

# 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

- **Shelley Marshall** | skmarsha@kent.edu | 440-964-4348
- Speak with an Advisor
- Chat with an Admissions Counselor

## Program Delivery

- **Delivery:**
  - Fully online

## Examples of Possible Careers and Salaries\*

### Database administrators and architects

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

### Network and computer systems administrators

- 4.3% about as fast as the average
- 373,900 number of jobs
- \$84,810 potential earnings

### Additional Careers

- Cloud solutions architect
- Information security analyst
- Software developer

### Concentration-specific careers

- **Application Development**
  - Full-stack developer
  - Mobile application developer
- **Cloud Visualization Technologies**
  - Cloud engineer
  - Virtualization administrator
- **Cybersecurity and Forensics**
  - Digital forensics analyst
  - Security consultant
- **Database Design and Administration**

- Data analyst
- Business intelligence developer
- **Health Information Technology**
  - Electronic health records (EHR) manager
  - Health IT specialist
- **Integrated Information Technology**
  - IT project manager
  - Systems analyst
- **Networking**
  - Infrastructure manager
  - Network engineer
- **Web Development**
  - Front-end engineer
  - UI/UX designer

\* 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.

**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 proficiency of the English language (unless they meet specific exceptions) through the submission of an English language proficiency test score or by completing English language classes at Kent State's English as a Second Language Center before entering their program. For more information, visit the admissions website for international students.

**Former Students:** Former Kent State students who have not attended another institution since Kent State and were not academically dismissed will complete the re-enrollment process through the Financial, Billing and Enrollment Center. Former students who attended another college or university since leaving Kent State must apply for admissions as a transfer or post-undergraduate student.

**Transfer Students:** Students who attended an educational institution after graduating from high school or earning their GED must apply as transfer students. For more information, visit the admissions website for transfer students.

Admission policies for undergraduate students may be found in the University Catalog's Academic Policies.

Students may be required to meet certain criteria to progress in their program. Any progression requirements will be listed on the program's Coursework tab

## Program Requirements

### Major Requirements

Code	Title	Credit Hours
<b>Major Requirements (courses count in major GPA)</b>		
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	3
IT 12000	INTERMEDIATE OFFICE PRODUCTIVITY APPS	3
IT 13000	APPLIED SECURITY ESSENTIALS	3
IT 15000	FUNDAMENTALS OF PROGRAMMING FOR INFORMATION TECHNOLOGY	3
IT 21002	NETWORK SETUP AND CONFIGURATION	3
IT 21003	SYSTEM ADMINISTRATION FOR INFORMATION TECHNOLOGY PROFESSIONALS	3
IT 21007	CYBER ETHICS IN INFORMATION TECHNOLOGY	3
IT 21009	SEMINAR IN INFORMATION TECHNOLOGY	3
IT 21010	WORKGROUP PRODUCTIVITY SOFTWARE	3
IT 36308	ERGONOMICS AND USABILITY IN INFORMATION TECHNOLOGY	3
IT 36314	SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES	3
IT 36318	SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC) <sup>1</sup>	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) <sup>1</sup>	3
<b>Additional Program Requirements (courses do not count in major GPA)</b>		
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 credit hours, including 39 upper-division credit hours)		5
<b>Concentrations</b>		
Choose from the following:		18
Application Development		
Cloud and Virtualization Technologies		
Cybersecurity and Forensics		
Database Design and Administration		

Health Information Technology	
Integrated Information Technology	
Networking	
Web Development	
<b>Minimum Total Credit Hours:</b>	<b>120</b>

<sup>1</sup> Minimum C grade required to satisfy the writing-intensive requirement.

### Application Development Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 20030	VISUAL AND OBJECT-ORIENTED PROGRAMMING IN INFORMATION TECHNOLOGY	3
IT 30000	PYTHON PROGRAMMING IN INFORMATION TECHNOLOGY	3
IT 36304	C++ PROGRAMMING	3
IT 36305	C# PROGRAMMING	3
IT 36306	JAVA PROGRAMMING	3
IT 36309	PROGRAMMING MOBILE APPLICATIONS	3
or IT 46315	SQL WITH ORACLE	
<b>Minimum Total Credit Hours:</b>		<b>18</b>

### Cloud and Virtualization Technologies Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 36330	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	NETWORK SECURITY AND FIREWALLS	3
<b>Minimum Total Credit Hours:</b>		<b>18</b>

### Cybersecurity and Forensics Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
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	NETWORK SECURITY FUNDAMENTALS	3
IT 46331	NETWORK SECURITY AND FIREWALLS	3
Concentration Elective, choose from the following:		3
IT 40000	CYBERSECURITY	
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
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 21006	DATABASE PROGRAMMING	3
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:		
IT 36330	NETWORK SECURITY FUNDAMENTALS	3
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	3
IT 41002	CLOUD TECHNOLOGY	3
IT 43000	HEALTHCARE INFORMATION SYSTEMS	3
Minimum Total Credit Hours: 18		

### Health Information Technology Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 31002	HEALTH INFORMATION TECHNOLOGY SUPPORT	3
IT 36330	NETWORK SECURITY FUNDAMENTALS	3
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	3
IT 43000	HEALTHCARE INFORMATION SYSTEMS	3
IT 46331	NETWORK SECURITY AND FIREWALLS	3
Concentration Elective, choose from the following:		
IT 36396	CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY <sup>1</sup>	3
IT 40000	CYBERSECURITY	3
IT 41002	CLOUD TECHNOLOGY	3
IT 46311	TECHNOLOGY OF NETWORKING	3
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	3
IT 46340	DATA DESIGN AND IMPLEMENTATION	3
Minimum Total Credit Hours: 18		

<sup>1</sup> Students may repeat IT 36396 for a maximum of 6 credit hours toward the concentration.

### Integrated Information Concentration Requirements

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

### Networking Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 21110	NETWORK ROUTING AND SWITCHING	3
IT 36330	NETWORK SECURITY FUNDAMENTALS	3
IT 46311	TECHNOLOGY OF NETWORKING	3
IT 46314	ADVANCED SERVER CONFIGURATION	3
IT 46331	NETWORK SECURITY AND FIREWALLS	3
Concentration Elective, choose from the following:		
IT 36355	COMMAND LINE UTILITIES	3
IT 36396	CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY <sup>1</sup>	3
IT 46300	ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION	3
IT 46313	VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION	3
Minimum Total Credit Hours: 18		

<sup>1</sup> Students may repeat IT 36396 for a maximum of 6 credit hours toward the concentration.

### Web Development Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 21006	DATABASE PROGRAMMING	3
IT 21011	TECHNIQUES OF MULTIMEDIA WEB DESIGN	3
IT 36303	DIGITAL IMAGE EDITING	3
IT 36309	PROGRAMMING MOBILE APPLICATIONS	3
IT 46303	DIGITAL VIDEO EDITING	3
IT 46315	SQL WITH ORACLE	3
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 program. Students will work with their advisor to develop a sequence based on their academic goals and history. Courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

Semester One	Credits
IT 11004 SURVEY OF INFORMATION TECHNOLOGY	3
IT 11005 INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY	3
IT 12000 INTERMEDIATE OFFICE PRODUCTIVITY APPS	3
UC 10001 FLASHES 101	1
Kent Core Requirement	3
Kent Core Requirement	3
<b>Credit Hours</b>	<b>16</b>

**Semester Two**

IT 11006	INTRODUCTION TO WEB SITE TECHNOLOGY	3
IT 11009	COMPUTER ASSEMBLY AND CONFIGURATION	3
IT 13000	APPLIED SECURITY ESSENTIALS	3
IT 15000	FUNDAMENTALS OF PROGRAMMING FOR INFORMATION TECHNOLOGY	3

Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Three**

IT 21002	NETWORK SETUP AND CONFIGURATION	3
IT 21003	SYSTEM ADMINISTRATION FOR INFORMATION TECHNOLOGY PROFESSIONALS	3
IT 21010	WORKGROUP PRODUCTIVITY SOFTWARE	3

Concentration Requirement		3
Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Four**

IT 21007	CYBER ETHICS IN INFORMATION TECHNOLOGY	3
IT 21009	SEMINAR IN INFORMATION TECHNOLOGY	3

Concentration Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Five**

IT 36308	ERGONOMICS AND USABILITY IN INFORMATION TECHNOLOGY	3
IT 36318	SURVEY OF INFORMATION SECURITY, INTERNET FRAUD AND COMPUTER FORENSICS (WIC)	3

TAS 37900	TECHNICAL AND APPLIED STUDIES CORNERSTONE	3
Concentration Requirement		3
Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Six**

IT 36339	CLOUD AND VIRTUALIZATION TECHNOLOGIES IN INFORMATION TECHNOLOGY	3
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Concentration Requirements		6
Kent Core Requirement		3
Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Seven**

IT 36340	HELP DESK SUPPORT	3
IT 42000	SOCIAL MEDIA SECURITY	3

Concentration Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
<b>Credit Hours</b>		<b>15</b>

**Semester Eight**

IT 36314	SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES	3
TAS 47999	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR) (WIC)	3

Kent Core Requirement		3
General Elective		5
<b>Credit Hours</b>		<b>14</b>

**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
<b>Total Credit Hours:</b>	<b>36-37</b>

## 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 **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.
- The **Web Development** concentration focuses on scripting; server-side form handling; web database integration; and interactive and dynamic multimedia Internet development.