

Degree Plan

Bachelor of Science (BS) in Cybersecurity

The Bachelors of Science in Cybersecurity at UTRGV prepares graduates for a career as an entry level cybersecurity professional in the private or public sectors markets including government, military, manufacturing, service, and education. The program follows a holistic approach that integrates technical, legal and ethical, business, and policy skills by drawing from related cybersecurity areas of computer science, business, information security, and criminal justice. Students develop the well-rounded skills, abilities and confidence necessary for exploring modern cybersecurity theories and practices through hands-on learning experiences.

Program Outcomes

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.
6. Apply security principles and practices to maintain operations in the presence of risks and threats.

Major	Degree Type	Department	Catalog Year
Cybersecurity	Bachelor of Science	Computer Science	2020/2021

A. Core Curriculum - 42 to 44 hours
<p>Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.</p> <p>Required:</p> <p>010 - Communication (6 hours – minimum grade of C) ENGL 1301 Rhetoric and Composition I ENGL 1302 Rhetoric and Composition II</p> <p>020 - Mathematics (3 hours – minimum grade of C) MATH 2412 Precalculus (<i>3 SCH in Gen. Ed. & 1 SCH in Support Courses category</i>)</p> <p>030 - Life and Physical Sciences (6 hours) Choose any two (lab hours beyond the 6 lecture hours taken may be counted towards 090): ASTR 1401 Introductory Astronomy I ASTR 1402 Introductory Astronomy II</p>

BIOL 1406 General Biology I
BIOL 1407 General Biology II

CHEM 1309 General Chemistry for Engineers
CHEM 1311 General Chemistry I
CHEM 1312 General Chemistry II

ENVR 1401 Introduction to Environmental Science I
ENVR 1402 Introduction to Environmental Science II

GEOL 1403 Physical Geology
GEOL 1404 Historical Geology

PHYS 1401 General Physics I
PHYS 1402 General Physics II

PSCI 1421 Physical Science I
PSCI 1422 Physical Science II

040 - Language, Philosophy & Culture (3 hours)

PHIL 2326 Ethics, Technology, and Society

050 - Creative Arts (3 hours)

Any listed course under this category

060 – American History (6 hours)

HIST 1301 U.S. History I
HIST 1302 U.S. History II

070 – Government/Political Science (6 hours)

POLS 2305 U.S. Federal Govt & Politics
POLS 2306 Texas Govt & Politics

080 – Social and Behavioral Sciences (3 hours)

Any listed course under this category except PHIL

090 - Integrative and Experiential Learning (6 hours)

(lab hours beyond the 6 lecture hours taken under 030 category may be counted here):

COMM 1315 Public Speaking

Choose an additional course from this category except PHIL 2326 to complete 6 hours under this 090 category

B. MAJOR REQUIREMENTS – 71 Hours

Major requirements include required courses, restricted electives, concentrations, and support courses as applicable. Required courses typically draw largely from one academic department; however, interdisciplinary programs may include courses from more than one department.

1. Cybersecurity Core - 43 hours (29 Advanced hours)

<p>Required courses provide a foundation for in-depth understanding of the discipline. Required courses are taken by all students in the major.</p>	
<p>CSCI 1101 Introduction to Computer Science (<i>minimum grade of C</i>) CSCI 1170 Computer Science I Lab (<i>minimum grade of C</i>) CSCI 1370 Computer Science I (<i>minimum grade of C</i>) CSCI 2322 Foundations of Systems (<i>minimum grade of C</i>) CSCI 2344 Programming in Unix/Linux (<i>minimum grade of C</i>) CSCI 2380 Computer Science II (<i>minimum grade of C</i>) CSCI 3101 Certification (x2) CSCI 3340 Software Engineering CSCI 3343 Intrusion Detection, Incident Response, and Information Assurance CSCI 3344 Distributed and Cloud Computing Security CSCI 3345 Operating Systems and Security CSCI 3346 Wireless and Mobile Security CSCI 4318 Cybersecurity CSCI 4319 Digital Forensics CSCI 4345 Computer Networks CSCI 4365 Computer and Network Security</p>	
<p>2. Prescribed Electives - 9 Advanced hours</p>	
<p><i>Prescribed electives provide guidance to students for exploring courses within the discipline or field of study. Prescribed electives complement required courses and are numerous enough to provide breadth and depth of study.</i></p>	
<p>Choose any Advanced 9 hours from CSCI or INFS such as: CSCI 3341 Software Engineering II CSCI 3342 Internet Programming CSCI 4333 Database Design and Implementation CSCI 4341 Special Topics (<i>except a language course such as Python</i>) INFS 3380 Global Info Technology INFS 4391 Information Security INFS 4397 Health Comp Info System</p>	
<p>3. [Name] Concentration(s) - X hours</p>	
<p><i>A concentration is a designated and coherent set of courses designed to develop an area of emphasis within the major.</i></p>	
<p>4. Support Courses – 19 hours (12 Advanced hours)</p>	
<p><i>Support courses consist of a brief list from one or multiple fields, often outside, but complementary to the discipline, that provide pre- or co-requisite knowledge, skills and experiences for success in the major.</i></p>	
<p>CRIJ 1301 Introduction to Criminal Justice CRIJ 3316 Criminal Evidence & Proof INFS 3308 Business Information Infrastructure BLAW 3337 Business Law I COMM 3313 Business and Technical Communication STAT 2334 Applied Statistics for Health MATH 2412 Precalculus (<i>3 SCH in Gen. Ed. & 1 SCH in Support Courses category</i>)</p>	
<p>C. MINOR (placeholder for minor if required by program)</p>	

<i>A minor is a designated area of study outside of the major that allows the student to explore a secondary discipline or field of study. Minors are approved by the Undergraduate and must be completed concurrently with the undergraduate degree.</i>
Bachelor of Science in cybersecurity <i>does not require</i> students to get a minor in another field.
D. FREE ELECTIVES – 11 hours
<i>Free electives are courses with no prescribed or restricted list of courses.</i>
<p>Free Elective 1 (3 SCH) – Any level</p> <p>Free Elective 2 (3 SCH) – Any level</p> <p>Free Non-Advanced Elective (5 SCH)</p>
E. OTHER
Teacher Education Block for certification programs

Total Hours for Graduation
The total minimum and maximum number of hours in a degree program should not be less or more than 120 unless approved by THECB.
124 credit hours

Major Admissions Requirements <i>Major admission requirements are any requirements beyond the institutional requirements to be met to be admitted to the major.</i>
1. Admission requirements required for this program beyond university admission requirements.
2. Application process, timeline for admission and office/department responsible.
Major Progression Requirements <i>Major progression requirements are included when programs are sequenced and structured in a manner that requires completion of certain courses with specific grades before advancing to the next sequence of courses. Can also include other benchmark requirements that prohibit progression in the program if not met.</i>
1. Progression requirements required for this program.
2. Progression monitoring process and office/department responsible.
Major Graduation Requirements <i>Major graduation requirements are included when graduation requirements differ from institutional requirements (e.g., GPA in the major greater than 2.5).</i>

Degree Plan Guidance Standards Approved by the Undergraduate Committee on 4/26/2019 and the EVP for Academic Affairs, Student Success and P-16 Integration 5/31/2019

1. Specific graduation requirements required for this program beyond university bachelor's degree requirements.

56 Advanced credit hours (38 advanced credit hours in the major field)

Checklist for Minimum Institutional Requirements			
Institutional requirements are minimum standards to be met by every bachelor's degree seeking student at UTRGV. Major requirements may exceed the institutional requirements. Students pursuing the Bachelor of Science in Cybersecurity must meet the following minimum institutional requirements for a degree, any others identified in the undergraduate catalog, and any requirement stipulated by the major. Students are accountable for knowing whether their program exceeds the minimum institutional requirements.			
	Minimum of 120 credit hours (or more ONLY IF approved by THECB)		Minimum of 42 advanced credit hours overall on the degree plan (majors may require more) ... <i>50 advanced credit hours</i>
	Minimum Major GPA of 2.0 (major may require a higher GPA)		Minimum of 30 credit hours in the major field (majors may require more) ... <i>52 credit hours in the major field</i>
	Minimum Minor GPA of 2.0 (minor may require a higher GPA)		Minimum of 15 advanced credit hours in the minor field (majors may require more)
	Minimum of 42 credit hours core curriculum		Minimum 25% of credits earned through instruction offered at UTRGV
	Minimum grade of C in each first-year writing course for core curriculum		Degree completed by catalog expiration
	Minimum grade of C in mathematics course for core curriculum		
	No courses reused to fulfill both major and minor requirements		
	No courses reused to fulfill requirements for more than one minor		