# http://www.ric.edu/webcommunications/images/SealWithText_Small_Black.pngUNDERGRADUATE CURRICULUM COMMITTEE (UCC)PROPOSAL FORM

## Cover page scroll over blue text to see further important [instructions](#instructions): [if not working select “COMMents on rollover” in your Word preferences under view] please read these.

**N.B. Please do not use highlight to select choices within a category but simply delete the options that do not apply to your proposal (e.g. in A.2 if this is a course revision proposal, just delete the creation and deletion options and the various program ones, so it reads “course revision”) Do not ever delete any of the numbered categories—if they do not apply leave them blank. ALL numbered categories in section (A) must be completed. If there are no resources impacted it is okay to put “none” in A. 7**

|  |  |  |
| --- | --- | --- |
| A.1. [Course or program](#Proposal) | **COMPUTER SCIENCE B.A.****CSCI 422 introduction to computation theory****CSCI 423 Analysis of Algorithms** |  |
| [Replacing](#Ifapplicable)  |  |
| A. 1b. Academic unit | **Faculty of Arts and Sciences**  |  |
| A.2. [Proposal type](#type) | **Program:** [**revision**](#revision)**Course: revision** |  |
| A.3. [Originator](#Originator) | **Suzanne Mello-Stark** | [Home department](#home_dept) | **Computer Science and Information Systems** |
| A.4. [Context and Rationale](#Rationale) Note: Must include this additional information for all [new programs](#type) | **The Computer Science B.A. has been updated to reflect recent changes from the ACM Curricula Guidelines (**<https://www.acm.org/binaries/content/assets/education/cs2013_web_final.pdf> **) and the ABET (** <https://www.abet.org/wp-content/uploads/2018/12/V1vV2SideBySide_20181128.pdf> **) guidelines. Both agencies are major curricula standard agencies for computer science. There is a separate UCC form for each course change that goes into more detail. The overall program after these changes will be one credit smaller on the top end (49-50 instead of 49-51). The summary of the changes are as follows:**1. **Added a new course, CSCI 209 – Discrete Structures Using Python. This course teaches the foundations of structures recommended for a computer science degree.**
2. **Deleted CSCI 312 and updated CSCI 313 to include necessary components from CSCI 312. Increased CSCI 313 credits from 3 to 4 (on that proposal).**
3. **Revised CSCI 435 to include performance, security and privacy topics. Increased credits from 3 to 4.**
4. **Revised CSCI 455 from 3 to 4 credits by requiring a major project to give more hands-on experience.**
5. **Created two levels of elective courses so students had more elective choices earlier in their program, and add a note that “Students cannot receive credit for both CSCI 305 and CSCI 402 to satisfy this elective requirement.” This is to ensure they take sufficient upper level CSCI courses among their electives (402 is open to none CSCI majors for the Cyber-Security minor so despite the higher prefix number needs less experience in CS than other 400 level CSCI courses).**
6. **Revised CSCI 422 to have CSCI 212 and CSCI 209 or MATH 436 as prereqs.**

**Updating the pre-requisites for CSCI 422 as the new course CSCI 209 – Discrete Structures is also a suitable pre-requisite for it. Also, to be consistent with all other upper-level CSCI courses, CSCI 212 (or CSCI 212W or CSCI 315), is being included as an additional pre-requisite. The additional CSCI 212 pre-requisite does not affect the students as they take CSCI 422 as an upper-level elective, after they have completed CSCI 212 (315 was an older version of this course).**1. **Revised CSCI 423 to have CSCI 209 or MATH 436 as a prereq. Keeping the MATH 436 as an option for CSCI 422 and 423 will allow MATH students to take these courses as electives, who may have taken MATH 436, and are pursuing a CSCI Minor (so they will not need to take CSCI 209).**
2. **Changing when CSCI 302 and 305 are to be offered.**
3. **Deleting MATH 436 from the program, as well as the recommendation that students should also take MATH 213 and MATH 315.**
 |
| A.5. [Student impact](#student_impact) | **These changes will strengthen the overall CSCI program for the students.**  |
| A.6. [Impact on other programs](#impact)  | **Math may lose a few students with the dletion of MATH 436, and the other recommendations.** |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | **None – We studied our course schedule and we can implement these changes with existing faculty.** |
| [*Library*:](#library) | **None** |
| [*Technology*](#technology) | **None** |
| [*Facilities*](#facilities): | **None** |
| A.8. [Semester effective](#Semester_effective) | **FALL 2021** | A.9. [Rationale if sooner than next Fall](#Semester_effective) |  |
| A.10. INSTRUCTIONS FOR CATALOG COPY: This single file copy must include ALL relevant pages from the college catalog, and show how the catalog will be revised. (1) Go to the “Forms and Information” page on the UCC website. Scroll down until you see the Word files for the current catalog. (2) Download ALL catalog sections relevant for this proposal, including course descriptions and/or other affected programs. (3) Place ALL relevant catalog copy into a single file. Put page breaks between sections and **delete any catalog pages not relevant for this proposal**. (4) Using the track changes function, revise the catalog pages to demonstrate what the information should look like in next year’s catalog. (5) Check the revised catalog pages against the proposal form, especially making sure that program totals are correct if adding/deleting course credits. If new copy, indicate where it should go in the catalog. If making related proposals a single catalog copy that includes all is preferred. Send catalog copy as a separate single Word file along with this form. |

B. [NEW OR REVISED COURSES](#delete_if)  **Delete section B if the proposal does not include a new or revised course. As in section A. do not highlight but simply delete suggested options not being used. Always fill in b. 1 and B. 3 for context.**

|  | Old ([for revisions only](#Revisions))ONLY include information that is being revised, otherwise leave blank.  | NewExamples are provided within some of the boxes for guidance, delete just the examples that do not apply. |
| --- | --- | --- |
| B.1. [Course prefix and number](#cours_title)  | **CSCI 302**CSCI 305**CSCI 422** **CSCI 423**  | **CSCI 302**CSCI 305**CSCI 422** **CSCI 423** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  | **CSCI 302 - C++ Programming** **CSCI 305 - Functional Programming** **CSCI 422 Introduction To Computation Theory****CSCI 423 Analysis Of Algorithms** | **CSCI 302 - C++ Programming** **CSCI 305 - Functional Programming** **CSCI 422 Introduction To Computation Theory****CSCI 423 Analysis Of Algorithms** |
| B.4. [Course description](#description)  |  |  |
| B.5. [Prerequisite(s)](#prereqs) | **CSCI 422: MATH 436****CSCI 423 Either CSCI 212 or CSCI 212W or CSCI 315; MATH 212; and MATH 436** | **CSCI 422: CSCI 209 or Math 436, and CSCI 212, CSCI 212W, or CSCI 315.** **CSCI 423: CSCI 209 or MATH 436, either CSCI 212 or CSCI 212W or CSCI 315; and MATH 212** |
| B.6. [Offered](#Offered) | **CSCI 302 Spring****CSCI 303 Fall****CSCI 422 Spring (as needed)** | **All: As needed** |
| B.7. [Contact hours](#contacthours)  |  |  |
| B.8. [Credit hours](#credits) |  |  |
| B.9. [Justify differences if any](#differences) |  |
| B.10. [Grading system](#grading)  |  |  |
| B.11. [Instructional methods](#instr_methods) |  |  |
| B.11.a [Delivery Method](#instr_methods) |  |  |
| B.12.[Categories](#required) |  |  |
| B.13. Is this an Honors course? | **NO** | **NO** |
| B.14. [General Education](#ge)N.B. Connections must include at least 50% Standard Classroom instruction. | **NO** |  **NO**  |
| B.15. [How will student performance be evaluated?](#performance) |  |  |
| B.16 [Recommended class-size](#class_size" \o "Check appendix XVIII in the UCC Manual for Best Practices) |  |  |
| B.17. [Redundancy statement](#competing) |  |  |
| B. 18. Other changes, if any |  |

### C. [Program Proposals](#program_proposals) **complete only what is relevant to your proposal if this is a revision, but include the enrollment numbers for all proposals. Delete section C if the proposal is not revising, creating, deleting or suspending any progam.**

|  | [Old (for revisions only)](#old_program) | New/revised |
| --- | --- | --- |
| C.1. [Enrollments](#enrollments) | **101 CS BA Majors** |  |
| C.2. [Admission requirements](#admissions) |  |  |
| C.3. [Retention requirements](#retention) |  |  |
| C.4. [Course requirements](#course_reqs) for each program option. Show the course requirements for the whole program here. | Computer Science B.A.Course RequirementsCourses

|  |  |  |  |
| --- | --- | --- | --- |
| CSCI 211 | Computer Programming and Design | 4 | F, Sp |
| CSCI 212W | Data Structures | 4 | F, Sp |
| CSCI 309 | Object-Oriented Design | 4 | F, Sp |
| CSCI 312 | Computer Organization and Architecture I | 4 | F, Sp |
| CSCI 313 | Computer Organization and Architecture II | 3 | F, Sp |
| CSCI 325 | Organization of Programming Language | 3 | F (even years), Sp |
| CSCI 401W | Software Engineering | 3 | F (even years), Sp |
| CSCI 423 | Analysis of Algorithms | 4 | F (odd years), Sp |
| CSCI 435 | Operating Systems and Computer Architecture | 3 | F, Sp (even years) |

THREE COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| CSCI 305 | Functional Programming | 4 | F |
| CSCI 415 | Software Testing | 4 | Sp |
| CSCI 416 | Human-Computer Interaction Design | 4 | As needed |
| CSCI 422 | Introduction to Computation Theory | 4 | Sp (As needed) |
| CSCI 427 | Introduction to Artificial Intelligence | 3 | As needed |
| CSCI 428 | Machine Learning | 4 | Sp |
| CSCI 437 | Network Architectures and Programming | 4 | As needed |
| CSCI 455 | Introduction to Database Systems | 3 | F |
| CSCI 467 | Computer Science Internship | 4 | As needed |
| CSCI 476 | Advanced Topics in Computer Science | 4 | Sp |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| MATH 212 | Calculus I | 4 | F, Sp, Su |
| MATH 436 | Discrete Mathematics | 3 | F, Sp |

IT IS RECOMMENDED that students also take:

|  |  |  |  |
| --- | --- | --- | --- |
| COMM 208 | Public Speaking | 4 | F, Sp |
| ENGL 230 | Workplace Writing  | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| MATH 213 | Calculus II | 4 | F, Sp, Su |
| MATH 315 | Linear Algebra | 4 | F |

 | Computer Science B.A.Course RequirementsCourses

|  |  |  |  |
| --- | --- | --- | --- |
| CSCI 209 | Discrete Structures | 4 |  |
| CSCI 211 | Computer Programming and Design | 4 | F, Sp |
| CSCI 212W | Data Structures | 4 | F, Sp |
| CSCI 309 | Object-Oriented Design | 4 | F, Sp |
| CSCI 313 | Computer Organization and Architecture  | 4 | F, Sp |
| CSCI 325 | Organization of Programming Language | 3 | F (even years), Sp |
| CSCI 401W | Software Engineering | 3 | F (even years), Sp |
| CSCI 423 | Analysis of Algorithms | 4 | F (odd years), Sp |
| CSCI 435 | Operating Systems  | 4 | F, Sp (even years) |

THREE COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| CSCI 305 | Functional Programming | 4 | F |
| CSCI 402 | Cyber Security Principles | 4 |  |
| CSCI 415 | Software Testing | 4 | Sp |
| CSCI 416 | Human-Computer Interaction Design | 4 | As needed |
| CSCI 422 | Introduction to Computation Theory | 4 | Sp (As needed) |
| CSCI 427 | Introduction to Artificial Intelligence | 3 | As needed |
| CSCI 428 | Machine Learning | 4 | Sp |
| CSCI 437 | Network Architectures and Programming | 4 | As needed |
| CSCI 455 | Introduction to Database Systems | 4 | F |
| CSCI 467 | Computer Science Internship | 4 | As needed |
| CSCI 476 | Advanced Topics in Computer Science | 4 | Sp |

Note: Students cannot receive credit for both CSCI 305 and CSCI 402 to satisfy this elective requirement.Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| MATH 212 | Calculus I | 4 | F, Sp, Su |

IT IS RECOMMENDED that students also take:

|  |  |  |  |
| --- | --- | --- | --- |
| COMM 208 | Public Speaking | 4 | F, Sp |
| ENGL 230 | Workplace Writing  | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |

 |
| C.5. [Credit count](#credit_count) for each program option | **49-51 (recommended courses do not count)** | **49-50** |
| C.6. Program Accreditation (if relevant) |  |  |
| C.7. Other changes if any |  |  |
| C.8. [Program goals](file://Users/sabbotson/Documents/Curriculum/Program%20goals)Needed for all new programs |  |  |

## D. Signatures

* Changes that affect General Education in any way MUST be approved by ALL Deans and COGE Chair.
* Changes that directly impact more than one department/program MUST have the signatures of all relevant department chairs, program directors, and their relevant dean (e.g. when creating/revising a program using courses from other departments/programs). Check UCC manual 4.2 for further guidelines on whether the signatures need to be approval or acknowledgement.
* Proposals that do not have appropriate approval signatures will not be considered.
* Type in name of person signing and their position/affiliation.
* Send electronic files of this proposal and accompanying catalog copy to curriculum@ric.edu and a printed signature copy of this whole form to the current Chair of UCC. Check UCC website for due dates.

##### D.1. Approvals: required from programs/departments/deans who originate the proposal. THESE may include multiple departments, e.g., for joint/interdisciplinary proposals.

| Name | Position/affiliation | [Signature](#_Signature" \o "Insert electronic signature, if available, in this column) | Date |
| --- | --- | --- | --- |
| Dr. Lisa Bain | Chair of Computer Science and Information Systems | \*approved via e-mail | 12/03/2020 |
| Dr. Earl Simson | Dean of Faculty of Arts and Sciences | **Earl Simson** | 12/03/2020 |

##### D.2. [Acknowledgements](#acknowledge): REQUIRED from OTHER PROGRAMS/DEPARTMENTS (and their relevant deans if not already included above) that are IMPACTED BY THE PROPOSAL. SIGNATURE DOES NOT INDICATE APPROVAL, ONLY AWARENESS THAT THE PROPOSAL IS BEING SUBMITTED. CONCERNS SHOULD BE BROUGHT TO THE UCC COMMITTEE MEETING FOR DISCUSSION; all faculty are welcome to attend.

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
| --- | --- | --- | --- |
| Rebecca Sparks | Chair of Mathematical Sciences | \*acknowedged via e-mail | 12/17/20 |
|  |  |  |  |
|  |  |  | Tab to add rows |