INFORMATION TECHNOLOGY - B.S.I.T.

College of Applied and Technical Studies
www.kent.edu/cats

About This Program

Join the fast-growing field of IT with Kent State's B.S.I.T. program. This program equips you with the skills needed to succeed in a range of IT roles, from software engineering to data analytics. With hands-on experience and expert faculty, you'll be well-prepared for a successful career. Read more...

Contact Information

- Lead Faculty: **Shelley Marshall** | skmarsha@kent.edu
- Speak with an Advisor
    - Ashtabula Campus
    - East Liverpool Campus
    - Geauga Campus
    - Salem Campus
    - Stark Campus
    - Trumbull Campus
    - Tuscarawas Campus
    - Twinsburg Academic Center
    - Online (any campus above)
- Chat with an Admissions Counselor

Program Delivery

- **Delivery:**
    - Fully online
    - Mostly online
- **Location:**
    - Ashtabula Campus
    - East Liverpool Campus
    - Geauga Campus
    - Salem Campus
    - Stark Campus
    - Trumbull Campus
    - Tuscarawas Campus
    - Twinsburg Academic Center

Examples of Possible Careers and Salaries*

Computer network support specialists

- 6.4% faster than the average
- 195,100 number of jobs
- $65,450 potential earnings

Computer user support specialists

- 8.0% much faster than the average
- 687,200 number of jobs
- $52,690 potential earnings

Computer and information systems managers

- 10.4% much faster than the average
- 461,000 number of jobs
- $151,150 potential earnings

Information security analysts

- 31.2% much faster than the average
- 131,000 number of jobs
- $103,590 potential earnings

Database administrators and architects

- 9.7% much faster than the average
- 132,500 number of jobs
- $98,860 potential earnings

Computer programmers

- -9.4% decline
- 213,900 number of jobs
- $89,190 potential earnings

Computer network support specialists

- 6.4% faster than the average
- 195,100 number of jobs
- $65,450 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

Additional Careers

- Computer network systems administrators

* Source of occupation titles and labor data comes 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.

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.

First-Year Students on the Kent Campus: First-year admission policy on the Kent Campus is selective. Admission decisions are based upon cumulative grade point average, strength of high school college preparatory curriculum and grade trends. Students not admissible to the Kent Campus may be administratively referred to one of the

seven regional campuses to begin their college coursework. For more information, visit the admissions website for first-year students.

First-Year Students on the Regional Campuses: First-year admission to Kent State's campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, is open to anyone with a high school diploma or its equivalent. For more information on admissions, contact the Regional Campuses admissions offices.

International Students: All international students must provide proof of English language proficiency unless they meet specific exceptions. For more information, visit the admissions website for international students.

Transfer Students: Students who have attended any other educational institution after graduating from high school must apply as undergraduate transfer students. For more information, visit the admissions website for transfer students.

Former Students: Former Kent State students or graduates who have not attended another college or university since Kent State may complete the reenrollment or reinstatement form on the University Registrar's website.

Admission policies for undergraduate students may be found in the University Catalog.

Some programs may require that students meet certain requirements before progressing through the program. For programs with progression requirements, the information is shown on the Coursework tab.

Program Requirements
Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
IT 11002	VISUAL BASIC PROGRAMMING	3
or IT 13000	APPLIED SECURITY ESSENTIALS	
IT 11004	SURVEY OF INFORMATION TECHNOLOGY	3
IT 11005	INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY	3
IT 11006	INTRODUCTION TO WEB SITE TECHNOLOGY	3
IT 11009	COMPUTER ASSEMBLY AND CONFIGURATION	4
IT 12000	INTERMEDIATE OFFICE PRODUCTIVITY APPS	3
IT 21002	NETWORK SETUP AND CONFIGURATION	4
IT 21007	CYBER ETHICS IN INFORMATION TECHNOLOGY	3
IT 21009	SEMINAR IN INFORMATION TECHNOLOGY	3
IT 21010	WORKGROUP PRODUCTIVITY SOFTWARE	3
IT 36308	ERGONOMICS IN COMPUTER SYSTEMS	3
IT 36314	SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES	3
IT 36318	SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC) [1]	3
IT 36339	CLOUD AND VIRTUALIZATION TECHNOLOGIES IN INFORMATION TECHNOLOGY	3
IT 36340	HELP DESK SUPPORT	3
IT 42000	SOCIAL MEDIA SECURITY	3
TAS 37900	TECHNICAL AND APPLIED STUDIES CORNERSTONE	3
TAS 47999	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR) (WIC) [1]	3
Additional Program Requirements (courses do not count in major GPA)		
UC 10001	FLASHES 101	1
Kent Core Composition		6
Kent Core Mathematics and Critical Reasoning		3
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (must be from two disciplines)		6
Kent Core Basic Sciences (must include one laboratory)		6-7
Kent Core Additional		6
General Electives (total credit hours depends on earning 120 credits hour, including 39 upper-division credit hours)		9
Concentrations		
Choose from the following:		18-19
Application Development		
Cloud and Virtualization Technologies		
Cybersecurity and Forensics		
Database Design and Administration		
Health Information Technology		
Integrated Information Technology		
Internet/Multimedia		
Networking		
Minimum Total Credit Hours:		**120**

[1] Minimum C grade required to satisfy the writing-intensive requirement.

Application Development Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 36301	ADVANCED C++ PROGRAMMING	4
or IT 36311	ADVANCED JAVA PROGRAMMING	
IT 36302	ADVANCED C# PROGRAMMING	3
IT 36309	PROGRAMMING MOBILE APPLICATIONS	3
IT 36350	PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS	3
or IT 46309	ASP.NET WEB PROGRAMMING	
IT 46308	ADVANCED VISUAL BASIC PROGRAMMING	3
IT 46340	DATA DESIGN AND IMPLEMENTATION	3
Minimum Total Credit Hours:		**19**

Cloud and Virtualization Technologies Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	3
IT 36355	COMMAND LINE UTILITIES	3
IT 41002	CLOUD TECHNOLOGY	3
IT 46311	TECHNOLOGY OF NETWORKING	3
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	3
IT 46331	LOCAL AREA NETWORK SECURITY AND FIREWALLS	3
Minimum Total Credit Hours:		**18**

Cybersecurity and Forensics Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 21200	ETHICAL HACKING	3
or IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	
IT 36320	COMPUTER FORENSICS	3
IT 36321	NETWORK FORENSICS	3
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	3
IT 46331	LOCAL AREA NETWORK SECURITY AND FIREWALLS	3
Concentration Elective, choose from the following:		3
IT 32002	LINUX NETWORKING	
IT 36322	SOCIAL MEDIA AND MOBILE DEVICE FORENSICS	
IT 40000	CYBERSECURITY	
IT 42002	WIRELESS AND MOBILE DEVICE SECURITY	
IT 46300	ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION	
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	
IT 46320	CLOUD FORENSICS	
Minimum Total Credit Hours:		**18**

Database Design and Administration Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 21005	VISUAL BASIC DATABASE PROGRAMMING	4
IT 36350	PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS	3
IT 46315	SQL WITH ORACLE	3
IT 46340	DATA DESIGN AND IMPLEMENTATION	3
IT 46350	DATABASE ADMINISTRATION AND REPORTING TOOLS	3
Concentration Elective, choose from the following:		3
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	
IT 41002	CLOUD TECHNOLOGY	
IT 43000	HEALTHCARE INFORMATION SYSTEMS	
Minimum Total Credit Hours:		**19**

Health Information Technology Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 31002	HEALTH INFORMATION TECHNOLOGY SUPPORT	3
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	3
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	3

Code	Title	Credit Hours
IT 43000	HEALTHCARE INFORMATION SYSTEMS	3
IT 46331	LOCAL AREA NETWORK SECURITY AND FIREWALLS	3
Concentration Elective, choose from the following:		3
IT 36315	CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY	
IT 36350	PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS	
IT 41002	CLOUD TECHNOLOGY	
IT 46311	TECHNOLOGY OF NETWORKING	
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	
IT 46314	ADVANCED SERVER CONFIGURATION	
IT 46340	DATA DESIGN AND IMPLEMENTATION	
Minimum Total Credit Hours:		**18**

Integrated Information Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	3
Information Technology (IT) Electives		15
Minimum Total Credit Hours:		**18**

Internet/Multimedia Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 36303	DIGITAL IMAGE MANIPULATION	3
IT 36309	PROGRAMMING MOBILE APPLICATIONS	3
IT 36310	MULTIMEDIA DEVELOPMENT TOOLS	3
IT 46303	DIGITAL VIDEO EDITING	3
Concentration Electives, choose from the following:		6
IT 36311	ADVANCED JAVA PROGRAMMING	
IT 36336	WEB SCRIPTING II	
IT 46309	ASP.NET WEB PROGRAMMING	
IT 46315	SQL WITH ORACLE	
IT 46321	WEB DATABASE INTEGRATION	
Minimum Total Credit Hours:		**18**

Networking Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	3
IT 36355	COMMAND LINE UTILITIES	3
or IT 46312	SCRIPTING FOR NETWORK ADMINISTRATORS	
IT 41002	CLOUD TECHNOLOGY	3
or IT 46314	ADVANCED SERVER CONFIGURATION	
IT 46300	ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION	3
or IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	
IT 46310	TECHNOLOGY OF OPERATING SYSTEMS	3
or IT 46311	TECHNOLOGY OF NETWORKING	
Concentration Elective, choose from the following:		3

IT 21100	LOCAL AREA NETWORK TROUBLESHOOTING	
IT 21110	INTRODUCTION TO ROUTING AND SWITCHING	
IT 32002	LINUX NETWORKING	
IT 36315	CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY	
IT 36331	ADVANCED ROUTING AND SWITCHING	
IT 36355	COMMAND LINE UTILITIES	
IT 41002	CLOUD TECHNOLOGY	
IT 46300	ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION	
IT 46310	TECHNOLOGY OF OPERATING SYSTEMS	
IT 46311	TECHNOLOGY OF NETWORKING	
IT 46312	SCRIPTING FOR NETWORK ADMINISTRATORS	
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	
IT 46314	ADVANCED SERVER CONFIGURATION	
IT 46331	LOCAL AREA NETWORK SECURITY AND FIREWALLS	
Minimum Total Credit Hours:		**18**

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

- Students may declare more than one concentration in the Information Technology major, provided that they complete minimum 12 credit hours of coursework unique to each concentration.

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
IT 11002 or IT 13000	VISUAL BASIC PROGRAMMING or APPLIED SECURITY ESSENTIALS	3
IT 11004	SURVEY OF INFORMATION TECHNOLOGY	3
IT 11005	INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY	3
UC 10001	FLASHES 101	1
Kent Core Requirement		3
Kent Core Requirement		3
	Credit Hours	**16**
Semester Two		
IT 11006	INTRODUCTION TO WEB SITE TECHNOLOGY	3
IT 11009	COMPUTER ASSEMBLY AND CONFIGURATION	4
IT 12000	INTERMEDIATE OFFICE PRODUCTIVITY APPS	3
Kent Core Requirement		3
Kent Core Requirement		3
	Credit Hours	**16**
Semester Three		
IT 21002	NETWORK SETUP AND CONFIGURATION	4
IT 21010	WORKGROUP PRODUCTIVITY SOFTWARE	3
Kent Core Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
	Credit Hours	**16**

Semester Four		
IT 21007	CYBER ETHICS IN INFORMATION TECHNOLOGY	3
IT 21009	SEMINAR IN INFORMATION TECHNOLOGY	3
Kent Core Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
	Credit Hours	**15**
Semester Five		
IT 36308	ERGONOMICS IN COMPUTER SYSTEMS	3
IT 36318	SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC)	3
TAS 37900	TECHNICAL AND APPLIED STUDIES CORNERSTONE	3
Kent Core Requirement		3
Kent Core Requirement		3
	Credit Hours	**15**
Semester Six		
IT 36339	CLOUD AND VIRTUALIZATION TECHNOLOGIES IN INFORMATION TECHNOLOGY	3
Concentration Requirements		12-13
	Credit Hours	**15**
Semester Seven		
IT 36340	HELP DESK SUPPORT	3
IT 42000	SOCIAL MEDIA SECURITY	3
Concentration Requirement		3
General Electives		6
	Credit Hours	**15**
Semester Eight		
IT 36314	SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES	3
TAS 47999	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR) (WIC)	3
Concentration Requirement		3
General Elective		3
	Credit Hours	**12**
	Minimum Total Credit Hours:	**120**

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.

Flashes 101 (UC 10001)	1 credit hour
Course is not required for students with 30+ 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 credit hours
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	

Upper-Division Requirement	39 credit hours
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate.	
Total Credit Hour Requirement	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 Learning Outcomes

Graduates of this program will be able to:

1. Identify and evaluate current technologies and assess their applicability to address individual and organizational needs.
2. Develop a product, process or solution by applying knowledge of programming, scripting, web, digital media, database, human computer interaction, networking, cloud, virtualization and security tools.
3. Perform end-user support, including identifying and implementing solutions to user requests.
4. Explain implementation, integration and maintenance for IT applications to a wide range of audiences.
5. Work in diverse project teams to develop and/or implement IT-based solutions.
6. Apply professional ethics in IT solutions.
7. Engage in continuous learning, as well as research and assess new ideas and information to provide the capabilities for lifelong learning.

Full Description

The Bachelor of Science in Information Technology degree in Information Technology provides students with an applied approach that focuses on supporting end-users in a variety of workplace settings by utilizing a range of computing technologies. The degree program gives students the tools to support computing and network infrastructures and the needs of individuals and organizations; write programs necessary to help them render their tasks more efficiently on their desktop or mobile devices; utilize databases and write the web-based interfaces to pull the data; and code and deploy applications across the cloud.

Graduates are qualified to work in a wide range of computer and network infrastructures in small- to large-sized enterprises in such positions as web or software developer; hardware, network, cloud, virtualization technician or engineer; IT support specialist or consultant; help desk, network or IT project manager; security or forensic analyst; and systems, network or database administrator in all sectors of business, education, manufacturing, healthcare, non-profit and government.

The Information Technology major comprises the following concentrations:

- The **Application Development** concentration provides students with the ability to program in languages typically utilized in contemporary business environments. Students code in applications such as Visual Basic, C++, Java, C# and other industry-standard applications to develop programs employing event-driven and object-oriented techniques.
- The **Cloud and Virtualization Technologies** concentration gives students hands-on practice and competency in virtualization and cloud computing. In addition to gaining core IT skills, students focus on cloud technologies, virtual computer hardware platforms, networking, storage devices, security, scripting, emerging technologies, server administration and storage and infrastructure services.This concentration is for students who want to pursue a professional career in virtualization and cloud computing and prepare for industry-recognized certificates in the IT field.
- The **Cybersecurity and Forensics** concentration places an emphasis on security of computer and network systems, including forensic work to prevent and/or determine and correct security issues utilizing cybersecurity devices, procedures, tools and solutions.
- The **Database Design and Administration** concentration focuses on skills needed to become a database manager. Topics include relational database design; working with database servers, users and permissions; SQL statements used for queries and reports; and incorporating databases into programming used in web-based and desktop forms.
- The **Health Information Technology** concentration provides students with the tools to install, manage, troubleshoot and secure hardware and software systems in healthcare environments. The course of study includes health IT privacy, security, EHR Implementation and support, mobile device management, technology and application life-cycle management, organizational behavior, medical business operations and regulatory requirements.
- The **Integrated Information Technology** concentration is ideal for students who want a flexible course of study for positions that require IT staff to perform a wide range of technical duties.
- The **Internet/Multimedia** concentration focuses on scripting, server-side form handling, web database integration, and interactive and dynamic multimedia Internet development.
- The **Networking** concentration focuses on configuring and maintaining network information systems and components in various network operating system and cloud computing environments that are prevalent in today's businesses. The emphasis is on network administration (i.e. managing Active Directory and network services), servers, workstations, virtualization, security, troubleshooting, installation and maintenance.