Program Map: Computer Science Technology
Engineering Technology Department, College of Science and Technology

Name: **SID:** **Advisor:**
Start Date: **Catalog Date:** **Expected Graduation Date:**

Freshman

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
ENGL 1101* Core Area A	Composition I Pre-requisite: None	3	ENGL 1102* Core Area A	Composition II Pre-requisite: ENGL 1101	3	*A grade of C or better must be earned for this course Accumulate minimum of 30 semester hours in your Freshmen Year.
MATH 1113* Core Area A	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 2101* Area F	Calculus I Pre-requisite: MATH 1113	4	
HUMN 1201 Core Area B	Critical Thinking & Communication Pre-requisite: None	3	PHYS 1111K* Area D Lab	Introductory Physics I Pre-requisite: MATH 1113	4	
COST 1103 Area F	COST First Year Experience Pre-requisite: None	2	CSCI 1302* Area F	Computer Science II Pre-requisite: CSCI 1301	4	
CSCI 1130 Area D (non-lab)	Computer & its Applications Pre-requisite: None	3				
CSCI 1301* Area F	Computer Science I Pre-requisite: MATH 1111	3				
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take MATH 1113 and CSCI 1301 to prevent delay in graduation		17			15	

Sophomore

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
MATH 2301* Area F	Discrete Mathematics Pre-requisite: MATH 1113	3	MATH 2111* Major Math Core	Calculus II Pre-requisite: MATH 2101	4	*A grade of C or better must be earned for this course Accumulate minimum of 60 semester hours in your Sophomore Year.
PHYS 1112K* Area D Lab	Introductory Physics II Pre-requisite: PHYS 1111K	4	CSCI Option*	CSCI Option – Section I Pre-requisite: Varies	4	
CSCI 3000* Major CSCI Core	Data Structure & Algorithm Design Pre-requisite: CSCI 1302	3	ELET 3101K* Major ENGG Tech Core	Electric Circuit I Pre-requisite: MATH 1113	4	
CSCI 2231K* Area F	Programming Languages Pre-requisite: CSCI 1301	3	ENGT 2101K* Major Engg Tech Core	Computer Graphics Pre-requisite: MATH 1113	3	
CSCI Option*	CSCI Option – Section I Pre-requisite: Varies	3				
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take CSCI 3000 to prevent delay in graduation		16	Students must take ELET 3101K to prevent delay in graduation		15	

Junior

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
CSCI 3385K* Major CSCI Core	Computer Network & Design/ Data Comm. & Comp. Network Pre-requisite: CSCI 1301 or CSCI 1371	3	CSCI 4310* Major CSCI Core	Compiler Construction Pre-requisite: CSCI 3000	3	*A grade of C or better must be earned for this course Accumulate minimum of 90 semester hours in your Junior Year. Apply for graduation.
Major*	CSCI OPTION – Section I Pre-requisite: varies	4	Major*	Engineering Technology Option-Section I Pre-requisite: varies	4	
ELET 3301K* Major ENGG Tech Core	Digital System I Pre-requisite: ELET 3101K	4	Core Area C Option	Pre-requisite: None	3	
Core Area C Option	Pre-requisite: None	3	Major*	CSCI Option – Section II Pre-requisite: Varies	3	
			Major*	Engineering Technology Option-Section II Pre-requisite: Varies	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take ELET 3301K to prevent delay in graduation.		14			16	

Senior

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
CSCI 4110* Major CSCI Core	Operating System Pre-requisite: CSCI 3000	3	CSCI 4210* Major CSCI Core	Database Management/Database Design & Implementation Pre-requisite: CSCI 3000	3	*A grade of C or better must be earned for this course
Major*	Engineering Technology Option-Section I Pre-requisite: Varies	4	ENGT 4401* Major CSCI Core	Senior Project Pre-requisite: Varies	3	Does this Degree Program Require a Minor? No
Area E Social Sci. Option	Pre-requisite: Varies	3	AFRS 1501 Core Area B	Survey African American History Pre-requisite: None	2	Total Hours Required for this Degree Program: 124
POLS 1101 Core Area E	American Government Pre-requisite: None	3	Area E Social Sci. Option	Pre-requisite: None	3	
ELET 3411K* Major ENGG Tech Core	Microcontrollers Pre-requisite: ELET 3301K	4	HIST 2111 or 2112 Core Area E	U.S. History Pre-requisite: None	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
		17			14	

Program Map: Computer Science Technology
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Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs
- i. AFRS 1501 Survey of African-American Experience 2 hrs
- ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,

1. Select one of the following:
   - i. ENGL 2111 World Literature I 3 hrs
   - ii. ENGL 2112 World Literature II 3 hrs
   - iii. ENGL 2121 British Literature I 3 hrs
   - iv. ENGL 2122 British Literature II 3 hrs
   - v. ENGL 2131 American Literature I 3 hrs
   - vi. ENGL 2132 American Literature II 3 hrs
   - vii. ENGL 2222 African American Literature 3 hrs
   - viii. PHIL 2010 Introduction to Philosophy 3 hrs
   - ix. PHIL 2030 Introduction to Ethics 3 hrs
2. Select one of the following:
   - i. ARTS 1101 Introduction to Visual Art 3 hrs
   - ii. DNCE 2010 Dance Appreciation 3 hrs
   - iii. ENGL 2521 Introduction to Film 3 hrs
   - iv. HUMN 2011 Humanities 3 hrs
   - v. MUSC 1101 Introduction to Music 3 hrs
   - vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 11 hrs

1. Select one of the following:
   - i. BIOL 1107 Principles of Biology I 3 hrs
   - ii. BIOL 1108 Principles of Biology II 3 hrs
   - iii. CHEM 1211 Principles of Chemistry I 3 hrs
   - iv. CHEM 1212 Principles of Chemistry II 3 hrs
   - v. CILS 1130 Computer Applications 3 hrs
   - vi. **CSCI 1130 Computer Applications 3 hrs**
   - vii. CSCI 1301 Computer Science I 3 hrs
   - viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences in sequence:
   - i. BIOL 1107/1107L Principles of Biology I 4 hrs
   - ii. BIOL 1108/1108L Principles of Biology II 4 hrs
   - iii. CHEM 1211/1211L Principles of Chemistry 4 hrs
   - iv. CHEM 1212/1212L Principles of Chemistry 4 hrs
   - v. **PHYS 1111K Introductory Physics I 4 hrs**
   - vi. **PHYS 1112K Introductory Physics II 4 hrs**
   - vii. **PHYS 2211K Principles of Physics I 4 hrs**
   - viii. **PHYS 2212K Principles of Physics II 4 hrs**

Area E – Social Science 12 hrs
- i. POLS 1101 American Government 3 hrs

2. Select one of the following:
   - i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
   - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. Select two of the following:
   - i. AFRS 2000 Introduction to Africana Studies 3 hrs
   - ii. ANTH 1101 Introduction to Anthropology 3 hrs
   - iii. ECON 2105 Principles of Macro-Economics 3 hrs
   - iv. GEOG 1101 Introduction to Human Geography 3 hrs
   - v. HIST 1111 World Hist to Early Modern Times 3 hrs
   - vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
   - vii. POLS 2401 Global Issues 3 hrs
   - viii. PSYC 1101 Intro to General Psychology 3 hrs
   - ix. PSYC 2103 Human Growth & Development 3 hrs
   - x. SOCI 1101 Introduction to Sociology 3 hrs
   - xi. SOCI 1160 Social Problems 3 hrs

CSCI Options: (13-hours)

Section I - Select 7 hours from:

CSCI 1610	Programming in Java	4 hrs
CSCI 2215	Perl Scripting	4 hrs
CSCI 2601K	Info Security Fundamentals	3 hrs
CSCI 3102/	Visual Basic/	3 hrs
CILS 2140	Intro to Programming: Visual Basic	
CSCI 3210	Advanced Java	3 hrs
CSCI 3414	Software Engineering	3 hrs
CSCI 3800	Computer Architecture	3 hrs

Section II - Select 6 hours from:

CSCI 4010K	Ethical Hacking and Pen. Testing	4 hrs
CSCI 4020K	Mobile Computing	4 hrs
CSCI 4410/	Web Based Programming /	3 hrs
CILS 3232	Web Application Development	
CSCI 4510	Artificial Intelligence	3 hrs
CSCI 4622K	Cyber Forensics	4 hrs

Engineering Technology Option: (12 hrs)

Section I - Select 8 hours from:

ELET 3111K	Electrical Circuit II	4 hrs
ELET 3201K	Electronics I	4 hrs
ELET 3211K	Electronics II	4 hrs
ELET 3311K	Digital Systems II	4 hrs
ELET 3401K	Microcomputer Interfacing	4 hrs
ELET 3412K	Cybersecurity and embedded systems	4 hrs

Section II - Select 4 hours from:

ELET 3701K	Data Acquisition System	4 hrs
ELET 4101K	Programmable Logic Controller	4 hrs
ELET 4402K	Network Defense & Counter Measures	4 hrs
ELET 4611K	Fiber Optics	4 hrs
ELET 4621K	Digital Communications	4 hrs

Distinctive Courses/Descriptions

Computer Science Technology

The Computer Science Technology core course work includes:

Windows Programming with emphasis on windows API (Application Programming Interface) using C#, Visual Basic and Java.
Scripting Programming with emphasis on PERL, UNIX (Shell Programming) and CGI Scripts.
Web Programming with emphasis on web API and databases using .Net Framework
Software Development and Algorithm Design with emphasis on OOP (Object-Oriented Programming) and various programming languages (ex: JAVA, C#, C++).
Databases with emphasis on the analysis and design to implement databases using SQL Server, and MySQL applications.

Computer Science Technology Major

The curriculum in computer science technology is designed for those students who are interested in careers in computer science. This program is flexible so that students may orient the major emphasis toward software aspect of computer science or to be the hardware realm of computer science. This program promotes an extensive interdisciplinary approach to provide students a sound educational background, one that will make the students quite marketable and thus be prepared for gainful employment in the following areas:

Software Developer- responsible to analyze users' need and to design, test and implement an application software by using a variety of software tools (Visual Studio, Eclipse, PyCharms)
Computer Programmer – responsible to write and test code in various programming languages (Visual C#, Java, Python, C++) to make sure that an application software functions correctly.
Computer Analyst – responsible to analyze and maintain a system based on users' requirements and to implement an application system by using different programming languages and tools.
End User Support – responsible to provide technical assistance to end users either in applications software and/or hardware related issues.
Web Developer – responsible to design, implement and test a web site by using .Net framework and other Web platform tools.
Network Setup and Administration – responsible to install, tests, and maintain the network environment by applying hardware configuration, in TCP/IP, routing protocols, network security. Responsible to apply policies, procedures, principles and best network practices and telecommunications support services.

Program of Study –
Bachelor of Science in Computer Science Technology
Areas A, B, C, D, E, and additional requirements 43 hrs

MATH 1113 Required in Core Area A

COST 1103	**First Year Experience**	**2 hrs**
***Area F**		**17 hrs**
CSCI 1301	Computer Science I	3 hrs
CSCI 1302	Computer Science II	4 hrs
MATH 2101	Calculus I	4 hrs
MATH 2301	Discrete Mathematics	3 hrs
CSCI 2231K	Programming Languages	3 hrs
***Major Requirements**		**62 hrs**
CSCI Core Courses		*18 hrs*
CSCI 3000	Data Structures & Algorithm	3 hrs
CSCI 3385K/ CILS 3325	Computer Network and Design/ Data Comm & Comp Network	3 hrs
CSCI 4110	Operating Systems	3 hrs
CSCI 4210	Database Management	3 hrs
CSCI 4310	Compiler Construction	3 hrs
ENGT 4401	Senior Project	3 hrs
Engineering Technology Core Courses		*15 hrs*
ENGT 2101K	Computer Graphics	3 hrs
ELET 3101K	Electrical Circuit I	4 hrs
ELET 3301K	Digital Systems I	4 hrs
ELET 3411K	Microcontrollers	4 hrs
Math Core Course		*4 hrs*
MATH 2111	Calculus II	4 hrs

CSCI Technology/Engineering Technology Option		*25 hrs*
Select from the following		10 hrs
CSCI 1610	Programming in Java	4 hrs
CSCI 2215	Perl Scripting	4 hrs
CSCI 2601K	Info Security Fundamentals	3 hrs
CSCI 3102/ CILS 2140	Visual Basic/ Intro to Prog.: Visual Basic	3 hrs
CSCI 3210	Advance Java	3 hrs
CSCI 3414	Software Engineering	3 hrs
CSCI 3800	Computer Architecture	3 hrs
Select from the following		*3 hrs*
CSCI 4010K	Ethical Hacking & Pen. Testing	4 hrs
CSCI 4020K	Mobile Computing	4 hrs
CSCI 4410/ CILS 3232	Web Based Programming/ Web App. Development	3 hrs
CSCI 4510	Artificial Intelligence	3 hrs
CSCI 4622K	Cyber Forensics	4 hrs
Or any approved CSCI course by the advisor		
Select from the following		*8 hrs*
ELET 3111K	Electrical Circuit II	4 hrs
ELET 3201K	Electronics I	4 hrs
ELET 3211K	Electronics II	4 hrs
ELET 3311K	Digital Systems II	4 hrs
ELET 3401K	Microcomputer Interfacing	4 hrs
ELET 3412K	Cybersecurity & Embd Sys.	4 hrs
ELET 3701K	Data Acquisition Systems	4 hrs
Select from the following		*4 hrs*
ELET 4101K	Programmable Logic Controller	4 hrs
ELET 4402K	Network Defense and Counter Measures	4 hrs
ELET 4611K	Fiber Optics	4 hrs
ELET 4621K	Digital Communications	4 hrs
Or any approved ELET, ENGT or ENGR course by the advisor		
TOTAL 124 hours		

***A grade of "C" or better is required**