

ROWAN COLLEGE
CURRICULUM COMMITTEE

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M I N O R C H A N G E

PROPOSAL TITLE: Add prerequisite to Common Physics and E & M

UNDERGRADUATE GRADUATE CREDIT HOURS

SPONSOR(S): Edward Flores, Jeff Holtzinger, Amy Long

DEPARTMENT & TELEPHONE# Chemistry and Physics 4855

- CHECK ONE:
- CHANGES IN APPROVED MINORS, SPECIALIZATIONS, CONCENTRATIONS
 - CATALOGUE DESCRIPTIONS AND/OR PREREQUISITE CHANGES
 - SMALL CHANGES IN COURSE CONTENT OF EXISTING COURSES WHICH DO NOT SUBSTANTIALLY VARY THE CURRICULUM
 - CHANGES IN HEGIS NUMBER

<p>STEP #1 (DEPARTMENT)</p> <p><input checked="" type="checkbox"/> APPROVED / DATE: <u>10/11/95</u></p> <p><input type="checkbox"/> NOT APPROVED / DATE: _____</p> <p><u>Robert Newland</u> (DEPT. CURRICULUM CHR. / DATE)</p> <p><u>Robert Newland</u> DEPT. CHR. DATE <u>10/11/95</u></p>	<p>STEP #2 (SCHOOL)</p> <p>DATE REVIEWED <u>2/2/96</u></p> <p><input checked="" type="checkbox"/> RECOMMEND TO APPROVE</p> <p><input type="checkbox"/> RECOMMEND NOT TO APPROVE</p> <p>COMMENTS:</p> <p><u>Jeff Holtzinger</u> SCHOOL CURRICULUM CHR.</p>	<p>STEP #3 (ACADEMIC DEAN)</p> <p><input checked="" type="checkbox"/> RECOMMEND <input type="checkbox"/> NOT RECOMMENDED</p> <p>DATE REVIEWED: <u>2/2/96</u></p> <p><u>David K. [Signature]</u> DEAN OF SCHOOL SIGNATURE</p>
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<p>STEP #4 (CURRICULUM COMMITTEE)</p> <p>SCC# <u>95-96-112</u></p> <p>DATE RECEIVED: <u>2-15-96</u></p> <p><u>Robert J. Gocher</u> CURRICULUM COMMITTEE CHR. SIGNATURE</p>	<p>STEP #5 EXE. VP/PROVOST</p> <p><input type="checkbox"/> APPROVED</p> <p><input type="checkbox"/> NOT APPROVED</p> <p>_____ SIGNATURE/DATE</p>
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A: MINORCHG. FRM

REGISTRAR SIGNATURE/DATE 14 May 96
B. J. Kibben

Minor change

1. Details:

Change requested: Mathematical Physics (1902.425) prerequisite for Quantum Physics (1902.389) and Electricity and Magnetism (1902.310)

Sponsors: Eduardo Flores, Jeff Hettinger, Hong Ling, Department of Chemistry and Physics

2. Rationale:

The intermediate and advanced physics courses assume that students have covered certain topics in linear algebra, differential equations, and complex analysis. The courses in mathematics that cover these topics are not required for our physics students. Every semester we spend a lot of time teaching students the proper mathematical tools required for each advanced physics course, severely constraining the time for the presentation of the subject.

The Department of Chemistry and Physics offers Mathematical Physics, a course where topics in mathematics applicable to physics are presented with examples. Since Mathematical Physics is not a required course we strongly recommend that Mathematical Physics be at least a prerequisite for Quantum Physics and Electricity and Magnetism. We believe that our students and instructors will greatly benefit by this minor change. Students whose mathematical background is sufficient will be waived this prerequisite.

Among the required courses for our majors, Quantum Physics and Electricity and Magnetism are most demanding in terms of physical ideas and mathematical sophistication. Most colleges that do not offer Mathematical Physics generally offer two semesters of Quantum Physics and two semesters of Electricity & Magnetism as well as differential equations and linear algebra.

We suggest that this change will allow the student to retain as much flexibility in their curriculum as possible, yet giving them the foundation they need to get the most out of their upper level physics courses. In addition, since the main prerequisite for Mathematical Physics is only Calculus II, there will be no extra preparation needed on part of the student who is taking this course.

3. Consultations

Dr. Gary Itzkowitz, Chairman of the Mathematics Department

Dr. John Harris, Secondary Ed Certification Program

The faculty of the Department of Chemistry and Physics approved this change.