

The University of Texas Rio Grande Valley

REQUEST FOR BLANKET WAIVER OF UNDERGRADUATE GRADUATION REQUIREMENT

REQUIREMENT TO BE WAIVED

Amendment: Bachelor of Science in Computer Science (BSCS) 2016 - 2017 catalog.

JUSTIFICATION FOR THE WAIVER REQUEST

REQUIREMENT TO BE WAIVED

1. Waiver of Humanities requirement of the General Education Core section 090. "Choose any course from Humanities, except for Professional Ethics." Students will be allowed to fulfill the category hours (3 hours) with the laboratories of the following science courses: BIOL 1406 (1487), BIOL 1407 (1488), BIOL 2401, BIOL 2402, CHEM 1111, CHEM 1112, PYS 1401, PHYS 1402, PHYS 2425, PHYS 2426.
 2. Waiver of Section C3 – Laboratory - 2 hours
 3. Reduction in hours of section C4 – Basic Science to 3-lecture hours of courses not already fulfilling the Core Curriculum
 4. Reduction of 3 hours in section C – Support Courses to 38 hours
 5. Reduction of Total Credit Hours for Graduation to 124
- For details, see attached degree plan.

JUSTIFICATION FOR THE WAIVER REQUEST

The requirement of a specific humanities course to fulfill section 090 of the core curriculum is unnecessary. The three science labs in the Support Courses section can count towards section 090 of the core curriculum permitting the degree hours to be reduced by 3 chrs. Students will still complete a total of 12 chrs of science courses. Current ABET accreditation and Coordinating Board approval allows students to earn the degree with 124 chrs.

SIGNATURES OF APPROVAL

Andres Figueroa _____ 4/18/19
Initiated by Date

Doug Timmer _____ 4/22/2019
College/School Dean Date

Emmett Tomai _____ 4/22/2019
Department Chair/School Director Date

 _____ 4/22/19
Undergraduate Committee Chair Date

Andres Figueroa _____
School/Dept/Prog Committee Chair (if existent) Date

 _____ 4/26/19
AVP for Academic and Institutional Excellence Date

College/School Committee Chair (if existent) Date

Computer Science is the study of the structure, function and application of computers and is central to the rapidly expanding use of information technology. Computers have traditionally been used in business, engineering and scientific applications, and now applications are found in almost all human activities from art to zoology. Computer science is both an applied and theoretical discipline, supported by the principles of science, engineering, and mathematics that has a direct and profound impact on the quality of life and society at large.

The Department of Computer Science offers three degrees: Bachelor of Science in Computer Science (BSCS), Master of Science in Computer Science (MSCS), and Master of Science in Information Technology (MSIT). The BSCS degree is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>. The Department offers a Bachelor of Science in Computer Engineering (BSCE) in cooperation with the Department of Electrical Engineering. The Department also offers service courses to fulfill University core curriculum requirements, and computer science courses required for degree programs in engineering, science, and mathematics. Faculty conduct research in computer science, computer science education, and interdisciplinary fields, and contribute their professional service to student advising, mentoring, professional organizations, University activities, industrial interactions, and to the community through professional expertise.

The undergraduate curricula in computer science are based on the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers Computer Society recommendations for curricula and reflect the goals of a liberal arts education. The graduate curricula provide advanced and specialized study in the areas of computer science and information technology. The curricula in computer science provide the student with marketable expertise to enter the computing and information technology fields, the skills and education required to adapt to the rapidly changing characteristic of the fields, and the foundation to pursue graduate study in computer science and information technology.

A – GENERAL EDUCATION CORE – 42 HOURS

Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.

Required

020 - Mathematics – 3 hours

MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

030 - Life and Physical Science – 6 hours

Choose one pair:

BIOL 1406 General Biology I (or BIOL 1487 Honors) three-hour lecture

BIOL 1407 General Biology II (or BIOL 1488 Honors) three-hour lecture

BIOL 2401 Anatomy and Physiology I three-hour lecture

BIOL 2402 Anatomy and Physiology II three-hour lecture

CHEM 1311 General Chemistry I (or CHEM 1307)

CHEM 1312 General Chemistry II

PHYS 1401 General Physics I three-hour lecture

PHYS 1402 General Physics II three-hour lecture

PHYS 2425 Physics for Scientists and Engineers I three-hour lecture

PHYS 2426 Physics for Scientists and Engineers II three-hour lecture

040 - Language, Philosophy, and Culture – 3 hours

Choose one:

PHIL 1310 Ethics, Happiness, and the Good Life (Must be Engineering)

PHIL 2326 Ethics, Technology, and Society

090 - Integrative and Experiential Learning – 6 hours

~~*Choose any course from Humanities, except for Professional Ethics, and ed*~~

COMM 1315 Public Speaking

Add: →

B – MAJOR REQUIREMENTS – 44 HOURS (33 advanced)

1 – Computer Science Core – 29 hours (18 advanced)

CSCI 1101 Introduction to Computer Science

CSCI 1170 Engineering Computer Science I Lab (or CSCI 1178 Honors)

CSCI 2333 Computer Organization and Assembly Language

CSCI 2344 Programming in UNIX / Linux Environment

CSCI 2380 Computer Science II (or CSCI 2388 Honors)

And complete three hours of laboratory from corresponding Science courses from Life and Physical Science:
BIOL 1406 General Biology I (or BIOL 1487 Honors) one-hour lab
BIOL 1407 General Biology II (or BIOL 1488 Honors) one-hour lab
BIOL 2401 Anatomy and Physiology I one-hour lab
BIOL 2402 Anatomy and Physiology II one-hour lab
CHEM 1111 General Chemistry I Laboratory (or CHEM 1107)
CHEM 1112 General Chemistry II Laboratory
PHYS 1401 General Physics I one-hour lab
PHYS 1402 General Physics II one-hour lab
PHYS 1425 Physics for Scientists and Engineers I one-hour lab
PHYS 1426 Physics for Scientists and Engineers II one-hour lab

CSCI 3333 Algorithms and Data Structures
CSCI 3334 Systems Programming
CSCI 3336 Organization of Programming Languages
CSCI 3340 Software Engineering I
CSCI 4325 Automata, Formal Languages and Computability
CSCI 4390 Senior Project

2 – Computer Science Electives – 15 hours (15 advanced)

a – Programming Language – 3 hours (3 advanced)

Choose from:

CSCI 3326 Object Oriented Programming in JAVA
CSCI 3327 Object Oriented Programming in Visual Basic
CSCI 3328 Object Oriented Programming in C#

b – Databases, Networking, and Operating Systems – 6 hours (6 advanced)

Choose from:

CSCI 4333 Database Design and Implementation
CSCI 4334 Operating Systems
CSCI 4335 Computer Architecture
CSCI 4345 Computer Networks

c – Technical Electives – 6 hours (6 advanced)

Choose from:

CSCI 3300 Internship in Computer Science
CSCI 3341 Software Engineering II
CSCI 3342 Internet Programming
CSCI 3350 Numerical Methods
CSCI 3370 Introduction to Game Development
CSCI 4185 Research Seminar
CSCI 4301 Digital Image Processing
CSCI 4302 Multimedia Systems
CSCI 4303 Computer Vision
CSCI 4310 Design and Analysis of Algorithms
CSCI 4318 Cyber Security
CSCI 4319 Digital Forensics
CSCI 4321 E-Commerce
CSCI 4327 Compiler Construction
CSCI 4336 Parallel and Distributed Computing
CSCI 4341 Topics in Computer Science
CSCI 4343 Data Mining
CSCI 4344 Bioinformatics
CSCI 4350 Artificial Intelligence
CSCI 4352 Machine Learning
CSCI 4355 Expert Systems
CSCI 4360 Computer Graphics and Interactive Systems
CSCI 4363 Advanced Databases
CSCI 4365 Computer and Network Security
CSCI 4370 Advanced Game Development
CSCI 4381 Interactive Systems and User Interface Design
CSCI 4382 Computer Visualization
CSCI 4383 Bioinformatics Imaging

C – SUPPORT COURSES – 41 HOURS (15 advanced) Change to 38 hours

1 – Oral and Written Communication – 3 hours (3 advanced)

ENGL 3342 Technical Communication

2 – Mathematics and Engineering – 21 hours (6 advanced)

CSCI/CMPE 1370 Engineering Computer Science I (or CSCI/CMPE 1378 Honors)

CSCI 3310 Discrete Structures

ELEE 2130 Digital Systems Engineering I Lab

ELEE 2330 Digital Systems Engineering I

MATH 2318 Linear Algebra

MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture

MATH 2414 Calculus II (or MATH 2488 Honors)

Choose one:

MATH 4337 Probability and Statistics I

ELEE 3340 Probability and Statistics for Electrical Engineers

MATH 3331 Applied Statistics I

~~3 – Laboratory – 2 hours~~

~~Choose corresponding pair from Life and Physical Science:~~

~~BIOL 1406 General Biology I (or BIOL 1487 Honors) one-hour lab~~

~~BIOL 1407 General Biology II (or BIOL 1488 Honors) one-hour lab~~

~~BIOL 2401 Anatomy and Physiology I one-hour lab~~

~~BIOL 2402 Anatomy and Physiology II one-hour lab~~

~~CHEM 1111 General Chemistry I Lab (or CHEM 1107)~~

~~CHEM 1112 General Chemistry II Lab~~

~~PHYS 1401 General Physics I one-hour lab~~

~~PHYS 1402 General Physics II one-hour lab~~

~~PHYS 2425 Physics for Scientists and Engineers I one-hour lab~~

~~PHYS 2426 Physics for Scientists and Engineers II one-hour lab~~

4 – Basic Science – 4 hours

Choose one:

BIOL 1406 General Biology I (or BIOL 1487 Honors)

BIOL 2401 Anatomy and Physiology I

CHEM 1311 and CHEM 1111 General Chemistry I or CHEM 1307 and CHEM 1308 Chemistry for Engineers

PHYS 1401 General Physics I

PHYS 2425 Physics for Scientists and Engineers I

Chance to 3 hours and content to:

Choose one course not completed in the General Education Core:
BIOL 1406 General Biology I (or BIOL 1487 Honors) three-hour lecture
BIOL 2401 Anatomy and Physiology I three-hour lecture
CHEM 1311 General Chemistry I or CHEM 1307 Chemistry for Engineers
PHYS 1401 General Physics I three-hour lecture
PHYS 1425 Physics for Scientists and Engineers I three-hour lecture

5 – Free Electives – 11 hours (6 advanced)

TOTAL CREDIT HOURS FOR GRADUATION – 127 HOURS

TOTAL ADVANCED HOURS – 48 HOURS

Change to 124 hours

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Graduation requirements

1. All courses in the Computer Science Core must be completed with a grade 'C' or better.
2. In addition to the graduation requirements listed in the UTRGV 2015-2017 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.