# 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) | **MATH 432: Introduction to Abstract Algebra** |  |
| [Replacing](#Ifapplicable)  |  |
| A. 1b. Academic unit | **Faculty of Arts and Sciences**  |  |
| A.2. [Proposal type](#type) | **Course: revision**  |  |
| A.3. [Originator](#Originator) | **Mark Medwid** | [Home department](#home_dept) | **Mathematical Sciences** |
| A.4. [Context and Rationale](#Rationale) Note: Must include additional information in smart tip for all [new programs](#type) | **This is a revision to the course MATH 432 in which we adjust the list of prerequisites for the course. We wish to add MATH 300W (Bridge to Advanced Mathematics) to the list of prerequisites for this course.****At present, MATH 432 only requires MATH 315 (Linear Algebra), which itself requires MATH 300W. In this way, MATH 300W is a ‘soft’ prerequisite for MATH 432. However, it is possible for a student to transfer in credit for MATH 315 (particularly from an institution with an engineering program, in which applied linear algebra courses are common) without a MATH 300W-equivalent course transfer.** **In MATH 300W, students learn the fundamentals of proof and logic. As an upper- level pure mathematics course, MATH 432 is heavily dependent on this knowledge. To have success in the course, students must be able to parse quantifiers, understand logical implications, and use various proof techniques – all the techniques covered in MATH 300W are used in some capacity in MATH 432.****Our linear algebra course MATH 315 is dependent on some knowledge of proofs, but it also has significant computational components. Therefore, it is reasonable to accept transfer credit of MATH 315 with an applied linear algebra course that does not necessarily require the equivalent of a MATH 300W – type course as a prerequisite.**  |
| A.5. [Student impact](#student_impact)Must include to explain why this change is being made? | **The issue of a student receiving transfer credit for MATH 315 without transfer credit for MATH 300W is infrequent, but it does happen. In the past year, a student fit this description and wanted to take both MATH 300W and MATH 432 concurrently. Nothing in the catalog explicitly prevented this student from doing so, but even the strongest mathematics students would not be positioned for success in both courses simultaneously, since one explicitly depends on the other.** |
| A.6.a. [Impact on other programs](#impact)  | **Educational Studies will need to update their Academic Rhode Maps.** |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | **None** |
| [*Library*:](#library) | **None** |
| [*Technology*](#technology) | **None** |
| [*Facilities*](#facilities): | **None** |
| A.8. [Semester effective](#Semester_effective) | **Fall 2022** | A.9. [Rationale if sooner than next Fall](#Semester_effective) |  |
| A.10. INSTRUCTIONS FOR CATALOG COPY: Use the Word copy versions of the catalog sections found on the UCC Forms and Information page. Cut and paste into a single file **ALL the relevant pages from the college catalog that need to be changed.** Use tracked changes feature to show how the catalog will be revised as you type in the revisions. If totally new copy, indicate where it should go in the catalog. If making related proposals a single catalog copy that includes all changes is preferred. Send catalog copy as a separate single Word file along with this form. |
| A.11. List here (with the relevant urls), any RIC website pages that will need to be updated (**to which your department does not have access**) if this proposal is approved, with an explanation as to what needs to be revised: |

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)  | **MATH 432** | **MATH 432** |
| B.3. [Course title](#title)  | **Introduction to Abstract Algebra** | **Introduction to Abstract Algebra** |
| B.5. [Prerequisite(s)](#prereqs) | **MATH 315.** | **MATH 300 or MATH 300W and MATH 315.** |

| B.18. [**Topical outline**](#outline)**: DO NOT INSERT WHOLE SYLLABUS, JUST A TWO-TIER TOPIC OUTLINE. Proposals that ignore this request will be returned for revision.** |
| --- |
| 1. Groups
	1. Definitions and Examples
	2. Subgroups
	3. Cyclic Groups and Permutation Groups
	4. Abelian Groups
	5. Normal Subgroups and Cosets
	6. Group Homomorphisms and Isomorphisms
2. Rings
	1. Definitions and Examples
	2. Ideals
	3. Division Rings and Fields
 |

## 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 |
| --- | --- | --- | --- |
| Rebecca Sparks | Chair of the Department of Mathematical Sciences | \*approved by e-mail | 4/12/2022 |
| Earl Simson | Dean of the Faculty of Arts and Sciences | Earl Simson | 4/14/2022 |

##### 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 |
| --- | --- | --- | --- |
| Lesley Bogad | Chair Educational Studies | \*Acknowledged by e-mail | 4/13/22 |
| Jeannine Dingus-Eason | Dean FSEHD | *Jeannine E. Dingus-Eason* | 5/6/2022 |
| Vivian La Ferla | Coordinator MATH SED | \*Acknowledged by e-mail | 4/13/22 |