INFORMATION TECHNOLOGY, B.TECH.

Major Code: 2045

The Bachelor of Technology (B.Tech.) in Information Technology program is designed to prepare students for exciting and lucrative careers in the fast-growing field of technology. In today's dynamic business environment, enterprises rely heavily on technology to create competitive advantages. Information technology (IT) professionals are essential to the success of businesses in virtually every industry, providing the tools and systems that enable organizations to operate efficiently and effectively.

The B.Tech. in Information Technology program builds on the foundation of computer information systems but has a broader scope. Students gain a deep understanding of how to use technology to facilitate business processes, as well as the technical skills necessary to develop and implement innovative solutions. The program emphasizes hands-on learning, providing students with practical experience using the latest network technologies in a top-notch academic lab environment.

Throughout the program, students receive in-depth training in a wide range of technology areas, including web development, programming, server administration, multimedia development, virtualization, cloud computing, and information security. Students must select one of the following three concentrations:

- **App & Mobile Web Development:** The App & Mobile Web Development concentration prepares you to design, develop and deploy dynamic database-driven mobile and web applications.
- **Computer Support Services:** The Computer Support Services concentration focuses on providing technical assistance and troubleshooting to users of various software and hardware systems. You will gain skills in problem-solving, customer service and software troubleshooting to ensure smooth and efficient user experiences.
- **Network & System Administration:** The Network & System Administration concentration prepares you to be responsible for the day-to-day operation of computer networks by working to configure the hardware and software used in enterprise networks.

They also can earn a minor in game programming and cybersecurity.

One of the key strengths of the B.Tech. in Information Technology program is its focus on the practical application of technology. Students learn not only how technology works, but also how to use it effectively in real-world settings. They develop strong problem-solving and critical-thinking skills, as well as a deep understanding of the people and processes behind the technology.

Graduates of the program are well-prepared to pursue a wide range of exciting career opportunities, including software developer, network administrator, information security specialist, database administrator, web developer, or technology consultant. They are also prepared to pursue advanced degrees in information technology or related fields.

Learning Outcomes

Upon successful completion of this program, students will be able to:

Network and System Administration Concentration:

- Manage enterprise network infrastructure.
- Manage network and system operating systems.
- Configure computer system security, network security, access control, and physical security.
- Design networked solutions to facilitate business processes.

App and Mobile Web Development Concentration:

- Demonstrate ability to develop, test, and deploy scalable mobile and web applications.
- Design dynamic database-driven mobile and web applications.
- Apply development and project management methodologies throughout the entire app and mobile web project lifecycle
- Apply version control software to manage and track changes to source code effectively

Computer Support Services Concentration:

- Understand computer hardware and software components, including operating systems, applications, and peripherals.
- Troubleshoot common hardware and software issues.
- Develop effective customer service skills, including active listening, empathy, and conflict resolution.
- Communicate technical concepts to end-users with different levels of technical knowledge.
- Manage your workload effectively to meet service level agreements (SLAs) and resolve technical issues promptly.
- Document technical issues, troubleshooting steps, and resolutions for future reference and knowledge sharing.
- Apply cybersecurity best practices, including password management, data protection, and privacy regulations. You will also learn how to follow compliance standards and protocols, including HIPAA and PCI DSS.
- Practice the techniques of effective support to end-users remotely using remote access tools and techniques.

Curriculum Requirements

A minimum of 120 credits is required for degree completion. Students must select a concentration in App & Mobile Web Development, Computer Support Services, or Network & System Administration (see below for curriculum information).

Code	Title	Credits
Major Field Requirements		
CITA 110	Intro Information Technology	3
CITA 120	Computer Concepts & Op Sys	3
CITA 140	Introduction to Programming	3
CITA 200	Data Communications Networking	3
CITA 245	Intro to Database Concepts	3
CITA 395	Internship Orientation Seminar	1
CITA 405	Project Management	3
CITA 460	Organizational & End User IS	3
CITA 480	Internship Information Tech	12
300-400 CITA Upper Division Electives as advised		3
CITA Elective as advised		3
300-400 CITA, ACCT, or BSAD Upper Division Electives as advised		9
100-200 CITA, ACCT, or BSAD Lower Division Electives as advised		6

BSAD 116	Business Organization & Mgmnt	3
BSAD 300	Management Communications	3
Required Concentration		
Select one of the following concentrations:		15
App and Mobile Web Development		
CITA 155	Intro to Mobile Web Design	
CITA 255	App Development	
CITA 345	Advanced Database Concepts	
CITA 355 Advanced App and Mobile Web Development		
CITA 455 Cross-Platform App and Mobile Web Development		3
Computer Support Services		
CITA 190	Intro to LINUX/UNIX Systems	
CITA 220	Systems Analysis	
CITA 300	Computer System Support Mainte	
CITA 360	Oper Systems & Software Deploy	
CITA 440	Design Managing Org Training	
Network and System Administration		
CITA 190	Intro to LINUX/UNIX Systems	
CITA 230	Network Technology	
CITA 320	Network Administration	
CITA 370	Network Design Concepts	
CITA 430	Comp Integration & Interop	
SUNY General Education & Liberal Arts and Sciences Coursework		
COMM 105	Research & Communication	3
SUNY General Education Natural Sciences as advised		3
SUNY General Education Diversity, Equity, Inclusion and Social Justice as advised		3
COMP 310	Advance Tech Communication	3
SUNY General Education Mathematics as advised		3
Additional SUNY General Education or Liberal Arts & Sciences Electives as advised		15
General Electives as advised		14
Total Credits		**123**

Suggested Course Sequence

Course	Title	Credits
Year 1		
Fall		
CITA 110	Intro Information Technology	3
CITA 140	Introduction to Programming	3
SUNY General Education Mathematics as advised		3
COMP 101	Composition and Research	3
CITA 100-200 Lower Division Elective as advised		3
GNED 100	First Year Experience	2
	Credits	**17**
Spring		
CITA 120	Computer Concepts & Op Sys	3
Required Concentration Course as advised		3
BSAD 116	Business Organization & Mgmnt	3
SUNY General Education as advised		6
	Credits	**15**
Year 2		
Fall		
CITA 200	Data Communications Networking	3
CITA 245	Intro to Database Concepts	3
SUNY General Education as advised		9
	Credits	**15**
Spring		
Required Concentration Course as advised		3
COMP 310	Advance Tech Communication	3
100-200 CITA, ACCT, or BSAD Lower Division Elective as advised		3
SUNY General Education as advised		6
	Credits	**15**
Year 3		
Fall		
Required Concentration Course as advised		3
300-400 CITA, ACCT, or BSAD Upper Division Elective as advised		3
BSAD 300	Management Communications	3
General Electives as advised		6
	Credits	**15**
Spring		
Required Concentration Course as advised		3
300-400 CITA, ACCT, or BSAD Upper Division Elective as advised		9
General Elective as advised		3
	Credits	**15**
Year 4		
Fall		
CITA 395	Internship Orientation Seminar	1
Required Concentration Course as advised		3
CITA 405	Project Management	3
CITA 460	Organizational & End User IS	3
General Electives as advised		6
	Credits	**16**
Spring		
CITA 480	Internship Information Tech	12
	Credits	**12**
	Total Credits	**120**