# 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) | **CSCI 455 – Introduction to Databases** |  |
| [Replacing](#Ifapplicable)  | **CSCI 455 – Introduction to Data Systems** |
| A. 1b. Academic unit | **Faculty of Arts and Sciences** |  |
| A.2. [Proposal type](#type) | **Course: revision** |  |
| A.3. [Originator](#Originator) | **Sally Hamouda** | [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) | **Propose updating CSCI 455 –Introduction to Data Systems to meet contemporary standards starting Fall 2021. The course will have a major programming project. The overall proposed changes are as follows:****1)Change title from Introduction to Data Systems to Introduction to Databases****2)updated description to be:****“Students explore the fundamental concepts of database systems. Topics include relational databases, database modeling and design, SQL, query processing and optimization, distributed and noSQL databases and database security.”****3)Changed from 3 to 4 credits to add the major project, and this will add one credit to the CSCI programs (BA and BS), but this will be offset by other revisions.**  |
| A.5. [Student impact](#student_impact) | **Students gain the opportunity to learn to design and implement a database system while getting more hands-on experience which is needed in the backend developer jobs.** |
| A.6. [Impact on other programs](#impact)  |  |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  |  |
| [*Library*:](#library) |  |
| [*Technology*](#technology) |  |
| [*Facilities*](#facilities): |  |
| 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 455** | **CSCI 455** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  | **Introduction to Database Systems** | **Introduction to Databases** |
| B.4. [Course description](#description)  | **Database structure, organization, languages, and implementation are introduced, including data modeling, relational and object-oriented systems, query languages, and query processing.** | **Students explore the fundamental concepts of database systems. Topics include relational databases, database modeling and design, SQL, query processing and optimization, distributed and noSQL databases and database security.** |
| B.5. [Prerequisite(s)](#prereqs) |  |  |
| B.6. [Offered](#Offered) |  |  |
| 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? |  |  |
| B.14. [General Education](#ge)N.B. Connections must include at least 50% Standard Classroom instruction. |  |  |
| 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 |  |

| B.19**.** [**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)**?** |
| --- | --- | --- |
| Understand NOSQL |  | By Homework |
| Implement a front and a back end |  | By a Project |
| Be able to identify basic concepts of database security |  | By Homework |

| B.20. [**Topical outline**](#outline)**: DO NOT INSERT WHOLE SYLLABUS, JUST A TWO-TIER TOPIC OUTLINE. Proposals that ignore this request will be returned for revision.** |
| --- |
| Topic         Week(s) Introduction 1 DB and DB users  Database System Concepts and Architecture Conceptual data modeling 2 Entity types Attributes types Relationship types The Relational Data Model 2 Basic ConceptsEntities Relationships DiagramsDatabase ConstraintsMapping 1 Basic Concepts Mapping a conceptual design into a logical designSchema Diagram Query Languages 2 Introduction to SQLAdvanced SQL SQL InjectionDependencies 2Functional Dependency NormalizationsQuery Optimization 2 Basic ConceptsApplications of query optimizationNo SQL                          1  Basic Concepts ApplicationsProject  1 The course will include at least one term project related to real life applications or users to strength the student’s in-depth knowledge.  Testing and Review 1  |

## 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 |
| --- | --- | --- | --- |
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|  |  |  |  |
|  |  |  | Tab to add rows |