TENNESSEE STATE UNIVERSITY

COMPUTER SCIENCE ACADEMIC MAP: DEGREE BS WITH CONCENTRATION IN CYBERSECURITY AND NETWORKING
(120 CREDIT HOURS)

This degree map is a semester-by-semester sample course schedule for students majoring in **Computer Science with Concentration in Cybersecurity**. The milestones listed to the right of each semester are designed to keep a student on track to graduate in four years. The schedule serves as a general guideline to help build a full schedule each semester. Milestones are courses and special requirements necessary for timely progress to complete a major. When one or more milestones are missed, students should consult with an academic advisor to determine if another degree path would be more suitable.

The Computer Science Department resides in the College of Engineering. A student majoring in the area of Computer Science is exposed to a broad---base of knowledge in various contemporary computer science fields such as computer architecture and organization, algorithm design and analysis, computer programming, database management systems, and computer networks and data communications. Computer Science, like other degree programs in the College, requires students to have academic preparation in mathematics and the natural sciences; it also relies heavily o the areas of communications and ethics.

Students in the discipline are expected to maintain a minimum cumulative Grade Point Average (GPA) of 2.00. Computer Science majors earning a grade of "D" or lower in a COMP course or MATH 1910 should repeat the course the very next time the course is offered. A student, however, may graduate with a maximum of two "D" grades in these courses. Additionally, the University requires a minimum of "C" grade in ENGL 1010 and ENGL 1020. Students can enroll in COMP 4500, Senior Project I, only if they are eligible for graduation in the following semester. For more information concerning policies and practices in the Department of Computer Science, please refer to the department's website (www.tnstate.edu/cs).

Tennessee State University recognizes that students have diverse learning, life, and professional experiences. The University provides opportunities for students to earn college credit toward the degree through a number of assessment options that evaluate their learning experiences. These paths are grouped under the category "Prior Learning Assessment" (PLA). Various means of earning PLA credit at TSU are the following: Advanced Placement Program, American Council of Education (ACE) Military Credit, College Level Exam Program (CLEP), DSST Credit by Examination Program (includes DANTES Examination), Institutional Course Challenge Exams (Departmental Exams), International Baccalaureate Credit, Other Military Service, Portfolio Assessment. To learn more about PLA contact your academic advisor or the Office of Student Support Services for Adult and Distance Learners at (615) 963---7001 or adultstudentsupport@tnstate.edu.

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Fall Schedule		Mileston
Semester 1	**Hrs.**	**Semester 1**
ENGL 1010	3	Pre-requisite Course: Must be taken before ENGL 1020, and HIST 2010, HIST 2020, HIST 2030, HIST 2060, HIST 2070, or HIST 2700; Minimum grade "C" Required
UNIV 1000*	1	
COMP 1500	1	Minimum Grade of "C" Required
COMP 2140	4	Pre-requisite Course: Must be taken before 2240 and other upper division COMP courses (3000-4000 level) except COMP 3190; Minimum Grade of "C" Required
MATH 1910	4	Pre-requisite Course: Must be taken before MATH 1920; Minimum Grade of "C" Required
Humanities Elective**	3	
Total Hours	**1**	

*An Orientation course taken at another University does **NOT** meet this requirement. Students with less than 60 credit hours must take UNIV 100 at TSU.

** Students must take a 3-credit hour course from the following list of approved general education Humanities courses: AREN 2310, ART 1010, HIST 1000, MUSC1010, PHIL 1030, RELS 2010 or THTR 1020.

Spring Schedule		Milestones
Semester 2	**Hrs.**	**Semester 2**
ENGL 1020	3	Pre-requisite Course: Must be taken before taking HIST 2010, HIST 2020, HIST 2030, HIST 2060, HIST 2070, or HIST 2700; Minimum Grade "C" Required
COMP 2240	4	Pre-requisite Course: Must be taken before COMP 3030, COMP 3040, COMP 3050, COMP 3170, COMP 3230, COMP 3300, COMP 4280, COMP 4600, COMP 4800; Minimum Grade of "C"
MATH 1920	4	
Social Behavioral Elective*	3	
Total Hours	**14**	

*Social Sciences elective must be chosen from: AFAS 2010, ANTH 2300, ECON 2010, ECON 2020, GEOG 1010, GEOG 1020, HPSS 1510, POLI 2010, POLI 1010, PSYC 2010, SOCI 2010, WMST 2000, or URBS 2010.

Fall Schedule		Milestones
Semester 3	**Hrs.**	**Semester 3**
ENGL LIT*	3	
COMP 3040	3	Pre-requisite Course: Must be taken before 4700; Minimum Grade of "C" Required
COMP 2400	3	Pre-requisite Course: Must be taken before COMP 2600, COMP 3170, COMP 3310, COMP 3410, COMP 3500, COMP 3650, and COMP 4100; Minimum Grade of "C" Required
Natural Science w/Lab**	4	
COMM 2200	3	
Total Hours	**16**	

*Courses within the range of ENGL 2012---2322 will meet this requirement.

**Natural Science must be chosen from: PHYS 2110/2111 (or PHYS 2010/2011), PHYS 2120/2121 (or PHYS 2020/2021), CHEM 1110/1111, CHEM 1120/1121, BIOL 1110/1111, or BIOL 1120/1121.

Spring Schedule		Milestones
Semester 4	**Hrs.**	**Semester 4**
COMP 3010 or COMP 3200	4	Pre-requisite Course: Must be taken before COMP 3560, COMP 4700; Minimum Grade of "C" Required
COMP 3190	2	Minimum Grade of "C" Required
Social Behavioral Elective*	3	
Natural Science w/Lab**	4	
History***	3	
Total Hours	**16**	

*The following courses can meet the Social Science elective: AFAS 2010, ANTH 2300, ECON, 2010, GEOG 1010, HPSS 1510, POLI 1010, PSYC 2010, SOCI 2010, WMST 2000, and URBS 2010. Students must remember not to duplicate course option from a previous semester.

**Natural Science must be chosen from: PHYS 2110/2111 (or PHYS 2010/2011), PHYS 2120/2121 (or PHYS 2020/2021), CHEM 1110/1111, CHEM 1120/1121, BIOL 1110/1111, or BIOL 1120/1121.

***History must be from the General Education list of History courses approved by the University. They are currently HIST 2010 and HIST 2020 HIST 2030, HIST 2060, HIST 2070 or HIST 2700.

Fall Schedule		Milestones
Semester 5	**Hrs.**	**Semester 5**
COMP 3050	3	Minimum Grade of "C" Required
COMP Elective (Programming)*	3	Minimum Grade of "C" Required
COMP 3310	3	Pre-requisite Course: Must be taken before 4720, 4750; Minimum Grade of "C" Required
Natural Science w/Lab**	4	
History***	3	
Total Hours	**16**	

*COMP Elective (Programming) must be chosen from the following list: COMP 3110, COMP 3120, COMP 3130, COMP 3140, or COMP 3150.

**Natural Science must be chosen from: PHYS 2110/2111 (or PHYS 2010/2011), PHYS 2120/2121 (or PHYS 2020/2021), CHEM 1110/1111, CHEM 1120/1121, BIOL 1110/1111, or BIOL 1120/1121. Students must remember not to duplicate a course option from a previous semester.

***History courses that meet this requirement are: HIST 2010 and HIST 2020. HIST 2030, HIST 2060, HIST 2070, and HIST 2700. Students must remember not to duplicate a course option from a previous semester.

Spring Schedule		Milestones
Semester 6	**Hrs.**	**Semester 6**
COMP 3300	3	Pre-requisite course: Must be taken before; COMP 4500; Minimum Grade of "C" Required
COMP 3560	3	Minimum Grade of "C" Required
COMP 4720	3	Minimum Grade of "C" Required
COMP 4750	3	Minimum Grade of "C" Required
MATH 2050 or MATH 3100 or STAT 3110	3	
Total Hours	**15**	

Fall Schedule		Milestones
Semester 7	**Hrs.**	**Semester 7**
		All computer science majors must review degree requirements with the Department Chair at least one semester prior to graduation.
COMP 4100	3	Minimum Grade of "C" Required
COMP 4500*	2	Pre-requisite Course: Must be taken before COMP 4510; Project related to CS; Minimum Grade of "C" Required
COMP 4700	3	Minimum Grade of "C" Required
COMP 4770 OR COMP 4780	3	Minimum Grade of "C" Required
Technical Elective**	3	
Total Hours	14	

*Must be a graduating senior to enroll in this course.

**Technical Electives may be chosen from: Computer Science and Business Information Systems. Courses may also be selected from the following areas:

a. College of Engineering– select courses at any level and from any department in the College of Engineering; however, the credit hours selected from the 1000 level should not be more than three (3 credit hours).
b. Natural Science – selection can be from any level.
c. Mathematics – selection can be from the 2000 level and above. Math 1115 may also be accepted. Students must remember not to duplicate a course option from a previous semester.
d. Astronomy – any level.

Spring Schedule		Milestones
Semester 8	**Hrs.**	**Semester 8**
		Take Senior Exit Exam and Apply for Graduation
COMP 4510	1	Project related to CSN; Minimum Grade of "C" Required
COMP 4760	3	Minimum Grade of "C" Required
MATH Elective*	3	
Technical Elective**	3	
Humanities Elective***	3	
Total Hours	**13**	

*MATH elective must be 2000 or higher level course with approval of academic advisor. MATH 2500, 3130, 3710, 4500, 4724, 4750, and 4900 are not accepted and will not meet this requirement.

**Technical Electives may be chosen from: Computer Science and Business Information Systems. Courses may also be selected from the following areas:

a. College of Engineering– select courses at any level and from any department in the College of Engineering; however, the credit hours selected from the 1000 level should not be more than three (3 credit hours).
b. Natural Science – selection can be from any level.
c. Mathematics – selection can be from the 2000 level and above. Math 1115 may also be accepted. Students must remember not to duplicate a course option from a previous semester.
d. Astronomy – any level.

*** Students must take a 3-credit hour course from the following list of approved general education Humanities courses: AREN 2310, ART 1010, HIST 1000, MUSC1010, PHIL 1030, RELS 2010 or THTR 1020. Students must remember not to duplicate a Humanities course option from a previous semester.

Employment Information:
Computer Science is among the highest paid fields in science, technology, and engineering and the U.S. Department of Labor projects that it will continue to be one of the fastest growing occupations for the near future. According to the 2013 Bureau of Labor Statistic data, the computer science job opening forecast for 2010---2020 is 2.4 times larger than the number of computer science graduates and there will be about 1 million more jobs than students by 2020.

Representative Job Titles Related to this Major:
Computer Scientist, Computational Scientist, Software Engineer, Software Developer, Computer Programmer, Web Developer, Software Architect, Software Quality Engineer, Software Test Engineer, IT Specialist, Application Developer, System Security Engineer, Information Security Analyst, Data Scientist, Database Developer, Database Administrator, Systems Administrator, Computer System Analyst, IT Support Engineer, and Computer Network Architect.

Representative Employers:
Our graduates are employed by major IT companies (e.g. IBM, Bank of America, and Microsoft), local IT companies (e.g., HCA and Asurion), government contractors (e.g. Lockheed Martin and Northrop Grumman), government agencies (e.g. Air Force Research Laboratory), financial institutions (e.g. Bank of America and UBS), and in many other sectors. Many of our graduates also choose to continue advance studies in various graduate schools.

International study is available for all TSU students and may include opportunities for internships or taking course work towards various minors. International study may have an impact on the academic map; therefore, it is important to consult with the academic advisor for this major before participating in an international Program opportunity. Students interested in study abroad opportunities should contact the Office of International Programs and consult with their academic advisor.

Launch My Career Tennessee

To better assist you in making decisions about the career for which you are preparing, a link to the website, Launch My Career Tennessee has been provided for you to explore. The tools on the site will give you a wealth of information concerning your degree choice and possible career pathways. For example, the site will allow you to determine the return on the investment you are making in your education by estimating expected earnings over the course of your career. Begin charting your course by clicking on the link below.

http://launchmycareertn.org/