus may defer the admission of students who do not meet admissions criteria but who demonstrate areas of promise for successful college study. Deferred applicants may begin their college coursework at one of seven regional campuses of Kent State University. For more information on admissions, including additional requirements for some academic programs, visit the admissions website for first-year students.

Freshman Students on the Regional Campuses: Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, have open enrollment admission for students who hold a high school diploma, GED or equivalent.

English Language Proficiency Requirements for International Students: All international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning a minimum 525 TOEFL score (71 on the Internet-based version), minimum 75 MELAB score, minimum 6.0 IELTS score, minimum 48 PTE score or minimum 100 DET score; or by completing the ESL level 112 Intensive Program. For more information on international admission, visit the Office of Global Education's admission website.

Transfer, Transitioning and Former Students: For more information about admission criteria for transfer, transitioning and former students, please visit the admissions website.

Program Learning Outcomes

Graduates of this program will be able to:

1. A general understanding, and a depth of knowledge in core computer engineering concepts, principles and applications.

- An understanding of recent, current, and upcoming trends and related applications in computer engineering.
- An acknowledgement of necessary design steps involved in making complex computer systems; and a practical understanding of the skills necessary to analyze existing systems.
- A practical knowledge of tools and techniques to design innovative solutions from requirements specifications.
- An understanding of the ethical issues involved with the use of computer engineering related technologies; and a clear desire to strive for the best practices.

University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

NOTE: University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Destination Kent State: First Year Experience	1
Course is not required for students with 25 transfer credits, excluding College Credit Plus, or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 (or 42)
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate. Students in a B.A. and/or B.S. degree in the College of Arts and Sciences must complete 42 upper-division credit hours.	
Total Credit Hour Requirement	120
Some bachelor's degrees require students to complete more than 120 credit hours.	

Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
Total Credit Hours:	36-37

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
ENGR 21020	SURVEY OF ELECTRICITY AND ELECTRONICS	3
ENGR 21022	SURVEY OF ELECTRICITY AND ELECTRONICS LABORATORY	1
ENGR 23010	COMPUTER HARDWARE	3

ENGR 26010	INTRODUCTION TO COMPUTER ENGINEERING TECHNOLOGY	3
ENGR 26200	PROGRAMMING FOR ENGINEERS I	3
ENGR 26301	NETWORKING HARDWARE I	4
ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC)	3
ENGR 33222	DIGITAL DESIGN FOR COMPUTER ENGINEERING	3
ENGR 33223	ELECTRONIC COMMUNICATION	3
ENGR 33320	APPLIED EMBEDDED SYSTEMS I	3
ENGR 36302	NETWORKING HARDWARE II	3
ENGR 36337	INFORMATION TECHNOLOGY SECURITY	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
ENGR 46099	COMPUTER ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
ENGR 46300	NETWORK SECURITY	3
ENGR 46312	WIRELESS NETWORK AND TELECOMMUNICATION SYSTEMS	3
ENGR 46316	SERVER ADMINISTRATION AND CONFIGURATION I	3
ENGR 46317	SERVER ADMINISTRATION AND CONFIGURATION II	2
ENGR 46318	SERVER ADMINISTRATION AND CONFIG II - LABORATORY	1
ENGR 46350	NETWORK MANAGEMENT AND DESIGN TECHNOLOGY	3
ENGR 47200	SYSTEMS ENGINEERING	3
Engineering (ENGR) Upper-Division Electives (30000 or 40000 level)		9
Additional Requirements (courses do not count in major GPA)		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
ENG 20002	INTRODUCTION TO TECHNICAL WRITING	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
MATH 11022	TRIGONOMETRY (KMCR)	3
MGMT 24056	BUSINESS ANALYTICS I	3
MGMT 24163	PRINCIPLES OF MANAGEMENT	3
PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1

Kent Core Composition	6
Kent Core Humanities and Fine Arts (minimum one course from each)	9
Kent Core Social Sciences (must be from two disciplines)	6
General Electives (total credit hours depends on earning 120 credit hours, including 39 upper-division credit hours)	2
Minimum Total Credit Hours:	120

¹ A minimum C grade must be earned to fulfill the writing-intensive requirement.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.250	2.000

Roadmap

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

Semester One		Credits
ENGR 26010	INTRODUCTION TO COMPUTER ENGINEERING TECHNOLOGY	3
MATH 11022	TRIGONOMETRY (KMCR)	3
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Kent Core Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		16
Semester Two		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
Kent Core Requirement		3
Credit Hours		14
Semester Three		
ENG 20002	INTRODUCTION TO TECHNICAL WRITING	3
ENGR 23010	COMPUTER HARDWARE	3
ENGR 26200	PROGRAMMING FOR ENGINEERS I	3
PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
Credit Hours		14
Semester Four		
ENGR 21020	SURVEY OF ELECTRICITY AND ELECTRONICS	3
ENGR 21022	SURVEY OF ELECTRICITY AND ELECTRONICS LABORATORY	1
ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC)	3
MGMT 24163	PRINCIPLES OF MANAGEMENT	3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		16
Semester Five		
ENGR 26301	NETWORKING HARDWARE I	4
ENGR 33222	DIGITAL DESIGN FOR COMPUTER ENGINEERING	3
ENGR 33223	ELECTRONIC COMMUNICATION	3
ENGR 36337	INFORMATION TECHNOLOGY SECURITY	3
ENGR 47200	SYSTEMS ENGINEERING	3
Credit Hours		16
Semester Six		
ENGR 33320	APPLIED EMBEDDED SYSTEMS I	3
ENGR 36302	NETWORKING HARDWARE II	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
ENGR 46300	NETWORK SECURITY	3
Engineering (ENGR) Upper-Division Elective (30000 or 40000 level)		3
Credit Hours		15

Semester Seven		
MGMT 24056	BUSINESS ANALYTICS I	3
ENGR 46316	SERVER ADMINISTRATION AND CONFIGURATION I	3
ENGR 46350	NETWORK MANAGEMENT AND DESIGN TECHNOLOGY	3
Engineering (ENGR) Upper-Division Elective (30000 or 40000 level)		3
Engineering (ENGR) Upper-Division Elective (30000 or 40000 level)		3
Credit Hours		15
Semester Eight		
ENGR 46099	COMPUTER ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
ENGR 46312	WIRELESS NETWORK AND TELECOMMUNICATION SYSTEMS	3
ENGR 46317	SERVER ADMINISTRATION AND CONFIGURATION II	2
ENGR 46318	SERVER ADMINISTRATION AND CONFIG II - LABORATORY	1
General Elective		2
Kent Core Requirement		3
Credit Hours		14
Minimum Total Credit Hours:		120