

# INFORMATION TECHNOLOGY - B.S.I.T.

College of Applied and Technical Studies

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## 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 will 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 **Applied Computer Security 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.

## Fully Offered At:

- Online
- Ashtabula Campus
- East Liverpool Campus
- Geauga Campus
- Salem Campus
- Stark Campus
- Trumbull Campus
- Tuscarawas Campus
- Regional Academic Center in Twinsburg

## 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 new freshmen.

**Freshman Students on the Regional Campuses:** Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Regional Academic Center in Twinsburg, 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 or minimum 48 PTE 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. Identify and evaluate current technologies and assess their applicability to address individual and organizational needs
2. Develop a product or process by applying knowledge of programming, web, digital media, database, human computer interaction, networking 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

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

## Program Requirements

### Major Requirements

Code	Title	Credit Hours
<b>Major Program Requirements (courses count in major GPA)</b>		
IT 11002 or IT 13000	VISUAL BASIC PROGRAMMING 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	4
IT 21007	INTERNET ETHICS AND POLICIES	3
IT 21009	SEMINAR IN COMPUTER 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) <sup>1</sup>	3
IT 36340	HELP DESK SUPPORT	3
IT 42000	SOCIAL MEDIA SECURITY	3
TAS 37900	TECHNICAL AND APPLIED STUDIES CORNERSTONE	3
TAS 47900	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR)	3
Information Technology (IT) Elective		3
<b>Additional Program Requirements (courses do not count in major GPA)</b>		
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	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)		9
<b>Concentrations</b>		
Choose from the following:		18-19
Application Development		
Applied Computer Security and Forensics		
Database Design and Administration		
Health Information Technology		
Integrated Information Technology		
Internet/Multimedia		
Networking		
Minimum Total Credit Hours:		120

<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 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

### Applied Computer Security 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	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
<b>Concentration Requirements (courses count in major GPA)</b>		
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 Electives, 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
<b>Concentration Requirements (courses count in major GPA)</b>		
IT 31002	HEALTH INFORMATION TECHNOLOGY SUPPORT	3
IT 36330	LOCAL AREA NETWORK SECURITY FUNDAMENTALS	3
IT 41010	MOBILE APPLICATIONS FOR INFORMATION TECHNOLOGY	3
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 COMPUTER 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
<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

### Internet/Multimedia Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
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
<b>Concentration Requirements (courses count in major GPA)</b>		
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 COMPUTER 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 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.

<b>Semester One</b>		<b>Credits</b>
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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		16
<b>Semester Two</b>		
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
<b>Semester Three</b>		
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
<b>Semester Four</b>		
IT 21007	INTERNET ETHICS AND POLICIES	3
IT 21009	SEMINAR IN COMPUTER TECHNOLOGY	3
Kent Core Requirement		3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		15
<b>Semester Five</b>		
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
<b>Semester Six</b>		
Concentration Requirements		12
Information Technology (IT) Elective		3
Credit Hours		15
<b>Semester Seven</b>		
IT 36340	HELP DESK SUPPORT	3
IT 42000	SOCIAL MEDIA SECURITY	3
Concentration Requirement		3
General Electives		6
Credit Hours		15

<b>Semester Eight</b>		
IT 36314	SEMINAR IN EMERGING COMPUTER AND INFORMATION TECHNOLOGIES	3
TAS 47900	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR)	3
Concentration Requirement		3
General Elective		3
Credit Hours		12
Minimum Total Credit Hours:		120