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.

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*
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) by earning a minimum 525 TOEFL score (71 on the Internet-based version), minimum 75 MELAB score, minimum 6.0 IELTS score or minimum 48 PTE Academic score, or by completing the ELS level 112 Intensive Program. 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’s Academic Policies.

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 program’s Coursework tab.

Program Requirements

Major Requirements

Code | Title | Credit Hours
--- | --- | ---
IT 11002 | VISUAL BASIC PROGRAMMING | 3
or IT 13000 | APPLIED SECURITY ESSENTIALS | 3
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 | 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) | 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) | 3

Additional Program Requirements (courses do not count in major GPA)

Code | Title | Credit Hours
--- | --- | ---
UC 10001 | FLASHERS 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) | 10

Concentrations

Choose from the following: 18-19

- Application Development
- Cloud and Virtualization Technologies
- Cybersecurity and Forensics

Application Development Concentration Requirements

Code | Title | Credit Hours
--- | --- | ---
IT 30000 | PYTHON PROGRAMMING IN INFORMATION TECHNOLOGY | 3
IT 36301 | ADVANCED C++ PROGRAMMING | 4
or IT 36311 | ADVANCED JAVA PROGRAMMING | 4
IT 36302 | ADVANCED C# PROGRAMMING | 3
IT 36309 | PROGRAMMING MOBILE APPLICATIONS | 3
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
--- | --- | ---
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

Minimum Total Credit Hours: 18

Cybersecurity and Forensics Concentration Requirements

Code | Title | Credit Hours
--- | --- | ---
IT 21200 | ETHICAL HACKING | 3
or IT 46313 | VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION | 3
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 | 3
- IT 46300 | ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION | 3
- IT 46313 | VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION | 3

Minimum Total Credit Hours: 120

1 Minimum C grade required to satisfy the writing-intensive requirement.
Database Design and Administration Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 21005</td>
<td>VISUAL BASIC DATABASE PROGRAMMING</td>
<td>4</td>
</tr>
<tr>
<td>IT 36350</td>
<td>PROGRAMMING OFFICE PRODUCTIVITY APPLICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>IT 46315</td>
<td>SQL WITH ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>IT 46340</td>
<td>DATA DESIGN AND IMPLEMENTATION</td>
<td>3</td>
</tr>
<tr>
<td>IT 46350</td>
<td>DATABASE ADMINISTRATION AND REPORTING TOOLS</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentration Elective, choose from the following:

- IT 36330 NETWORK SECURITY FUNDAMENTALS
- IT 41010 MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY
- IT 43000 HEALTHCARE INFORMATION SYSTEMS

Minimum Total Credit Hours: 18

Health Information Technology Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 31002</td>
<td>HEALTH INFORMATION TECHNOLOGY SUPPORT</td>
<td>3</td>
</tr>
<tr>
<td>IT 36330</td>
<td>NETWORK SECURITY FUNDAMENTALS</td>
<td>3</td>
</tr>
<tr>
<td>IT 41010</td>
<td>MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>IT 43000</td>
<td>HEALTHCARE INFORMATION SYSTEMS</td>
<td>3</td>
</tr>
<tr>
<td>IT 46331</td>
<td>NETWORK SECURITY AND FIREWALLS</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentration Elective, choose from the following:

- IT 36396 CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY
- IT 40000 CYBERSECURITY
- IT 41002 CLOUD TECHNOLOGY
- IT 46111 TECHNOLOGY OF NETWORKING
- IT 46313 VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION
- IT 46340 DATA DESIGN AND IMPLEMENTATION

Minimum Total Credit Hours: 18

Information Technology (IT) Electives

Minimum Total Credit Hours: 15

Students may repeat IT 36396 for a maximum of 6 credit hours toward the concentration.

Integrated Information Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 41010</td>
<td>MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY</td>
<td>3</td>
</tr>
</tbody>
</table>

Information Technology (IT) Electives

Minimum Total Credit Hours: 18

Minimum Total Credit Hours: 18

Students may repeat IT 36396 for a maximum of 6 credit hours toward the concentration.

Internet/Multimedia Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 36303</td>
<td>DIGITAL IMAGE EDITING</td>
<td>3</td>
</tr>
<tr>
<td>IT 36309</td>
<td>PROGRAMMING MOBILE APPLICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>IT 36310</td>
<td>MULTIMEDIA DEVELOPMENT TOOLS</td>
<td>3</td>
</tr>
<tr>
<td>IT 46303</td>
<td>DIGITAL VIDEO EDITING</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentration Electives, choose from the following:

- IT 36311 ADVANCED JAVA PROGRAMMING
- IT 36336 WEB SCRIPTING II
- IT 46039 ASP.NET WEB PROGRAMMING
- IT 46315 SQL WITH ORACLE

Minimum Total Credit Hours: 18

Networking Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 21110</td>
<td>NETWORK ROUTING AND SWITCHING</td>
<td>3</td>
</tr>
<tr>
<td>IT 36330</td>
<td>NETWORK SECURITY FUNDAMENTALS</td>
<td>3</td>
</tr>
<tr>
<td>IT 46311</td>
<td>TECHNOLOGY OF NETWORKING</td>
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<td>ADVANCED SERVER CONFIGURATION</td>
<td>3</td>
</tr>
<tr>
<td>IT 46331</td>
<td>NETWORK SECURITY AND FIREWALLS</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentration Elective, choose from the following:

- IT 36355 COMMAND LINE UTILITIES
- IT 36396 CERTIFICATION PREPARATION IN INFORMATION TECHNOLOGY
- IT 46300 ADVANCED COMPUTER ASSEMBLY AND CONFIGURATION
- IT 46313 VIRTUAL MACHINE CONFIGURATION AND ADMINISTRATION

Minimum Total Credit Hours: 18

Students may repeat IT 36396 for a maximum of 6 credit hours toward the concentration.

Graduation Requirements

Minimum Major GPA: 2.000
Minimum Overall GPA: 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

- IT 11002 or IT 13000 VISUAL BASIC PROGRAMMING
- IT 11004 SURVEY OF INFORMATION TECHNOLOGY
- IT 11005 INTRODUCTION TO OPERATING SYSTEMS AND NETWORKING TECHNOLOGY
- UC 10001 FLASHES 101
- Kent Core Requirement

Credits
- 3
- 3
- 3
- 1
- 3
# 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.

### Kent Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>IT 11006</td>
<td>INTRODUCTION TO WEB SITE TECHNOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>IT 11009</td>
<td>COMPUTER ASSEMBLY AND CONFIGURATION</td>
<td>4</td>
</tr>
<tr>
<td>IT 12000</td>
<td>INTERMEDIATE OFFICE PRODUCTIVITY APPS</td>
<td>3</td>
</tr>
<tr>
<td>IT 21002</td>
<td>NETWORK SETUP AND CONFIGURATION</td>
<td>3</td>
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<td>IT 21010</td>
<td>WORKGROUP PRODUCTIVITY SOFTWARE</td>
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</tr>
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<td>TAS 47999</td>
<td>TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR) (WIC)</td>
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<tr>
<td>TAS 57900</td>
<td>TECHNICAL AND APPLIED STUDIES CAPSTONE (WIC)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Concentration Requirements
12-13 credit hours

### General Electives
6 credit hours

### Minimum Total Credit Hours:
120 credit hours

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# 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:

- **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.

- **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.

- **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.

- **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.

- **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.

- **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.

- **Internet/Multimedia** concentration focuses on scripting, server-side form handling, web database integration, and interactive and dynamic multimedia Internet development.

- **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.