

# DEPARTMENT OF COMPUTER SYSTEMS TECHNOLOGY

## DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE IN COMPUTER INFORMATION SYSTEMS AND BACHELOR OF TECHNOLOGY IN COMPUTER SYSTEMS

For students entering the program Spring 2019 to Spring 2020.

### ASSOCIATE DEGREE

#### GENERAL EDUCATION REQUIRED AND FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (22 CREDITS)

At least 1 course designated WI is required from the Gen Ed Flexible Common Core.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (38 CREDITS)

At least 1 course designated WI is required from the program-specific required and elective courses.

**Double Duty**<sup>2</sup> Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	<b>Prereq:</b> CUNY Read and Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	<b>Prereq:</b> ENG 1101	3 credits.
MAT 1375 <sup>2</sup>	Precalculus or higher (MQR)	<b>Prereq:</b> MAT 1275 or CUNY Placement	4 credits.
	Life and Physical Sciences (LPS)		3 credits.
	*Additional Flexible Common Core Course: WCGI, USED, CE, SW		3 credits.
COM 1330 <sup>2</sup>	Public Speaking or higher (IS)	<b>Prereq:</b> CUNY Read and Write Proficiency	3 credits.
PSY 1101 <sup>2</sup>	Introduction to Psychology (IS)	<b>Prereq:</b> CUNY Read and Write Proficiency	3 credits.
CST 1100	Introduction to Computer Systems (WI)	<b>Prereq:</b> CUNY Proficiency	3 credits.
CST 1101	Problem Solving with Computer Programming	<b>Prereq:</b> CUNY Proficiency	3 credits.
CST 1201	Programming Fundamentals	<b>Prereq:</b> CST 1101 and (CST 1100 for CST students)	3 credits.
CST 1204	Database Systems Fundamentals	<b>Prereq:</b> CST 1101 and (CST 1100 for CST students)	3 credits.
CST 1215	Operating Systems Fundamentals	<b>Prereq:</b> CST 1100	3 credits.
CST 2307	Networking Fundamentals	<b>Prereq:</b> CST 1215	3 credits.
CST 2309	Web Programming I	<b>Prereq:</b> CST 1201	3 credits.
CST 2410	Introduction to Computer Security	<b>Prereq:</b> CST 2307	3 credits.
CST 2801	Special Topics in Information Technology	<b>Prereq:</b> Two CST 2000 Level	1 credit.
CST 2XXX	CST 2301, CST 2400, CST 2405, CST 2406, CST 2409, CST 2415 or CST 2900		3 credits.
CST 2XXX	CST 2301, CST 2400, CST 2405, CST 2406, CST 2409, CST 2415 or CST 2900		3 credits.
ACC 1101	Principles of Accounting	<b>Prereq:</b> CUNY Math and Read Proficiency	4 credits.
BUS 2425	Business Management (WI)	<b>Prereq:</b> ACC 1101 or ACC 1162 or MKT 1210	3 credits.

**ASSOCIATE IN APPLIED SCIENCE IN COMPUTER INFORMATION SYSTEMS: 60 CREDITS.  
MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.**

### BACHELOR'S DEGREE

#### GENERAL EDUCATION REQUIRED AND FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (21 TO 25 CREDITS)

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (39 CREDITS)

At least 1 course designated WI is required from the program-specific required and elective courses.

Tracks

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
	<b>Associate degree or other transfer credits</b>		<b>60 credits.</b>
COM 1330	Public Speaking or higher, if not already taken		3 credits.
	*Flexible Common Core Course: WCGI, USED, CE, SW		3 credits.
	*Flexible Common Core Course: WCGI, USED, CE, SW		3 credits.
	*Flexible Common Core Course: WCGI, USED, CE, SW		3 credits.
PSY 2404	Personnel and Organizational Psychology (IS)	<b>Prereq:</b> PSY 1101	3 credits.
	Interdisciplinary Course (ID)		3 credits.
MAT 2440 <sup>2</sup>	Discrete Structures and Algorithms I (LibArt, WI)	<b>Prereq:</b> MAT 1375 or higher, (CST 1201 or CST 2403 or MAT 1630)	3 credits.
MAT 2540 <sup>2</sup> or	Discrete Structures and Algorithms II (LibArt)	<b>Prereq:</b> MAT 2440	3 to 4
MAT 1475 <sup>2</sup>	Calculus I (LibArt)	<b>Prereq:</b> MAT 1375	credits.

<b>CST Track: Choose 1 of 4:</b>			27 credits.
	Database <b>or</b>		
	Networking and Security <b>or</b>		
	IT Operations <b>or</b>		
	Software Development		
<b>Courses common to all tracks</b>			
CST 4800	Project Management (WI)	<b>Prereq:</b> Three CST 3500-level or higher	3 credits.
CST 4900 <b>or</b>	Internship <b>or</b>	<b>Prereq:</b> Two CST 3500, One 3600 Level, Dept permission	3 credits.
CST 4905	Information Systems Project		
BUS 3525	Strategic Management	<b>Prereq:</b> BUS 2425	3 credits.
ENG 2575	Technical Writing	<b>Prereq:</b> ENG 1121	3 credits.

# DEPARTMENT OF COMPUTER SYSTEMS TECHNOLOGY

## BACHELOR'S DEGREE

### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (27 CREDITS)

#### Choose 1 of 4 Tracks

Database  
Networking and Security  
IT Operations  
Software Development

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
<b>Database Courses</b>			27 credits.
CST 3504	Database Design	Prereq: CST 1204 with grade C or higher	3 credits.
CST 2406** or CST 3606	Introduction to Systems Analysis and Design or Object-Oriented Systems Analysis and Design	Prereq: CST 1201 and CST 1204 Prereq: CST 2406 or CST 3513	3 credits.
CST 3604	Quality Database Implementation	Prereq: CST 3504	3 credits.
CST 3613	Application Development with Database	Prereq: CST 1201 and 1204	3 credits.
CST 4704	Business Intelligence, Data Warehousing, and Data Mining	Prereq: CST 3604	3 credits.
CST 4714	Database Administration	Prereq: CST 2405 or CST 2415 or CST 3604	3 credits.
CST 4724	Data On the Web	Prereq: CST 2309 and CST 3504	3 credits.
CST 3XXX*	Track Elective		3 credits.
CST 3XXX*	Track Elective		3 credits.
<b>Networking and Security Courses</b>			27 credits.
CST 2405** or CST 2415**	Systems Administration (Windows) or Systems Administration (UNIX/Linux)	Prereq: CST 2307	3 credits.
CST 3507	Advanced Single-LAN Concepts	Prereq: CST 2307	3 credits.
CST 3523	Task Automation in System Administration	Prereq: CST 1201 and (CST 2405 or CST 2415)	3 credits.
CST 3607	Interconnectivity	Prereq: CST 3507	3 credits.
CST 3610	Networking Security Fundamentals	Prereq: CST 2410	3 credits.
CST 4707	The LAN-Internet Connections	Prereq: CST 3607	3 credits.
CST 4710	Advanced Security Technologies	Prereq: CST 3507 and CST 3610	3 credits.
CST 4715	Advance Topics in Systems Administration	Prereq: CST 3523, CST 3607 and CST 3610	3 credits.
CST 3XXX	Track Elective		3 credits.
<b>IT Operations Courses</b>			27 credits.
CST 2405** or CST 2415**	Systems Administration (Windows) or Systems Administration (UNIX/Linux)	Prereq: CST 2307	3 credits.
CST 3507	Advanced Single-LAN Concepts	Prereq: CST 2307	3 credits.
CST 3605	Virtualization	Prereq: CST 3507 and (CST 2405 or CST 2415)	3 credits.
CST 3610	Networking Security Fundamentals	Prereq: CST 2410	3 credits.
CST 3615	Enterprise Applications	Prereq: CST 3507 and (CST 2400 or CST 2405 or CST 2415)	3 credits.
CST 4700	IT Service Management	Prereq: CST 2405 or CST 2415	3 credits.
CST 4709	Installing and Maintaining Web Servers	Prereq: CST 2307 and CST 2309	3 credits.
CST 4714	Database Administration	Prereq: CST 2405 or CST 2415 or CST 3604	3 credits.
CST 3XXX*	Track Elective		3 credits.
<b>Software Development Courses</b>			27 credits.
CST 2301*	Multimedia and Mobile Device Programming	Prereq: CST 1201 and 1204	3 credits.
CST 3513	Object-Oriented Programming in Java	Prereq: CST 1201	3 credits.
CST 3519	Advanced Web Client Technologies	Prereq: CST 2309	3 credits.
CST 3606	Object-Oriented Systems Analysis and Design	Prereq: CST 2406 or CST 3513	3 credits.
CST 3613	Application Development with Databases	Prereq: CST 1201 and CST 1204	3 credits.
CST 4708	Software Development and .NET Framework	Prereq: CST 3513 or CST 3503	3 credits.
CST 4713	Dynamic Web Development: Servlets and JSP	Prereq: CST 3513, CST 3613 and CST 2309	3 credits.
CST 3XXX*	Track Elective		3 credits.
CST 3XXX*	Track Elective		3 credits.

\* Elective courses shall be chosen from any CST 35XX, CST 36XX and CST 47XX course.

\*\* If the course was taken as part of associate degree coursework, select another BTech-level major elective.

**BACHELOR OF TECHNOLOGY IN COMPUTER SYSTEMS: 120 CREDITS.  
MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 42 CREDITS.**

# DEPARTMENT OF COMPUTER SYSTEMS TECHNOLOGY

## SAMPLE COURSE OF STUDY

For Associate in Applied Science in Computer Information Systems and Bachelor of Technology in Computer Systems.

### SEMESTER 1

(Total Credits 16)

CST 1100	Introduction to Computer Systems	3 credits.
CST 1101	Problem Solving with Computer Programming	3 credits.
ENG 1101	English Composition I	3 credits.
COM 1330	Public Speaking or higher	3 credits.
MAT 1375	Precalculus or higher	4 credits.

### SEMESTER 2

(Total Credits 16)

CST 1215	Operating Systems Fundamentals	3 credits.
CST 1204	Database Systems Fundamentals	3 credits.
CST 1201	Programming Fundamentals	3 credits.
ENG 1121	English Composition II	3 credits.
ACC 1101	Principles of Accounting	4 credits.

### SEMESTER 3

(Total Credits 15)

CST 2309	Web Programming I	3 credits.
CST 2307	Networking Fundamentals	3 credits.
LPS	Life and Physical Sciences Course	3 credits.
PSY 1101	Introduction to Psychology	3 credits.
BUS 2425	Business Management	3 credits.

### SEMESTER 4

(Total Credits 13)

CST 2400	Computer Systems Management and Support	3 credits.
CST 2801	Special Topics in Information Technology	1 credits.
CST 2410	Introduction to Computer Security	3 credits.
PRGM Elective		3 credits.
WCGI	World Cultures and Global Issues Course	3 credits.

## FOR SEMESTERS 5 TO 8, CHOOSE ONE OF THE TRACKS BELOW

### Database Track

#### SEMESTER 5

(Total Credits 15)

CST 3504	Database Design	3 credits.
CST 3613	Application Development with Database	3 credits.
CST 2406**/3606	Introduction to Systems Analysis and Design <b>or</b> Object-Oriented Systems Analysis and Design	3 credits.
MAT 2440	Discrete Structures and Algorithms I	3 credits.
BUS 3525	Strategic Management	3 credits.

#### SEMESTER 6

(Total Credits 15)

CST 3604	Quality Database Implementation	3 credits.
CST 4724	Data On the Web	3 credits.
SW	Scientific World Course	3 credits.
MAT 2540/1475	Discrete Structures and Algorithms II <b>or</b> Calculus I	3 to 4 credits.
CE	Creative Expression Course	4 credits.

#### SEMESTER 7

(Total Credits 15)

CST 4704	Business Intelligence, Data Warehousing, and Data Mining	3 credits.
CST 4714	Database Administration	3 credits.
Track Elective*		3 credits.
PSY 2404	Personnel and Organizational Psychology	3 credits.
ID	Interdisciplinary Course	3 credits.

#### SEMESTER 8

(Total Credits 15)

CST 4800	Project Management (WI)	3 credits.
CST 4900/4905	Internship <b>or</b> Information Systems Project	3 credits.
Track Elective*		3 credits.
USED	US Experience in its Diversity Course	3 credits.
ENG 2575	Technical Writing	3 credits.

### Networking and Security Track

#### SEMESTER 5

(Total Credits 15)

CST 3507	Advanced Single-LAN Concepts	3 credits.
CST 3523	Task Automation in System Administration	3 credits.
CST 2405**/2415	Systems Administration (Windows) <b>or</b> Systems Administration (UNIX/Linux)	3 credits.
MAT 2440	Discrete Structures and Algorithms I	3 credits.
BUS 3525	Strategic Management	3 credits.

#### SEMESTER 6

(Total Credits 15)

CST 3607	Interconnectivity	3 credits.
CST 3610	Networking Security Fundamentals	3 credits.
SW	Scientific World Course	3 credits.
MAT 2540/1475	Discrete Structures and Algorithms II <b>or</b> Calculus I	3 to 4 credits.
CE	Creative Expression Course	4 credits.

#### SEMESTER 7

(Total Credits 15)

CST 4707	The LAN-Internet Connections	3 credits.
CST 4710	Advanced Security Technologies	3 credits.
CST 4715	Advance Topics in Systems Administration	3 credits.
PSY 2404	Personnel and Organizational Psychology	3 credits.
ID	Interdisciplinary Course	3 credits.

#### SEMESTER 8

(Total Credits 15)

CST 4800	Project Management (WI)	3 credits.
CST 4900/4905	Internship <b>or</b> Information Systems Project	3 credits.
Track Elective*		3 credits.
USED	US Experience in its Diversity Course	3 credits.
ENG 2575	Technical Writing	3 credits.

#### Footnotes

\* Elective courses shall be chosen from any CST 35XX, CST 36XX and CST 47XX course.

\*\* If the course was taken as part of associate degree coursework, select another BTech-level major elective.

## IT Operations Track

### SEMESTER 5

(Total Credits 15)

CST 3507	Advanced Single-LAN Concepts	3 credits.
CST 4709	Installing and Maintaining Web Servers	3 credits.
CST 2405**/2415	Systems Administration (Windows) <b>or</b> Systems Administration (UNIX/Linux)	3 credits.
MAT 2440	Discrete Structures and Algorithms I	3 credits.
BUS 3525	Strategic Management	3 credits.

### SEMESTER 7

(Total Credits 15)

CST 4700	IT Service Management	3 credits.
CST 4714	Database Administration	3 credits.
CST 3615	Enterprise Applications	3 credits.
PSY 2404	Personnel and Organizational Psychology	3 credits.
ID	Interdisciplinary Course	3 credits.

### SEMESTER 6

(Total Credits 15)

CST 3605	Virtualization	3 credits.
CST 3610	Networking Security Fundamentals	3 credits.
SW	Scientific World Course	3 credits.
MAT 2540/1475	Discrete Structures and Algorithms II <b>or</b> Calculus I	3 to 4 credits.
CE	Creative Expression Course	4 credits.

### SEMESTER 8

(Total Credits 15)

CST 4800	Project Management (WI)	3 credits.
CST 4900/4905	Internship <b>or</b> Information Systems Project	3 credits.
Track Elective*		3 credits.
USED	US Experience in its Diversity Course	3 credits.
ENG 2575	Technical Writing	3 credits.

## Software Development Track

### SEMESTER 5

(Total Credits 15)

CST 3513	Object-Oriented Programming in Java	3 credits.
CST 3519	Advanced Web Client Technologies	3 credits.
CST 2301**	Multimedia and Mobile Device Programming	3 credits.
MAT 2440	Discrete Structures and Algorithms I	3 credits.
BUS 3525	Strategic Management	3 credits.

### SEMESTER 7

(Total Credits 15)

CST 4708	Software Development and .NET Framework	3 credits.
CST 4713	Dynamic Web Development: Servlets and JSP	3 credits.
Track Elective*		3 credits.
PSY 2404	Personnel and Organizational Psychology	3 credits.
ID	Interdisciplinary Course	3 credits.

### SEMESTER 6

(Total Credits 15)

CST 3613	Application Development with Databases	3 credits.
CST 3606	Object-Oriented Systems Analysis and Design	3 credits.
SW	Scientific World Course	3 credits.
MAT 2540/1475	Discrete Structures and Algorithms II <b>or</b> Calculus I	3 to 4 credits.
CE	Creative Expression Course	4 credits.

### SEMESTER 8

(Total Credits 15)

CST 4800	Project Management (WI)	3 credits.
CST 4900/4905	Internship <b>or</b> Information Systems Project	3 credits.
Track Elective*		3 credits.
USED	US Experience in its Diversity Course	3 credits.
ENG 2575	Technical Writing	3 credits.

#### Footnotes

\* Elective courses shall be chosen from any CST 35XX, CST 36XX and CST 47XX course.

\*\* If the course was taken as part of associate degree coursework, select another B Tech-level major elective.