# 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) | **CSCI 102 – COMPUTER FUNDAMENTALS FOR CYBER SECURITY** |  |
| [Replacing](#Ifapplicable)  |  |
| A.2. [Proposal type](#type) | **COURSE:** [**creation**](#creation) |
| A.3. [Originator](#Originator) | **SUZANNE MELLO-STARK** | HOME DEPARTMENT | **MATHEMATICS AND COMPUTER SCIENCE** |
| A.4. [Context and Rationale](#Rationale)  | **This course is the first course required in the new cyber security minor.****This course provides the technical background necessary for students to study and master cyber security challenges. This course significantly improves students’ ability to understand the digital world in which they live. It is a valuable course for any student wishing to pursue a career in cyber security or any other technical field.**  |
| A.5. [Student impact](#student_impact) | **All students on campus will be able to earn a cyber security minor. It will be significantly attractive for students earning BAs in technical or public policy fields. No negative student impacts.** |
| A.6. [Impact on other programs](#impact)  |  **none** |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | **Existing Faculty** |
| [*Library*:](#library) | **None** |
| [*Technology*](#technology) | **None** |
| [*Facilities*](#facilities): | **None** |
| 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. |

B. [NEW OR REVISED COURSES](#delete_if)  **DO NOT use highlight. Do not delete numbered categories, just leave blank if they do not apply. Delete this whole page if the proposal does not include a new or revised course. 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 102** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  |  | **Computer Fundamentals for Cyber Security** |
| B.4. [Course description](#description)  |  | **Students will learn the technical details necessary to study cyber security. Topics include binary and hexadecimal, memory, storage management and databases.** |
| B.5. [Prerequisite(s)](#prereqs) |  | **Completed college mathematics competency** |
| B.6. [Offered](#Offered) |  | **Fall | Spring**  |
| B.7. [Contact hours](#contacthours)  |  | **4** |
| B.8. [Credit hours](#credits) |  | **4** |
| B.9. [Justify differences if any](#differences) |  |
| B.10. [Grading system](#grading)  |  | **Letter grade**  |
| B.11. [Instructional methods](#instr_methods) |  | **Lecture**  |
| B.12.[Categories](#required) |  | **Required for minor |**  |
| B.13. Is this an Honors course? |  | **NO** |
| B.14. [General Education](#ge)N.B. Connections must include at least 50% Standard Classroom instruction. |  | **NO** **category:** |
| B.15. [How will student performance be evaluated?](#performance) |  | **Attendance | Class participation | Exams | Presentations** **Class Work | Quizzes | Projects |**  |
| B.16 [Recommended class-size](#class_size" \o "Check appendix XVIII in the UCC Manual for Best Practices) |  | **24** |
| B.17. [Redundancy statement](#competing) |  | **NO** |
| B. 18. Other changes, if any |  |

| B.18**.** [**Course learning outcomes**](#outcomes)**: List each one in a separate row** | [**Professional Org.Standard(s)**](#standards)**, if relevant** | [**How will each outcome be measured**](#measured)**?** |
| --- | --- | --- |
| Demonstrate understanding of key concepts in computer architecture such as bits/bytes, CPUs, processes, memory and storage management. | N/A | Group projects, presentations, homework and exam/quiz questions. |
| Demonstrate an understanding of how the Internet works and its most widely used protocols.  | N/A | Group projects, presentations, homework and exam/quiz questions. |
| Show mastery of basic DOS and Linux commands. | N/A | Group projects, presentations, homework and exam/quiz questions. |
| Define the major terms in networking such as WAN/LAN, TCP/IP, OSI, VPNs, Firewalls and wireless protocols. | N/A | Group projects, presentations, homework and exam/quiz questions. |
| Build a simple database and show mastery in basic SQL commands. | N/A | Group projects, presentations, homework and exam/quiz questions. |

| B.19. [**Topical outline**](#outline)**: DO NOT INSERT WHOLE SYLLABUS, JUST A TWO-TIER TOPIC OUTLINE. Proposals that ignore this request will be returned for revision.** |
| --- |
| Computer Science 102: Computer Fundamentals for Cyber Security (Topical Outline)How Computers Work (3 weeks) Bits and Bytes (Binary and Hexadecimal) CPUs, Processes and Memory Boards Memory (Addressing, Stack, Heap) Storage ManagementHow the Internet Works (3 weeks) The World Wide Web and its protocols E-mail protocols and anatomy of an email  IoT DevicesThe Cloud and Cloud ComputingThe Command Line Interface (1 week) DOS Commands Linux CommandsBasic Networking (3 weeks) Network designs (WAN/LAN)  TCP/IP and OSI VPNs Wireless Protocols FirewallsDatabases Defined (3 weeks) InstallationTables, Keys and QueriesDesign and Models (flat and hierarchical, network, relational, object oriented) SQL BasicsCourse Review and Testing (1 week) |
|  |

## 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 |
| --- | --- | --- | --- |
| Dr. Stephanie Costa | Chair of Mathematics and Computer Science |  |  |
| Dr. Earl Simson | DeanFaculty of 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 |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |