# 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. DO NOT USE HIGHLIGHT, where choices are given within categories, please DELETE those THAT DO NOT APPLY TO YOUR PROPOSAL. Do not delete numbered categories.**

**ALL numbers in section (A) to be completed, including the impact ones (#5-7), put “none” if that is the case.**

|  |  |  |
| --- | --- | --- |
| A.1. [Course or program](#Proposal) | **B.S. IN Computer SCIENCE MAJOR** |  |
| [Replacing](#Ifapplicable)  |  |
| A.2. [Proposal type](#type) | **Program:** [**revision**](#revision)**|**  |
| A.3. [Originator](#Originator) | **NAMITA SARAWAGI** | [Home department](#home_dept) | **Mathematics and Computer Science** |
| A.4. [Context and Rationale](#Rationale)  | **1) CSCI 309 OBJECT-ORIENTED DESIGN – a new course will now be a REQUIRED course**The objective of this course is to instill in students a proficient understanding of the practice of object-oriented design and programming.The course places an emphasis on the concepts and patterns of object-oriented design and on how to apply those concepts when programming, rather than on the syntax of a specific language. After taking this course, students will have enhanced their competence in design and programming skills and will be better prepared for upper level courses such as CSCI 401 – Software Engineering. **2) Change in Cognates:** The **FOUR** ADDITIONAL CREDIT HOURS in biology, chemistry, physical sciences, or physics at the 200-level or above **will no longer be required.**Adding the new required course – CSCI 309 (4 credits) in the program, and dropping the FOUR ADDITIONAL CREDIT HOURS in biology, chemistry, physical sciences, or physics at the 200-level or above 3rd Science course, will not change the total credits required for the BS in Computer Science. The reason for dropping the additional 4 credit, 200+ level, Science course is to not increase the total credits of the BS in Computer Science program which is currently at 74-78.  |
| A.5. [Student impact](#student_impact) | After taking this new required course, students will have enhanced their competence in design and programming skills and will be better prepared for upper level courses such as CSCI 401 – Software Engineering. Students will graduate better prepared for employment in industry.  |
| A.6. [Impact on other programs](#impact)  | **None** |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | **Existing faculty** |
| [*Library*:](#library) | **None** |
| [*Technology*](#technology) | **Will teach in the existing computer labs using existing software** |
| [*Facilities*](#facilities): | **Existing labs** |
| A.8. [Semester effective](#Semester_effective) | **Fall 2020** | 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 acceptable. Send as a separate single file along with this form. |

### C. [Program Proposals](#program_proposals) **complete only what is relevant to your proposal. Delete this whole page if the proposal is not revising, creating, deleting or suspending any progam.**

|  | [Old (for revisions only)](#old_program) | New/revised |
| --- | --- | --- |
| C.1. [Enrollments](#enrollments) | **79** | **79** |
| 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. | CSCI 211 Computer Programming and Design 4 Fall, Spring.CSCI 212 Data Structures 4 Fall, Spring.CSCI 312 Computer Organization and Architecture I 4 Fall, Spring.CSCI 313 Computer Organization and Architecture II 3 Fall, Spring.CSCI 325 Organization of Programming Language 3 Fall (even years), Spring.CSCI 401 Software Engineering 3 Fall (even years), Spring.CSCI 423 Analysis of Algorithms 4 Fall (odd years), Spring.CSCI 435 Operating Systems and Computer Architecture 3 Fall, Spring (even years).**THREE COURSES from**Course Title Credits OfferedCSCI 305 Functional Programming 4 Fall.CSCI 415 Software Testing 4 Fall (even years).CSCI 416 Human-Computer Interaction Design 4 As needed.CSCI 422 Introduction to Computation Theory 4 Spring (As needed).CSCI 427 Introduction to Artificial Intelligence 3 As needed.CSCI 437 Network Architectures and Programming 4 As needed.CSCI 455 Introduction to Database Systems 3 Fall (odd years).CSCI 467 Computer Science Internship 4 As needed.CSCI 476 Advanced Topics in Computer Science 4 Spring.**Cognates**Course Title Credits OfferedENGL 230 Writing for Professional Settings 4 Fall, Spring, Summer.-Or- ENGL 231 Writing for Digital and Multimedia Environments 4 As needed. MATH 212 Calculus I 4 Fall, Spring, Summer.MATH 213 Calculus II 4 Fall, Spring, Summer. MATH 240 Statistical Methods I 4 Fall, Spring, Summer.-Or- MATH 248 Business Statistics I 4 Fall, Spring, Summer. MATH 436 Discrete Mathematics 3 Fall, Spring.PHIL 206 Ethics 3 Fall, Spring, Summer. **ONE COURSE from**MATH 300 Bridge to Advanced Mathematics 4 Spring.MATH 314 Calculus III 4 Fall, Spring.MATH 324 College Geometry 4 Fall, Spring.MATH 417 Introduction to Numerical Analysis 4 Spring (as needed).MATH 418 Introduction to Operations Research 3 Spring (even years).MATH 431 Number Theory 3 Fall, Spring.MATH 445 Advanced Statistical Methods 3 Spring.**ONE OF THE FOLLOWING TWO-COURSE SEQUENCES**BIOL 111 Introductory Biology I 4 Fall, Spring, Summer.-And- BIOL 112 Introductory Biology II 4 Fall, Spring, Summer. -Or-  CHEM 103 General Chemistry I 4 Fall, Spring, Summer.-And- CHEM 104 General Chemistry II 4 Fall, Spring, Summer. -Or-  PHYS 101 Physics for Science and Mathematics I Fall, Spring, Summer.-And- PHYS 102 Physics for Science and Mathematics II 4 Fall, Spring, Summer.FOUR ADDITIONAL CREDIT HOURS in biology, chemistry, physical sciences, or physics at the 200-level or above. | CSCI 211 Computer Programming and Design 4 Fall, Spring.CSCI 212 Data Structures 4 Fall, Spring.**CSCI 309 Object-Oriented Design 4 Fall, Spring**CSCI 312 Computer Organization and Architecture I 4 Fall, Spring.CSCI 313 Computer Organization and Architecture II 3 Fall, Spring.CSCI 325 Organization of Programming Language 3 Fall (even years), Spring.CSCI 401 Software Engineering 3 Fall (even years), Spring.CSCI 423 Analysis of Algorithms 4 Fall (odd years), Spring.CSCI 435 Operating Systems and Computer Architecture 3 Fall, Spring (even years).**THREE COURSES from**Course Title Credits OfferedCSCI 305 Functional Programming 4 Fall.CSCI 415 Software Testing 4 Fall (even years).CSCI 416 Human-Computer Interaction Design 4 As needed.CSCI 422 Introduction to Computation Theory 4 Spring (As needed).CSCI 427 Introduction to Artificial Intelligence 3 As needed.CSCI 437 Network Architectures and Programming 4 As needed.CSCI 455 Introduction to Database Systems 3 Fall (odd years).CSCI 467 Computer Science Internship 4 As needed.CSCI 476 Advanced Topics in Computer Science 4 Spring.**Cognates**Course Title Credits OfferedENGL 230 Writing for Professional Settings 4 Fall, Spring, Summer.-Or- ENGL 231 Writing for Digital and Multimedia Environments 4 As needed. MATH 212 Calculus I 4 Fall, Spring, Summer.MATH 213 Calculus II 4 Fall, Spring, Summer. MATH 240 Statistical Methods I 4 Fall, Spring, Summer.-Or- MATH 248 Business Statistics I 4 Fall, Spring, Summer. MATH 436 Discrete Mathematics 3 Fall, Spring.PHIL 206 Ethics 3 Fall, Spring, Summer. **ONE COURSE from**MATH 300 Bridge to Advanced Mathematics 4 Spring.MATH 314 Calculus III 4 Fall, Spring.MATH 324 College Geometry 4 Fall, Spring.MATH 417 Introduction to Numerical Analysis 4 Spring (as needed).MATH 418 Introduction to Operations Research 3 Spring (even years).MATH 431 Number Theory 3 Fall, Spring.MATH 445 Advanced Statistical Methods 3 Spring.**ONE OF THE FOLLOWING TWO-COURSE SEQUENCES**BIOL 111 Introductory Biology I 4 Fall, Spring, Summer.-And- BIOL 112 Introductory Biology II 4 Fall, Spring, Summer. -Or-  CHEM 103 General Chemistry I 4 Fall, Spring, Summer.-And- CHEM 104 General Chemistry II 4 Fall, Spring, Summer. -Or-  PHYS 101 Physics for Science and Mathematics I Fall, Spring, Summer.-And- PHYS 102 Physics for Science and Mathematics II 4 Fall, Spring, Summer. |
| C.5. [Credit count](#credit_count) for each program option | **74-78 (this was incorrect and should have been 75-78)** | **75-78** |
| C.6. Other changes if any |  |  |
| C.7 [Program goals](file:///C%3A/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. 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 |
| --- | --- | --- | --- |
| Stephanie Costa | Chair, Mathematics and Computer Science |  |  |
| Earl Simson | Dean, Arts and Sciences |  |  |

##### 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 |
| --- | --- | --- | --- |
| Sarah Knowlton | Chair, Physical Sciences |  |  |
| Rebeka Merson | Chair, Biology |  |  |