# B.S. in Computer Science

Department of Computer Science
West Chester University

## Student Handbook

## Fall 2022 incoming students

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# Overview

**Department of Computer Science**
**West Chester University of Pennsylvania**

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|---|---|
| Website: | http://cs.wcupa.edu |
| Department Contact Information: | Department of Computer Science<br>25 University Ave., Rm 150<br>West Chester University<br>West Chester, PA 19383 |
| Office Manager: | Jasmine Worrell<br>jworrell@wcupa.edu |
| Phone: | 610-436-2204 |
| Fax: | 610-436-3530 |
| Department Chairperson: | Dr. Richard Burns |
| Assistant Chairperson: | Dr. Linh Ngo |
| Accelerated B.S./M.S. Coordinator: | Dr. Linh Ngo |
| Internship Coordinator | Dr. Cheer Yang |

My Academic Advisor: _____

Academic Advisor Email Address: _____

Please remember to see your Academic Advisor at least once each semester to review your schedule for the following semester and to have your scheduling flag (i.e. "Advisor Permission Hold") removed so that you are permitted to schedule your classes. Let your advisor know if the semester is going well or if you are encountering difficulties. Discuss the topic areas of Computer Science that are of interest to you. Seek guidance on internships, research, potential graduate schools, and your career.

Disclaimer: This Handbook does not take the place of the Undergraduate Catalog nor replace face-to-face advisement conducted with Computer Science professors.

## Faculty of the Department of Computer Science

**Agah**, Dr. Afrand
Professor
B.S., Tehran Poly-Technique
M.S., Kansas State University
Ph.D., University of Texas at Arlington
25 University Ave, Rm. 136
610-430-4419
AAgah@wcupa.edu
*Areas of Scholarly Interest:* Security in sensor and mobile ad-hoc networks, Intrusion detection, Security and trust in pervasive computing, Economic modeling of security protocols.

**Amiruzzaman**, Dr. Amir
Assistant Professor
B.S. National Univ, Gajipur, Bangladesh
M.S., Kent State University
Ph.D., Kent State University
25 University Ave, Rm. 134
610-436-3230
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*Areas of Scholarly Interest:* Artificial Intelligence, Machine Learning, Data Mining, Data Hiding, Information Visualization, Cybersecurity, Network/Graph Analysis.

**Bhuiyan**, Dr. Ashik
Assistant Professor
B.S., Bangladesh University of Engineering and Technology
Ph.D., University of Central Florida
25 University Ave, Rm. 144
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*Areas of Scholarly Interest:* Real-Time Systems, Energy-efficient Cyber-Physical Systems, Computer Architecture, Data Structure.

**Burns**, Dr. Richard
Professor
B.S., Saint Joseph's University
M.S., University of Delaware
Ph.D., University of Delaware
25 University Ave, Rm. 150
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RBurns@wcupa.edu
*Areas of Scholarly Interest:* Artificial Intelligence, Natural Language Processing, Machine Learning, Data Mining, Knowledge Representation, Cognitive Science, Information Retrieval.

**Chen**, Dr. Si
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M.S., SUNY, Buffalo
Ph.D., SUNY, Buffalo
25 University Ave, Rm. 131
610-436-6998
SChen@wcupa.edu
*Areas of Scholarly Interest:* Augmented reality security, software security, malware analysis, cyber-physical system security, mobile crowd-sensing system.

**Cooper**, Dr. David
Assistant Professor
B.S., Carnegie Mellon University
M.S., University of Massachusetts Amherst
Ph.D., University of Massachusetts Amherst

25 University Ave, Rm. 142
610-436-2651
DCooper@wcupa.edu

*Areas of Scholarly Interest:* Social Signal Processing, Visual and Auditory Affective Computing, Artificial Intelligence in Education, Mobile Application Development, Computer Science Education, Research Methods in Computer Science.

**Cui**, Dr. Liu
Associate Professor
B.S., Northwestern Polytechnical University
M.S., Ohio University
Ph.D., University of Pittsburgh

25 University Ave, Rm. 140
610-430-4960
LCui@wcupa.edu

*Areas of Scholarly Interest:* Dynamic spectrum access and related policies including spectrum right, spectrum trading, decision and risks analysis in spectrum sharing, Security issues in spectrum sensing.

**Jiang**, Dr. Zhen
Professor
B.S., Shanghai Jiaotong University
M.S., Nanjing University
Ph.D., Florida Atlantic University

25 University Ave, Rm. 129
610-738-0350
ZJiang@wcupa.edu

*Areas of Scholarly Interest:* Network Protocols, OO Design, Computer Graphics, Performance Evaluation.

**Kim**, Dr. Jongwook
Assistant Professor
B.S., Korea University;
M.S., University of Texas at Austin
Ph.D., University of Texas at Austin

25 University Ave, Rm. 143
610-436-3231
JKim2@wcupa.edu

*Areas of Scholarly Interest:* Theory of Programming Languages, Compilers, Program Transformations, Software Product Lines

**Ngo**, Dr. Linh
Associate Professor
B.S., University of Arkansas
M.S., University of Arkansas
Ph.D., University of Arkansas

25 University Ave, Rm. 138
610-436-2595
LNgo@wcupa.edu

*Areas of Scholarly Interest:* Distributed systems, big data analytics, and computer science education.

**Yang,** Dr. Cheer
Professor
B.S., Tamkang University
M.S., Kansas State University
Ph.D., University of Delaware

25 University Ave, Rm. 145
610-738-0450
CYang@wcupa.edu

*Areas of Scholarly Interest:* Networking, Network Security, Parallel Programming, Software Testing.

## About the Computer Science Department

The Department aims to prepare undergraduate students for a career in the field of Computer Science and its applications as well as further study in Computer Science at the graduate level. The minimum requirements for the Bachelor of Science degree are specified in this Handbook, as well as prerequisite information, a sample four-year plan, and other useful information.

All administrative functions of the Computer Science Department are housed in 25 University Ave, which we share with the Mathematics Department, as well as the Registrar, Bursar, and Financial Aid offices. Most of the Department's courses are offered in classrooms and laboratories in this building as well as in Anderson Hall.

This Handbook also contains information including the Department's Accelerated B.S./M.S. five-year program, as well as the Computer Security Certificate for which transcript recognition is awarded.

The Department is proud to acknowledge two accreditations: (1) the curriculum of our B.S. in Computer Science degree is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET) and (2) our Certificate in Computer Security is accredited by the National Security Agency (NSA) and the Department of Homeland Security.

### Computer Labs: UNA 141, UNA 147

There are two computer laboratory classrooms that are housed within the Department:
25 University Ave rooms 141 and 147. You are free to use these computers when a class is not in session. Classroom schedules will be posted outside of the door. Access to these laboratories is granted by swiping your WCU identification card. See Ms. Worrell, our Department's Administrative Assistant, to have your WCU identification card activated for these laboratory classrooms.

- Rm 141 is configured as a lecture-style classroom with **Windows** machines. You are free to use these computers when a class is not in session. Your WCU credentials provide access for logging in.
- Rm 147 is configured as a lecture-style classroom with **Mac** machines. You are free to use these computers when a class is not in session. Your WCU credentials provide access for logging in.

### Common Room: UNA 139

The Department has a common room in 25 University Ave room 139 to promote collaboration and discussion between both students and faculty. Access to these laboratories is granted by swiping your WCU identification card. See Ms. Worrell, our Department's Administrative Assistant, to have your WCU identification card activated. Please respect your noise level in this room as academic classroom and offices are adjacent.

## Expectations of Academic Integrity

The Ram's Eye View Undergraduate Catalog details the University's policy on academic integrity. This document can be found online. Additionally, the Department of Computer Science has adopted the following policy:

### Computer Science Department Dishonesty Policy:

The Computer Science Committee has adopted the following policies with regards to academic dishonesty in Computer Science classes:

- A student found to be academically dishonest in an assignment will receive zero for that assignment if it is his/her first offense in that class [the course, not the class period], but an **F** for the course if it is for his/her second offense in that class [the course].
- A student found to be academically dishonest in a test will receive the grade of **F** in that class [the course].
- For the purposes of this document on academic dishonesty, every form or method of evaluation in a class will be considered as being of one of two types: an *assignment* or a *test*. Assignments include homework assignments, and short quizzes [and labs]. Tests include final exams and major exams. An instructor has, subject to these guidelines, the discretion to determine the type of any other form of evaluation, such as a project, in his/her class.
- A student who has received the grade of F in a course because of academic dishonesty and who wants or is required to repeat that course may re-take that course only as a regularly scheduled course that is open to the student community in general. In exceptional circumstances, this condition may be revoked, but only by an explicit action to that effect by the full Computer Science Committee and only then on a case by case basis.
- The term academic dishonesty is used throughout in the sense provided by the rules and regulations of West Chester University. The following is taken from The Ram's Eye View of 1997-1998: "Academic dishonesty as it applies to students includes but is not limited to academic cheating; plagiarism; the sale, purchase, or exchange of term papers or research papers; falsification of information which includes any form of providing false or misleading information, written, electronic, or oral; or of altering or falsifying official institutional records. Plagiarism is defined as copying another's work or portion thereof and/or using ideas and concepts of another and presenting them as one's own without giving proper credit to the source."

## Academic Advising

More information about Academic Advising is found online:
https://www.wcupa.edu/_academics/advising/

During your first two years at WCU, you will be advised by our College's Student Success Coordinator (see below); afterward, you will be reassigned to a faculty advisor within the Computer Science Department.

It is ultimately your responsibility to understand the rules and take the correct sequence of courses to graduate on time!

Get familiar with and use your Degree Progress Report (DPR), as well as your Department Advising Sheet. If the DPR does not mirror the requirements of the Department Advising Sheet, reach out to your academic advisor.

### Responsibilities of the academic advisor:

- Assist students as they develop their academic program of study by exploring their individual interests, abilities and goals, by aiding students in the formulation of an academic plan and by counseling students in the selection and sequencing of courses that meet their degree requirements. The advisor will give each student an advising sheet appropriate for the program in which the student is enrolled.
- Identify University resources that may be of value to students and make appropriate referrals.
- Apprise students of relevant University policies if changes to a student's academic plan are contemplated.

### Responsibilities of the student:

- Schedule meetings with the academic advisor at appropriate times during the semester. These include discussions regarding a coming semester's course selections and apprising the academic advisor of academic progress made throughout the semester.
- Be aware of pre-requisites for courses to be taken.
- Be aware of important, relevant deadlines and then meet them.
- In processing required forms, obtain the necessary signatures.
- Review University policies and procedures as needed.
- Develop and clarify the values and goals that impact academic decisions and communicate them effectively to the academic advisor.
- Monitor progress and, if necessary, modify the academic plan for future semesters.
- Understand the requirements for the major (and minor, if applicable).
- Understand the general education requirements
- Have knowledge of the Undergraduate Catalog and the information contained in the Undergraduate Course Schedule.
- Examine the academic record for accuracy on a regular basis and monitor progress towards completion of the degree.
- Save all academic advising, course registration information and grade reports.
- Seek advisement prior to taking a course at some other institution and provide official transcripts for courses taken elsewhere.
- Recognize the need for resources when circumstances warrant and use them.

## Student Success Coordinator

The scheduling and some advising needs of first and second-year computer science majors are served by professional staff, and Student Success Coordinator (SSC). The Student Success Coordinator for Computer Science majors is Ms. Jessica McMahan. The SSC is an expert in university systems and structures and will be very useful when needing assistance in navigating them, including (a) the technical process of scheduling and registering for classes, (b) seeking information about various campus offices, (c) understanding university policies related to academic and other areas, including general education, degree, and other university requirements, and (d) seeking additional support or access to faculty advisors as needed. The Student Success Coordinator works with your Department Chair to coordinate support for you, especially during your first year at West Chester University.

Ms. Jessica McMahan
610-436-1733
jmcmahan@wcupa.edu
http://meetme.so/JessicaMcMahan

## Transfer Students

Students who seek to transfer to the Computer Science major from another college or from another major within WCU must first satisfy all these conditions:

- have received a grade of C- or better for both CSC141 and CSC142
- have received a grade of C- or better in at least two of the following three courses: MAT121, MAT151, MAT161
- have a GPA of at least 2.5 over all CSC major courses taken and a GPA of at least 2.00 over all MAT courses taken.

Transfer students will initially meet with the Student Success Coordinator to develop a college graduation plan, as well as navigate policies and course transfer issues. Then, the student will immediately be assigned a faculty advisor within the Department.

## B.S. in Computer Science

The Bachelor of Science program is accredited by ABET.

B.S. in Computer Science Undergraduate Catalog

120 semester hours

1. General education requirements. See Undergraduate Catalog.
2. CSC courses (48 semester hours)
    a. CSC 141, 142, 220, 231, 240, 241, 301, 345, 402 (27 semester hours)
    b. CSC "Complex Large-Scale Course" (3 semester hours)
    c. 6 CSC 3xx or 4xx course electives, where 2 courses are at the 4xx level (18 semester hours)
        i. CSC400 internship will count as 3 semester hours (not 6 semester hours)
3. Mathematics courses (13-14 semester hours)
    a. MAT 121, 151, 161, and [MAT 162 or STA 200]
4. Science "lab" courses (6-8 semester hours)
    a. 2 lab courses of natural science work intended for science and engineering majors: BIO 110, CHE 103 + CHL 103, ESS 101, PHY 130
5. Free electives

Students must achieve a GPA of 2.5 or greater in their Computer Science courses, and a GPA of 2.0 in their Mathematics/Statistics courses. A grade of C- or better is required in all CSC, Mathematics, and Science "lab" courses.

## Course Requirement Notes: CSC Courses

### Research Opportunities for Students: CSC 490 and CSC 499

The Department offers two 1-1 student-faculty independent courses: CSC490 (Independent Project) and CSC499 (Independent Study). The chosen topic is ideally of mutual interest between the advisor and student, as well as requirements set by the advisor. As a general guideline, the project should be substantial enough so that it is worthy of CSC4xx credit. Interested students are expected to reach out to faculty member with a topic idea, well in advance of the semester in which the research opportunity is sought. Most department faculty engage in 1 or 2 independent courses with students each academic year.

### How to enroll in CSC490 (Independent Project) or CSC499 (Independent Study):

- You cannot schedule CSC 490/499 on your own.
- A minimum 2.00 GPA is required.
- Solidify a topic with a faculty advisor.
- Initiate the petition for an "Independent Study" via myWCU, by following these instructions: https://www.wcupa.edu/academicEnterpriseSystems/training/independentStudy.aspx

## Internship Program

The Computer Science Department also has an active internship program with local employers which offers invaluable, real-world exposure and contacts for future employment.

West Chester University students may register for a Computer Science Internship and work part time or full time in the Summer Post Session or during the regular fall or spring semesters. Students who are not Computer Science majors should use CSC 300 (3 credits). Computer Science majors should use CSC 400 (6 credits); of the 6 credits, 3 credits can be used to satisfy the major requirements, and the other 3 credits satisfy general electives.

### Course and Grade Requirements

- Completion of CSC 141,142, 240, 241 and MAT 151, 161 (each with a C- or better)
- CSC GPA of 2.5 or better and MAT GPA of 2.0 or better

For more information, contact the Department's Internship Coordinator, Dr. Cheer-Sun Yang at cyang@wcupa.edu.

### How to enroll in CSC400 (Internship):

- Communicate your intent to use an internship opportunity for credit to the Department Internship Coordinator
- Complete the Undergraduate application on our Department website: https://www.wcupa.edu/sciences-mathematics/computerScience/intern.aspx
- If approved, you will receive permission to enroll yourself in CSC400

## AP Credit

The Department awards credit for the AP Computer Science A exam, given a score of 3 or greater, as equivalent to CSC141. AP scores are reported to the Department in mid-July. Be sure to keep the Department informed about any potential AP score and whether you desire to be scheduled into CSC141 or CSC142 (the successor course).

The AP Computer Science Principles exam is equivalent to CSC110, which counts as free elective credit. Students with AP Computer Science Principles are placed into CSC141.

# B.S. in Computer Science – Suggested Four Year Plan

## COMPUTER SCIENCE FOUR YEAR PLAN

### Fall 2022 & Later Requirements

| FIRST YEAR | | | | | |
|---|---|---|---|---|---|
| **FIRST SEMESTER** | | | **SECOND SEMESTER** | | |
| FYE 100G First-Year Experience (STEM)^ | 4 | | CSC 142 Computer Science II | 3 | |
| CSC 141 Computer Science I | 3 | | MAT 151 Discrete Mathematics | 3 | |
| MAT 131 Precalculus# | 3 | | 200-level English Composition** | 3 | |
| 100-level English Composition** | 3 - 4 | | Behavioral Social Science #1 of 2 | 3 | |
| Science w/ lab #1 (BIO 110 [4 c.r.], CHE 103 + CRL 103 [4 cr.], ESS 101 [3 c.r.], PHY 130 [4 cr.], or PHY 170 [4 cr.] | 3 - 4 | | Humanities #1 of 2 | 3 | |
| **Total Semester Hours** | **16 - 18** | | **Total Semester Hours** | **15** | |
| **SECOND YEAR** | | | | | |
| **FIRST SEMESTER** | | | **SECOND SEMESTER** | | |
| CSC 240 Computer Science III | 3 | | CSC 241 Data Structures & Algorithms | 3 | |
| MAT 161 Calculus I | 4 | | CSC 220 Foundations of Computer Science | 3 | |
| CSC 231 Computer Systems | 3 | | MAT 121 Statistics | 3 | |
| SPK 208/230 (Speaking Emphasis "SE" #1 of 3) | 3 | | Diversity "J" | 3 | |
| Art | 3 | | Writing Emphasis "W" #1 of 2 | 3 | |
| **Total Semester Hours** | **16** | | **Total Semester Hours** | **15** | |
| **THIRD YEAR** | | | | | |
| **FIRST SEMESTER** | | | **SECOND SEMESTER** | | |
| CSC 345 Programming Languages | 3 | | CSC 402 Software Engineering | 3 | |
| CSC 301 Computer Security I (Ethics "E") | 3 | | CSC elective | 3 | |
| Behavioral Social Science #2 of 2 (different prefix) | 3 - 4 | | Science w/ lab #2 (BIO 110 [4 c.r.], CHE 103 + CRL 103 [4 cr.], ESS 101 [3 c.r.], PHY 130 [4 cr.], or PHY 170 [4 cr.] (different prefix) | 3 - 4 | |
| MAT 162 Calculus II or STA 200 Statistics II | 3 - 4 | | Humanities #2 of 2 (different prefix) | 3 | |
| Speaking Emphasis "SE" #2 of 3 | 3 | | Speaking Emphasis "SE" #3 of 3 | 3 | |
| **Total Semester Hours** | **15 - 17** | | **Total Semester Hours** | **15 - 16** | |
| **FOURTH YEAR** | | | | | |
| **FIRST SEMESTER** | | | **SECOND SEMESTER** | | |
| CSC Complex Large-Scale | 3 | | CSC elective | 3 | |
| CSC elective | 3 | | CSC elective | 3 | |
| CSC elective | 3 | | CSC elective | 3 | |
| ENG 368 or 371 ("W" #2 of 3) | 3 | | Writing Emphasis "W" #3 of 3 | 3 | |
| Interdisciplinary "I" | 3 | | Free elective | 3 | |
| **Total Semester Hours** | **15** | | **Total Semester Hours** | **15** | |
| **Plan = 122 - 125 credits** | | | | | |

At least 120 credits and all major and general education requirements must be met in order to graduate.
C- or better required in all CSC, MAT, ENG 368/371, SPK208/230, and Science w/ lab courses. Major courses highlighed in GOLD.
Minimum GPAs: WCU = 2.0, CSC = 2.5, MAT = 2.0. Ethics requirement is met through CSC 301.

Alternative Math sequences:

1) MAT Q30 --> MAT 131 & MAT 151 --> MAT 161 --> MAT 162 or MAT 121 --> MAT 121 or STA 200
2) MAT 151 --> MAT 131 --> MAT 161 --> MAT 162 or MAT 121 --> MAT 121 or STA 200
3) MAT 131 --> MAT 151 --> MAT 161 --> MAT 121 or MAT 162 --> MAT 121 or STA 200
4) MAT 121 --> MAT 131 & MAT 151 --> MAT 161 --> MAT 121 or MAT 162 --> MAT 121 or STA 200

^ FYE 100G strongly recommended; any FYE satisfies major requirement
# Students with sufficent MPE (math placement exam) score are strongly recommended to take MAT161 (Calculus 1) instead. Students who place directly into MAT 161 will also have one additional free elective.
** WRT 120 or WRT 123 depending on results of WRITE survey. Students who place into WRT 200 will have one additional free elective.

# B.S. in Computer Science Advising Sheet

***General Education Requirements (B.S. - Computer Science)***
***Guidance Sheet for First Year Students Entering the University Fall 2022 or Later***

*At least 120 credits needed to graduate. C-/better required in all CSC, MAT courses & ENG368/371, SPK208/230. Minimum GPA's: WCU 2.0, CSC 2.5, MAT 2.0. Academic Passport students must take courses marked *** in general education.*

**NAME_____ WCU ID _____ Date Enrolled in Major _____**

| Requirement | | Description | Semester | Prefix | Number | Grade |
|---|---|---|---|---|---|---|
| GENERAL EDUCATION | Academic Foundations | First-Year Experience | | FYE | | |
| | | English Composition | | WRT | 120 | |
| | | English Composition 200-level | | WRT | | |
| | | Mathematics (C- or better required) *** | | MAT | 151 | |
| | | Interdisciplinary (I) | | | | |
| | | Diverse Communities (J) *** | | | | |
| | Distributive Requirements | Science w/ lab #1 (BIO 110, CHE 103 + CRL 103 [4 cr.], ESS 101, PHY 130 [4 cr.], or PHY 170 [4 cr.] *** | | | | |
| | | Science w/ lab #2 (BIO 110, CHE 103 + CRL 103 [4 cr.], ESS 101, PHY 130 [4 cr.], or PHY 170 [4 cr.] *** | | | | |
| | | Beh. & Social Science #1 of 2 | | | | |
| | | Beh. & Social Science #2 of 2 | | | | |
| | | Humanities #1 of 2 | | | | |
| | | Humanities #2 of 2 | | | | |
| | | Arts | | | | |
| | Additional Requirements | Writing Emphasis "W" #1 *** | | ENG | 368/371 | |
| | | W #2 *** if transfer credits < 71 *** | | | | |
| | | W #3 *** if transfer credits < 40 *** | | | | |
| | | Speaking Emphasis "SE" #1 *** | | SPK | 208/230 | |
| | | SE #2 if transfer credits < 71 | | | | |
| | | SE #3 if transfer credits < 40 | | | | |
| MAJOR REQUIREMENTS | Math Cognates | Statistics (C- or better required & needed for STA 200) | | MAT | 121 | |
| | | Calculus (C- or better required. C needed for MAT 162) | | MAT | 161 | |
| | | Statistics II or Calculus II (C- or better required) STA200 [3 cr.] / MAT162 [4 cr.] | | | | |
| | Core | Ethics "E" | | CSC | 141 | |
| | | | | CSC | 142 | |
| | | | | CSC | 220 | |
| | | | | CSC | 231 | |
| | | | | CSC | 240 | |
| | | | | CSC | 241 | |
| | | | | CSC | 301 | |
| | | | | CSC | 345 | |
| | | | | CSC | 402 | |
| | Complex Large-Scale: One from CSC416/417/418/466/467/468/476/496 | | | CSC | | |
| | Electives: 2 of the 6 must be @ 400-level. Optional internship CSC400 (6 credits) can be used for a 3-credit CSC elective plus a 3-credit free elective. Optional accelerated progam can use up to 4 yellow boxes. | | | CSC | | |
| | | | | CSC | | |
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| | | | | CSC | | |

## Computer Science Prerequisite Flowchart

Many of the CSC and MAT courses required for the major have prerequisites (e.g. Computer Science 1 must be successfully completed before Computer Science 2). The department website contains a graphical mapping of major course prerequisites, which you may find useful.

## CSC Course Rotation

Please see our department website for a detailed listing of planned course offerings for future semesters, as well as for the course rotation plan for summer and winter sessions.

In general, the following courses are offered in the regular fall and spring terms:

- Every Semester: all core courses, CSC302, CSC317, CSC321, CSC335, at least two complex-large scale systems courses, and at least four additional upper-level elective courses (see below)

    - Every Fall: {CSC466 or CSC467), CSC 472 (required for Computer Security Certificate), {CSC331 or CSC416 or CSC476}, CSC481

    - Every Spring: CSC404, CSC417, CSC 468, CSC471 (required for Computer Security Certificate)

# Accelerated B.S. / M.S. Program

Students earning a B.S. Computer Science degree from West Chester University have the option to complete the M.S. Computer Science degree during their 5th year.

## Program Overview:

1. Enroll in the B.S. Computer Science "Accelerated" program in your junior year. You must have a minimum cumulative GPA of 3.0 and have earned at least 60 credits to be accepted.
2. Take up to 12 credits of graduate substitution courses during your 3rd and 4th years. These courses will count toward your 120-credit B.S. Computer Science degree.
3. Undergraduates pay undergraduate tuition and applicable fees for graduate substitution courses and are bound by the undergraduate academic policies and regulations.
4. Upon graduation, you have the option to enroll in the M.S. Computer Science program. Note: You are not obligated or contracted to remain in the Department and pursue an M.S.
5. The up to 12 credits of graduate substitution courses you took as an undergraduate will now also count toward your M.S. degree.
6. Therefore, you will have 33 – 12 (21 outstanding graduate credits) to complete in Year 5.

For additional policies and information regarding the accelerated program, go to: http://catalog.wcupa.edu/undergraduate/accelerated-programs/

## To Enroll in the Accelerated Program:

1. Obtain the necessary signatures on this form and submit to the Department Graduate Coordinator. http://www.wcupa.edu/registrar/documents/AcceleratedProgramEnrollmentRequest.pdf
2. After processing, contact the Graduate Coordinator stating which graduate course(s) in which you would like to enroll. He or she will then give you permission to enroll. You will need to enroll in the graduate courses yourself.

## To Enroll in the M.S. Computer Science Program:

In your senior year, you will be given the option via MyWCU to pursue your M.S. in Computer Science. If you decide to do so, please click to accept.

| | |
|---|---|
| Department Chairperson: | Dr. Richard Burns |
| Graduate Coordinator: | Dr. Si Chen |
| Accelerated B.S./M.S. Coordinator: | Dr. Linh Ngo |

## Computer Security Certificate

The Department offers a Computer Security Certificate, which is intended for students who wish to focus on the computer security and network security aspects of Computer Science. The Department and curriculum are accredited by National Center of Academic Excellence in Cyber Defense Education (CAE-CDE) by the National Security Agency (NSA) and the Department of Homeland Security (DHS).

To satisfy the certificate, the following elective courses must be taken:

MAT 151 Introduction to Discrete Mathematics
MAT 161 Calculus I
CSC 141 Computer Science I
CSC 142 Computer Science II
CSC 220 Foundations of Computer Science
CSC 231 Computer Systems
CSC 240 Computer Science III
CSC 241 Data Structure and Algorithms

Core Security Courses:
CSC 301 Computer Security and Ethics
CSC 302 Compute Security
CSC 335 Data Communications and Networking
CSC 402 Software Engineering
CSC 468 Introduction to Cloud Computing
CSC 471 Modern Malware Analysis
CSC 472 Software Security

The Computer Security Certificate can be completely in its entirety within the scope of the four-year plan. Most of the "core security courses" are taken during the junior and senior year.

In order for an undergraduate student to receive recognition of completion of the Computer Security Certificate, he or she must complete each of the Certificate courses with a minimum grade of C- and obtain an overall GPA of 2.0 in all courses taken for the certificate.

A student who wishes to pursue this certificate must apply through the "Change Major/Add Minor/Certificate…" link on the MyWCU.

# Minors

These minors are offered within the Computer Science Department:

- Computer Science Minor
- Information Technology (IT) Minor

**Computer Science majors are not eligible for these**, as the content of these minors is already covered within the Computer Science major.

## Computer Science Minor Requirements

This minor is intended for non-Computer Science majors only.

Baccalaureate students may receive transcript recognition for the Minor in Computer Science by successfully completing the following courses:

- MAT151: Discrete Mathematics
- MAT161: Calculus 1
- CSC141: Computer Science 1
- CSC142: Computer Science 2
- CSC240: Computer Science 3
- CSC241: Data Structures & Algorithms

A student must earn a minimum grade of C- in each course and a minimum GPA of 2.0 across all courses in the minor.

## Information Technology (IT) Minor Requirements

This minor is intended for non-Computer Science majors only and introduces students to the fundamentals of programming, computer security, web technology, database systems and networking.

Baccalaureate students may receive transcript recognition for the Minor in Information Technology by successfully completing the following courses:

- CSC115: Introduction to Computer Programming
- CSW131: Introduction to Web Design
- CST 221: Database Systems *(typically offered fall only)*
- CST 235: Networking and System Administration *(typically offered spring only)*
- CSC 301: Intro to Computer Security
- CSW 315: Intro to Web Programming *(typically offered spring only; prereqs of CSC115 & CSW131)*

A student must earn a minimum grade of C- in each course and a minimum GPA of 2.0 across all courses in the minor.

## Connect with Peers

The Department, formally and informally, is associated with the following social media accounts:

- LinkedIn (https://linkedin.com/groups/12402394/): for students, faculty, and alumni to connect
- Facebook (https://www.facebook.com/WCUCS): primarily used for the internal posting of any internship opportunities or entry-level job openings suitable for undergraduate seniors, as they are made known to us.
- Discord Server utilized primarily by students as a discussion board for our student-run Computer Science Club, which typically meets weekly in the Linux lab. For access, please connect to Dr. Linh Ngo.

## Upsilon Pi Epsilon Honor Society

The Upsilon Pi Epsilon Association was founded at Texas A&M University in 1967 for students and faculty who exhibit superior scholastic and professional achievement in the computing science curriculum. It remains the only National Honor Society for the computing and information disciplines and is recognized as such by the Association for Computing Machinery (ACM) and IEEE Computer Society.

In 1997, Upsilon Pi Epsilon was admitted as a member of the Association of College Honor Societies - the parent organization for all academic honor societies in North America. The West Chester University chapter of UPE was chartered in 2017 as the Rho chapter of the state of Pennsylvania to the Association by the Executive Council of Upsilon Pi Epsilon.

Students are invited to join the West Chester University Chapter of UPE upon recognition of outstanding achievement, high scholarship, and quality of character. Formal invitations to join UPE are usually sent in the Fall of every academic year. Induction into the society usually occurs in Spring semesters.

Undergraduate Minimum Academic Requirements: 60 or more credits completed with an overall GPA greater than or equal to 3.5, and 15 or more Computer Science credits completed at WCU with a Computer Science GPA greater than or equal to 3.7. (The following courses do not count: CST courses, CSW courses, CSC 110, CSC 115, CSC 300, CSC 400, CSC 490, CSC 499.)

Graduating students may also purchase a UPE stole to be worn with commencement regalia.

## Other CS Student Organizations

To join or for more information about these student clubs with the CS Department, please contact the faculty advisor, who can forward you to the current club student president.

| CLUB | FACULTY ADVISOR |
|---|---|
| Computer Science Club | Dr. Jongwook Kim |
| Bin Lu Women in Computer Science Club (WiCS) | Dr. Liu Cui |
| Competitive Programming Club | Dr. Linh Ngo |
| Cybersecurity Club | Dr. Liu Cui |
| Upsilon Pi Epsilon Honor Society | Dr. Amir Amiruzzaman |
| Game Development Club | Dr. David Cooper |

## Frequently Asked Questions

### 1. Can I receive undergraduate credit for a graduate course?

Yes! Complete the following form and submit it to the Registrar:

https://www.wcupa.edu/_admissions/sch_dgr/documents/UndergraduateCreditGraduateCourse.pdf

### 2. What if I'm getting a grade below a C- in a course?

Withdraw if you are in danger of failing. Alternatively, you may consider an Audit, if you need a specific grade in the course for your major and plan to take the course again. Like Withdrawal (Grade = W), there is no impact on GPA with an Audit (Grade = AU). Unlike Withdrawal where the student stops coming to class once this action is taken, an Audit allows the student to continue attending class in whatever capacity they are able (i.e. from listening and following along up to and including completing assignments and exams for feedback) without being subject to grading.

Some students benefit from a course Audit, if they have time to keep up with the material and are simply not receiving the grades needed to advance. More time is sometimes necessary for mastery of content, especially when foundational skills are expected for success in future courses in a program. Audit creates a scenario in which all the content of a course becomes familiar on first attempt, whereas students miss content from the final weeks of a course with the Withdrawal option. In short, an Audit may increase a student's chances for success in a required, major's course, if the course is attempted again in the following semester.

Withdrawal and Audit are entered in as a "W" or "AU," respectively, next to the course on a student's transcript. Students can Withdraw from a course after the end of the Add/Drop Period and before the end of Week 9 of the semester (i.e. between Week 2 – 9). Withdrawal means that the student has gone into their MyWCU account under the Enroll in a Class link to successfully drop the course using the **Drop** tab. The Course Audit form must be submitted before the end of Week 9 to receive the AU designation for a course.

**Notes**: Students may ONLY audit one course per semester, whereas students are entitled to Withdraw from as many courses as they would like. One caveat is that students must pass/receive credit for at least 67% of all courses ATTEMPTED in order to maintain "Satisfactory Academic Progress." Therefore, course withdrawal has the potential to impact financial aid eligibility in the same way as failing courses in some instances. Questions about "Satisfactory Success Academic Progress" can be addressed by the Financial Aid Office at finaid@wcupa.edu.

The university also has a policy that states that once a grade is received for a course at WCU, that same course may ONLY be repeated at WCU. The benefit of Withdrawal or Audit is that there is no impact on GPA, so the student can take the course again at WCU or the equivalent of it at another institution in a future semester.

### 3. What if I can't pass a required course?

Talk with your advisor about next steps. A Petition for Exception to Policy or Course Substitution may be warranted in some cases. While a student is entitled to pursue one or both of these options, the Registrar will make the final decision/determination on the basis of the evidence supplied by the student, the merit of the

student's argument, and justification by/support from an advisor, Chair of a department, and Dean's level academic reviewers.

Students may also register with the Office of Services for Students with Disabilities (OSSD), if academic accommodations are requested for a documented disability. Students may reach out to our Community Mental Health Services clinic at WCU, if assessment for disability is needed. WCU's Community Mental Health Services clinic offers lower cost testing, which may be of interest to students who do not have medical insurance, are underinsured, or do not have a provider in the area who can provide these services. An individual interview/intake is $30 for students and can be highly informative, as well as offer guidance and options for students to consider. Subject-specific, physical, mental health, and other difficulties that impact a student's ability to learn, retain, or complete assignments, projects, and exams may warrant assessment.

### 4. What if you have a serious family/medical emergency?

Students who miss more than three consecutive days of courses as a result of serious family/medical emergency should contact Ms. Christy Lanshe at clanshe@wcupa.edu or 610-436-0165 in the Student Assistance Office and complete the electronic Request Instructor Absence Notification form. Next, the student should make arrangements, as they are able, with each instructor to make up missed exams and assignments. In the event the emergency situation continues to prevent a student from completing work and earning satisfactory grades, the student may decide to withdraw from all courses by dropping them from the Enroll in a Class link in MyWCU by the end of Week 9 (in fall or spring semesters). Term Withdrawal is an option, if the Course Withdrawal deadline is missed and normally occurs about three weeks later in regular fall or spring semesters (see Academic Calendar for specific dates and deadlines). The Term / University Withdrawal form can be found here: https://www.wcupa.edu/registrar/documents/Term-UniversityWithdrawalForm-EN.pdf

### 5. What happens if I am on academic probation?

Meet with your advisor to complete an Academic Recovery Plan (electronic form submitted through MyWCU). You will be granted one guaranteed semester following the semester in which you are placed on academic probation to improve your cumulative GPA to a 2.00 or above. In circumstances where it is mathematically possible for a student to reach the minimum cumulative GPA of 2.00, the student may be granted an additional or second semester on academic probation (called "Continued Probation") if the student is not returned to "good academic standing" after the first semester on academic probation. Academic Probation is not meant to be punitive, but to let students know that they need to reach the minimum of a 2.00 GPA to earn a degree at WCU (i.e. most degree programs at WCU require a 2.00, but some have higher standards). In Computer Science, students do need to meet a minimum cumulative GPA of 2.00, but they must also earn a 2.5 GPA across all CSC courses. Information on Academic Probation and Dismissal can be found here:

https://www.wcupa.edu/viceProvost/probationDismissal.aspx

### 7. I'm ready to graduate. What do I do?

Make sure you have completed all requirements and have earned 120 credits! Students should apply for graduation through the Apply for Graduation link on MyWCU two semesters ahead (i.e. at 90 credits earned) of the intended semester of graduation. Once a student's application for graduation is accepted, this initiates the Registrar's Office to complete an audit of the general education portion of the student's degree. The Registrar's Office will then contact the student to let them know which general education requirements, if any, still need to be satisfied in order to meet graduation requirements. August graduates may participate in the May ceremony, as long as no

more than two courses are completed over the Summer. You can also change your graduation term using MyWCU (you only pay the graduation fee once). Students can retrieve their cap and gown at the WCU Campus Store.

## 8. When do I schedule courses?

Your "enrollment appointment" will appear on your MyWCU homepage in mid-September (for Winter & Spring registration) and mid-Februrary (for Summer & Fall registration) next to **"When Do I Register for Classes?"** You should also receive an email or text update from the Registrar's Office about this. The "enrollment appointment" is NOT the appointment with your advisor, it is the first available date and time you will have to enroll in courses in the upcoming semester(s). **You need to schedule a separate meeting with your advisor before your "enrollment appointment" to discuss your academic plans and have your advisor remove the "Advisor Permission Hold" from your account, which will enable you to enroll in courses. Failure to meet with your advisor on or before your enrollment appointment date/time could result in delayed enrollment and/or closed sections of courses.**

Email your advisor to request an appointment time or come in during their posted office hours. Be prepared for your academic advising appointments by updating your academic advising sheet, preparing a list of courses you plan to take for the upcoming semester, and/or providing a list of questions for your advisor to address in the meeting.