# 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): please read.

**N.B. DO NOT USE HIGHLIGHT, please DELETE THE WORDS THAT DO NOT APPLY TO YOUR PROPOSAL**

**ALL numbers in section (A) need to be completed, including the impact ones.**

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| A.1. [Course or program](#Proposal) | **dms 307 sonographic principles and instrumentation I** |  |
| [Replacing](#Ifapplicable)  |  |
| A.2. [Proposal type](#type) | **Course: revision |**  |
| A.3. [Originator](#Originator) | **Eric Hall** | [Home department](#home_dept) | **Biology/Health Sciences** |
| A.4. [Context and Rationale](#Rationale)  | **The reorganization of the BS in Medical Imaging, Diagnostic Medical Sonography degree requires the shifting of some content into new courses with redistribution of credits. DMS 307 Sonographic Principles and Instrumentation is being increased to 3 credits from 1 and is being moved into the Spring from the Fall semester. Since it is now the only course with this title, it will drop the “I” in the title.****We combined DMS-307 & DMS-337 into a single course. This will allow the DMS student to complete the Sonographic Principles and Instrumentation (SPI) course prior to graduation. They will be able to take the SPI examination offered by the American Registry of Diagnostic Medical Sonographers (ARDMS) while still a student.**  |
| A.5. [Student impact](#student_impact) | **This course represents an effort to spread some of the DMS content over an additional semester. The benefit to the students is more time to adjust to working in the clinical environment.** |
| A.6. [Impact on other programs](#impact)  | **None** |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | **NA** |
| [*Library*:](#library) | **NA** |
| [*Technology*](#technology) | **NA** |
| [*Facilities*](#facilities): | **NA** |
| A.8. [Semester effective](#Semester_effective) | **Fall 2018** | 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 file along with this form. |

B. [NEW OR REVISED COURSES](#delete_if)  **DO NOT use highlight. Delete this whole page if the proposal does not include a new or revised course.**

|  | Old ([for revisions only](#Revisions))Only include information that is being revised, otherwise leave blank (delete provided examples that do not apply) | NewExamples are provided for guidance, delete the ones that do not apply |
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| B.1. [Course prefix and number](#cours_title)  | **DMS 307** | **DMS 307** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  | **Sonographic Principles and Instrumentation I** | **Sonographic Principles and Instrumentation** |
| B.4. [Course description](#description)  |  |  |
| B.5. [Prerequisite(s)](#prereqs) |  |  |
| B.6. [Offered](#Offered) | **Fall** | **Spring** |
| B.7. [Contact hours](#contacthours)  | **1** | **3** |
| B.8. [Credit hours](#credits) | **1** | **3** |
| B.9. [Justify differences if any](#differences) |  |
| B.10. [Grading system](#grading)  |  | **Graded** |
| B.11. [Instructional methods](#instr_methods) |  | **Lecture**  |
| 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) |  | **Quizzes, Presentations, Exams** |
| B.16. [Redundancy statement](#competing) |  |  |
| B. 17. 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)**?** |
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* Describe sound waves, propagation of ultrasound through tissue, reflection, refraction and scattering
* Explain transducer technology, and discuss the advantages and limitations of the various types
* Discuss the basic features of medical sonographic equipment, including operator controls and image processing
* Describe the role of advanced scanning features, including harmonics, coded excitation and compounding
* Explain how pulsed Doppler, color flow imaging and amplitude imaging is achieved
* Recognize and describe image artifacts and techniques to minimize or eliminate them
* Describe the importance of performance, safety and output measurements and standards

  |  | Objectives will be assessed through quizzes and examination |

| B.19. [**Topical outline**](#outline)**: Do NOT insert whole syllabus, we just need a two-tier outline** |
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| Introduction: An overview of learning objectives and an introduction to DMS  |
|  Introduction to U/S fundamentals  |
| Pulsed Ultrasound  |
| Attenuation  |
| Echoes, Impedance, Scatter  |
|  |
| Introduction to Transducers Transducer History  |
| Transducers Digital Resolution  |
| Transducers  |
| Imaging Instruments Hands on Session: System Analysis  |
| Hands on Session: System Analysis  |
|  |
| Hemodynamics In-Depth Presentation  |
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| Doppler Color Doppler  |
| Continuous Wave Doppler Instrumentation  |
| Color Doppler Pulse Wave Doppler  Instrumentation  |
| Doppler Analysis  |
| Artifacts   |
| Making a Phantom  |
| Doppler Artifacts  |
| Performance & Safety  |
| Using U/S Test Object & Phantom  |
| Bio-Effects  |
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## 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 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 or electronic signature copy of this 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 prposals.

| Name | Position/affiliation | [Signature](#_Signature" \o "Insert electronic signature, if available, in this column) | Date |
| --- | --- | --- | --- |
| Eric Hall | Program Director of Medical Imaging |  |  |
| Rebeka Merson | Chair of Biology |  |  |
| Earl Simson | Dean of FAS |  | Tab to add rows |

##### D.2. [Acknowledgements](#acknowledge): REQUIRED from OTHER PROGRAMS/DEPARTMENTS 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

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
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