# http://www.ric.edu/webcommunications/images/SealWithText_Small_Black.pngUNDERGRADUATE CURRICULUM COMMITTEE (UCC)PROPOSAL FORM

## Cover page roll over blue text to see further important [instructions](#instructions): please read.

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

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

|  |  |  |
| --- | --- | --- |
| A.1. [Course or program](#Proposal) | **physics 402** |  |
| [Replacing](#Ifapplicable)  |  |  |
| A.2. [Proposal type](#type) | **Course: revision**  |  |
| A.3. [Originator](#Originator) | **Andrea Del Vecchio** | [Home department](#home_dept) | **Physical Sciences** |
| A.4. [Rationale](#Rationale) | **This is just a minor change of the course description to reflect moving the material on Maxwell’s Equations to PHYS 401.** |
| A.5. [Date submitted](#date_submitted) | **3/31/17** | A.6. [Semester effective](#Semester_effective)  | Fall, 2017 |
| A.7. [Resource impact](#Resource) | *[Faculty PT & FT](#faculty" \o "Need to hire new full-time or part-time faculty? This is where you indicate if this proposal will be affecting FLH in your department/program.)*:  | **None** |
|  | [*Library*:](#library) | **None** |
|  | [*Technology*](#technology) | **None** |
|  | [*Facilities*](#facilities): | **None** |
| A.8. [Program impact](#prog_impact) | **This would affect only the physics and physics secondary education programs.** |
| A.9. [Student impact](#student_impact) | **None.** |
| A.10. The following screen tips are for information on what to do about catalog copy until the new CMS is in place; check the “Forms and Information” page for updates. [Catalog page.](#catalog)  [Where are the catalog pages](#catalog)? [Several related proposals](#catalog)? Do **not** list catalog pages here. **All** catalog copy for a proposal must be contained within a **single** file; put page breaks between sections. Make sure affected program totals are correct if adding/deleting course credits. |

B. [NEW OR REVISED COURSES](#delete_if) **DELETE THE WORDS THAT DO NOT APPLY TO YOUR PROPOSAL within specific categories, but do not delete any of the categories. DO NOT use highlight. Delete this whole page if this proposal does not include a new or revised course.**

|  | Old ([for revisions only](#Revisions)) | New |
| --- | --- | --- |
| B.1. [Course prefix and number](#cours_title)  | **PHYS 402** | **PHYS 402** |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  | **Advanced Electricity and Magnetism II** | **Advanced Electricity and Magnetism II** |
| B.4. [Course description](#description)  | This course covers the principles of electrodynamics including Maxwell’s Equations, conservation laws, electromagnetic radiation, and the application of Special Relativity to electrodynamics. Lecture. (Formerly Advanced Electricity and Magentism.) | This course covers the principles of electrodynamics, conservation laws, electromagnetic radiation, and the application of Special Relativity to electrodynamics. Lecture. (Formerly Advanced Electricity and Magentism.) |
| B.5. [Prerequisite(s)](#prereqs) | **PHYS 401** | **PHYS 401** |
| B.6. [Offered](#Offered) | **Spring****Even years**  | **Spring****Even years**  |
| B.7. [Contact hours](#contacthours)  | **3** | **3** |
| B.8. [Credit hours](#credits) | **3** | **3** |
| B.9. [Justify differences if any](#differences) |  |
| B.10. [Grading system](#grading)  | **Letter grade**  | **Letter grade**  |
| B.11. [Instructional methods](#instr_methods) | **Lecture**  | **Lecture**  |
| B.12.[Categories](#required) | **Restricted elective for major/minor**  | **Restricted elective for major/minor**  |
| B.13. Is this an Honors course? | **NO** | **NO** |
| B.14. [General Education](#ge)N.B. Connections must include at least 50% Standard Classroom instruction. |  **NO**  | **NO****:** |
| B.15. [How will student performance be evaluated?](#performance) | **Attendance | Class participation | Exams | Presentations |Class Work | Quizzes | Projects |**  | **Attendance | Class participation | Exams | Presentations |Class Work | Quizzes | Projects |**  |
| B.16. [Redundancy statement](#competing) |  |  |
| B. 17. Other changes, if any |  |

| B.18**.** [**Course learning outcomes**](#outcomes) | [**Standard(s)**](#standards) | [**How will they be measured**](#measured)**?** |
| --- | --- | --- |
|  |  |  |

| B.19. [**Topical outline**](#outline) |
| --- |
| I. Conservation Laws1. The continuity equation
2. Poynting’s Theorem
3. Momentum in Electrodynamics

II. Electromagnetic Waves1. Waves in one dimension
2. Electromagnetic waves in vacuum
3. Electromagnetic waves in matter
4. Absorption and dispersion
5. Wave guides

III. Potentials and Fields1. Gauges and gauge transformations
2. Continuous charge distributions
3. Moving point charges

IV. Radiation (a) Electric dipole radiation (b) Magnetic dipole radiation (c) Point chargesV. Electrodynamics and Relativity1. The Special Theory of Relativity
2. Relativistic Mechanics

 (c) Relativistic ElectrodynamicsVI. Special topics in electrodynamcis |
|  |

## D. Signatures

##### D.1. Approvals

* 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.

| Name | Position/affiliation | [Signature](#_Signature" \o "Insert electronic signature, if available, in this column) | Date |
| --- | --- | --- | --- |
| Dr. Peter Meyer | Chair of Physical Sciences |  |  |
| Dr. Earl Simson | Dean of Arts of Sciences |  |  |
| Dr. Donald Halquist | Dean of the Feinstein School of Education and Human Development |  | Tab to add rows |

##### D.2. [Acknowledgements](#acknowledge)

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
| --- | --- | --- | --- |
| Dr. Gerri August | Chair of Educational Studies |  |  |
|  |  |  |  |
|  |  |  | Tab to add rows |