

2015-2016 B.S. Computer Science and Technology – Computer Science Concentration

CORE CURRICULUM – 43-44 Semester Hours (SH)

UNIVERSITY CORE

A. Core Foundations

CORE 101	_____	3
CORE 102	_____	3
HNRS 103*	_____	3
CORE 201	_____	3
CORE 202	_____	3

NOTE: Courses listed in multiple areas can only be used to fulfill a single area requirement.

Students can use only one course with their major prefix to fulfill core requirements.

*** Honors course – will meet CORE 101 & 102 for those students in the RU honors program**

B. Core Skills & Knowledge

Courses must be from different disciplines:

MATHEMATICAL SCIENCES (3SH)
MATH 151 _____ 3

NATURAL SCIENCES (4 SH)
PHYS 221 _____ 4

HUMANITIES (3 SH)
_____ _____ 3

One of the following: **CLSS 110 CCST 110 ENGL 200 HIST 101, 102 PHIL 111, 112, 114 POSC 110; RELN 111, 112, 203, 206**

VISUAL & PERFORMING ARTS (3 SH)
_____ _____ 3

One of the following: **ART 100, 215, 216 CVPA 266, DNCE 111 MUSC 100, 121, 123 THEA 100, 180**

SOCIAL/BEHAV. SCIENCES (3 SH)
_____ _____ 3

One of the following: **ANSC 101, APST 200 ECON 205, 206 GEOG 101, 102, 103 HIST 111, 112 POSC 120 PSYC 121 RELN 205 SOCY 110, 121**

COLLEGE CORE

A. National & International Perspectives Courses must be from different disciplines:

U. S. PERSPECTIVES (3 SH)
_____ _____ 3

One of the following: **APST 200 ECON 101, 205, 206, ENGL 203 GEOG 201, 202, 203 HIST 111, 112 POSC 120, SOCY 110**

GLOBAL PERSPECTIVES (3SH)
_____ _____ 3

One of the following: **CVPA 266, ENGL 201, CCST 103; GEOG 101, 102, 140, 280 HIST 101, 102 INST 101 ITEC 112 PEAC 200 RELN 112, 205, SOCY 121, THEA 180 WMST 101**

B. Supporting Skills & Knowledge

NATURAL SCIENCES OR MATH (3/4 SH)
PHYS 222 _____ 3-4

HUMANITIES, VISUAL & PERFORMING ARTS, OR FOREIGN LANGUAGES (3-4 SH)
_____ _____ 3-4

One of the following: **CLSS 110 CCST 110 ENGL 200, HIST 101, 102 PHIL 111, 112, 114; POSC 110; RELN 111, 112, 203, 206 Or ART 111, 215, 216; CVPA 266; DNCE 111 MUSC 100, 121, 123 THEA 100, 180 Or CHNS 101: 102, 201: 202 ARAB 101, 102, 201, 202, 300, 303 FORL 100, 200, 209, 210 309, 409; FREN 100, 200, 210, 300, 320 GRMN 100, 200: 210, 300 LATN 101,102, 201, 350; RUSS 100, 200, 210, 300; SPAN 101: 102,103, 201, 202**

SOCIAL/ BEHAV. SCI. OR HEALTH & WELLNESS (3SH)
_____ _____ 3

One of the following: **ANSC 101, APST 200 ECON 205, 206 GEOG 101, 102, 103 HIST 111, 112 POSC 120 PSYC 121 RELN 205 SOCY 110, 121 HLTH 111,200, NUTR 214 RCPT 200**

Computer Science CONCENTRATION

(A grade of C or better must be received in all courses with the ITEC Prefix)

ITEC 110	_____ (3)	Principles of Information Technology	F/S
ITEC 120	_____ (4)	Principles of Computer Science I	F/S
ITEC 220	_____ (4)	Principles of Computer Science II	F/S
ITEC 225	_____ (3)	Web Programming I	F/S
ITEC 345	_____ (3)	Introduction to Information Security	F/S
ITEC 490	_____ (1)	IT Professionalism	F/S
ITEC 324	_____ (3)	Principles of Computer Science III	F/S
ITEC 122	_____ (3)	Discrete Mathematics	F/S
MATH 151	_____ (3)	Calculus & Analytical Geometry I	F/S
ITEC 320	_____ (3)	Procedural Analysis and Design	F/S
ITEC 352	_____ (3)	Computer Organization	F
ITEC 360	_____ (3)	Data Structures and Analysis of Algorithms	S
ITEC 370	_____ (3)	Software Engineering I	F/S
ITEC 371	_____ (3)	Operating Systems I	S
ITEC 380	_____ (3)	Organization of Programming Languages	F
ITEC 420	_____ (3)	Computability Theory & Formal Languages	F
MATH 152	_____ (3)	Calculus & Analytical Geometry II	F/S
MATH 251	_____ (3)	Calculus & Analytical Geometry III	F/S
STAT 301	_____ (3)	Probability and Statistics I	F/S
PHYS 221	_____ (4)	Physics	F
PHYS 222	_____ (4)	Physics	S
Any ONE of the following: _____ (3-4)			
ITEC 315	_____ (3)	GUI Design	F/S
ITEC 340	_____ (3)	Database I	F/S
ITEC 350	_____ (3)	Intro to Computer Networking	F/S
ITEC 410	_____ (3)	Modeling and Simulation	F/S
ITEC 430	_____ (3)	Computer Graphics	F/S
ITEC 460	_____ (3)	Translator Design & Construction	F/S
ITEC 480	_____ (3)	Artificial Intelligence	F/S

Prerequisites

"C" or better ITEC 120
"C" or better in either ITEC 109 or ITEC 120
"C" or better ITEC 120
Senior Standing (86 hours or more)
"C" or better in both ITEC 110/220
"C" or better in ITEC 120 and MATH 125, 126, 138, 140 or 151
Math SAT ≥ 550, or college pre-calc ≥ "C"
"C" or better in both ITEC 110 & 220
"C" or better in ITEC 220 and ITEC 122
ITEC 122/324/320 & MATH 251 or 255
"C" or better in both ITEC 110 & 220
ITEC 352
ITEC 324, 320
ITEC 122
MATH 151 "C" or better
MATH 152
MATH 152
MATH 151
PHYS 221
"C" or better ITEC 225
"C" or better in both ITEC 110/220
"C" or better in both ITEC 110/220
ITEC 320 and STAT 301
Pre-req. or Co-req. ITEC 360
ITEC 352 and ITEC 380
ITEC 122 and ITEC 324

Each student majoring in the computer science concentration of the Computer Science and Technology degree must take the Major Field Test (MFT) or an equivalent exam as determined by the department during her or his last semester.

Sample Schedule B.S. Computer Science Major – Computer Science Concentration 15/16
ABET Accredited

Fall Semester		Spring Semester	
Freshman Year	Cr.	Freshman Year	Cr.
University Core A: Core 101	3	University Core A: Core 102	3
ITEC 110	3	ITEC 122 ITEC 120 "C" or better & MATH 125 or higher	3
ITEC 120	4	ITEC 220 "C" or better ITEC 120	4
MATH 151 Math SAT \geq 550, or college pre-calc \geq "C"	3	MATH 152 MATH 151 "C" or better	3
UNIV 100	1	(CORE)	3
	14		16
Students with no programming experience are advised to take ITEC 109 their first semester. This course does not count towards major requirements, but will count towards the 120 credit hours needed to graduate. CSAT students with a Computer Science Concentration must receive a grade of "C" or better in ALL COURSES WITH THE ITEC PREFIX			
Sophomore Year	Cr.	Sophomore Year	Cr.
University Core A: Core 201	3	University Core A: Core 202	3
ITEC 324 "C" or better in both ITEC 110/220	3	ITEC 370 "C" or better in both ITEC 110/220	3
ITEC 225 ITEC 109 or ITEC 120 "C" or better in either	3	ITEC 320 "C" or better in both ITEC 110/220	3
MATH 251 MATH 152	3	(CORE)	3
(CORE)	3	ITEC 345 "C" or better in ITEC 120	3
	15		15
CORE 101, 102, 201, and 202 must be completed in succession. Students should complete CORE 202 prior to their junior year			
Junior Year	Cr.	Junior Year	Cr.
ITEC 352 (F ONLY) ITEC 220 "C or better" and ITEC 122	3	ITEC 371 (S ONLY) ITEC 352	3
STAT 301 MATH 152	3	ITEC 360 (S ONLY) ITEC 122/324/320 & MATH 251	3
PHYS 221 (F ONLY) MATH 151	4	PHYS 222 (S ONLY) PHYS 221	4
(CORE)	3	(CORE)	3
FREE ELECTIVE	3	FREE ELECTIVE	3
	16		16
Senior Year	Cr.	Senior Year	Cr.
ITEC 380 (F ONLY) ITEC 324, 320	3	FREE ELECTIVE	1
ITEC 420 (F ONLY) ITEC 122	3	ITEC 3/4xx chosen from ITEC 315, 340, 350, 410, 430, 460 or 480	3
B.S. requirement (see catalog)	4	(CORE)	3
(CORE)	3	B.S. requirement	4
ITEC 490	1	FREE ELECTIVE	3
	14		14

B.S. Requirements 7-8 hrs.: Student concentrating in Computer Science must choose two courses from the following list:
 ASTR 111:112; any Biology (except BIOL 301:302); any Chemistry; any Geology (except GEOL 110, 205); any Physics (except PHYS 111:112 and PHYS 221:222 or PHYS 231); PHSC 301