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Senators: Chair – David Rainville , Vice Chair – Kristen Hendrickson, Secretary – Kris Hiney, Executive Committee – Glenn Potts, David Furniss

To: Connie Foster, Chancellor
116 North Hall
University of Wisconsin-River Falls

From: David Rainville, Chair
Faculty Senate
University of Wisconsin-River Falls

RE: UW-RF Faculty Senate Motion 2008/2009/43

At the December 10, 2008 meeting of Wisconsin-River Falls Faculty senate, motion 2008-2009/43 was passed. This motion is forwarded for your action.

A motion from AP&P for approval of an emphasis/option change in the Physics Major - Option II (Liberal Arts).

X Approved

_____ Disapproved

Connie Foster
Connie Foster, Chancellor

1-28-09
Date

Narrative for Program Changes for Physics - Option II (Liberal Arts)

We are proposing modifying the number of credits on three physics courses, which will have a small impact on the Option II Physics major. The three courses involved are the three Electronics courses, and they will be increased from 3 credits to 4 credits.

PHYS 311 is a required part of the Core Courses for the Option I, Option II, Secondary Education and Applied majors. It is a directed elective in the Dual Degree program and an elective for both the Liberal Arts minor and the Secondary Education minor.

PHYS 312 and PHYS 313 are required for the Applied Option, and are allowed electives in all the other major options and both minors.

There is a common core of courses for the Option I, Option II, Secondary Education and Applied majors. The courses in the core add up to 25 credits. The proposed increase in credits for PHYS 311 will increase the core to 26 credits. To keep the total credits for the major unchanged, the number of elective credits will decrease by one. The proposed changes for Option II are summarized below.

Option II:	Core	26 credits
	Directed Electives in Physics	10 credits
	Total for Option II	36 credits

The common core consists of the following courses:

PHYS 161 Calc-based Physics I	4 credits
PHYS 166 Calc-based Phys Lab I.....	1 credit
PHYS 162 Calc-based Physics II	4 credits
PHYS 167 Calc-based Physics Lab II.....	1 credit
PHYS 204 Intermediate Physics Lab	1 credit
PHYS 264 Modern Physics	4 credits
PHYS 301 Advanced Phys Lab I.....	3 credits
PHYS 302 Advanced Phys Lab II.....	3 credits
PHYS 311 Electronics: Circuits & Devices	4 credits
PHYS 485 Seminar	1 credit

Physics Major–Liberal Arts

Physics Core Requirements: 25 cr. hrs.

The prerequisite courses for all courses required in the physics major must be passed with a grade of C or better

PHYS 161 Calculus-Based Physics I 4 cr.

PHYS 166 Calculus-Based Physics Laboratory I 1 cr.

PHYS 162 Calculus-Based Physics II 4 cr.

PHYS 167 Calculus-Based Physics Laboratory II 1 cr.

PHYS 204 Intermediate Physics Laboratory 1 cr.

PHYS 264 Modern Physics 4 cr.

PHYS 301 Advanced Physics Laboratory I (writing intensive) 3 cr.

PHYS 302 Advanced Physics Laboratory II (writing intensive) 3 cr.

PHYS 311 Electronics: Circuits and Devices 3 cr.

PHYS 485 Seminar (writing intensive) 1 cr.

Required Supporting Courses: 20 cr. hrs.

MATH 166 Calculus I 4 cr.

MATH 167 Calculus II 4 cr.

MATH 331 Differential Equations 3 cr.

PHYS 211 Scientific Programming 3 cr.

or CSIS 162 Programming II

PHYS 361 Mathematics of Physics and Engineering I 3 cr.

PHYS 362 Mathematics of Physics and Engineering II 3 cr.

Option I 50 Total Credits

Recommended as preparation for graduate studies in physics or for industrial research.

Physics Major Core 25 cr. hrs.

Directed Electives in Physics 25 cr. hrs.

Choose from courses below:

Option II 36 Total Credits

Recommended for students wanting maximum flexibility for study in other areas

Physics Major Core 25 cr. hrs.

Directed Electives in Physics 11 cr. hrs.

Choose from courses below:

Directed Electives in Physics

PHYS 279 Introduction to Internships 1 cr.

PHYS 312 Electronics: Linear Integrated Circuits 3 cr.

or PHYS 313 Electronics: Digital Circuit Theory and Applications

PHYS 318 Astrophysics 3 cr.

PHYS 324 Acoustics 3 cr.

PHYS 379 Cooperative Education and Internship 3 cr.

PHYS 415 Thermodynamics 3 cr.

PHYS 420 Optics 4 cr.

PHYS 426 Nuclear and Particle Physics 4 cr.

PHYS 427 Condensed Matter Physics 4 cr.

PHYS 441 Classical Mechanics 4 cr.

PHYS 442 Electricity and Magnetism 4 cr.

PHYS 465 Quantum Mechanics 3 cr.

Applied Option 49-50 Total Credits

Recommended as preparation for a career in an industrial or government laboratory, or for graduate study in Applied Physics, Electronics, Engineering Physics, and Geophysics.

Core Requirements 25 cr. hrs.**Required Courses in Physics 21 cr. hrs.**

PHYS 250 Statics 3 cr.

PHYS 252 Dynamics 3 cr.

PHYS 254 Mechanics of Materials 3 cr.

PHYS 312 Electronics: Linear Integrated Circuits 3 cr.

PHYS 313 Electronics: Digital Circuit Theory and Applications 3 cr.

PHYS 361 Mathematics of Physics and Engineering I 3 cr.

PHYS 362 Mathematics of Physics and Engineering II 3 cr.

Directed Electives 3-4 cr. hrs.

Choose an internship (3 cr.) or advanced courses of an applied nature elected from Physics, Chemistry, or Geology.

Physics Major–Secondary Education**Major Requirements 36 Total Credits****Core Requirements: 25 cr. hrs.****Required Course: 3 cr. hrs.**

PHYS 331 Curriculum Physics 3 cr.

Directed Electives in Physics 8 cr. hrs.

As listed for Liberal Arts excluding PHYS 279 and 379 Internship course