

4-7-2008

Revision of the Minor in Physics

The College at Brockport, College Senate

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SUNY BROCKPORT

College Senate
State University of New York College at Brockport
350 New Campus Drive
Brockport, NY 14420-2925
(585) 395-2586 (Fax) 395-2246

Resolution # 24

2007-2008

COLLEGE SENATE

New Resolution:

Supersedes Res #: _____

TO: Dr. John R. Halstead, College President

FROM: The College Senate: *April 7, 2008*

RE: \longrightarrow I. Formal Resolution (*Act of Determination*)
II. Recommendation (*Urging the Fitness of*)
III. Other, For Your Information (*Notice, Request, Report, etc.*)



SUBJ: ***Revision of the Minor in Physics*** routing #30 07-08 UC

Signed:  Date: 11 APR 08

(P. Gibson Ralph, 2007-2008 College Senate President)

Please fill out the bottom portion and follow the distribution instructions at the end of this page.

TO: P. Gibson Ralph, The College Senate President

FROM: ***John R. Halstead, College President***

RE: \longrightarrow I. Decision and Action Taken on Formal Resolution (circle choice)

a. Accepted

Implementation Effective Date: Fall 2008

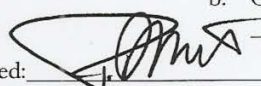
b. Deferred for discussion with the Faculty Senate on ___/___/___

c. Unacceptable for the reasons contained in the attached explanation

II, III. Response to Recommendation or Other/FYI

a. Received and acknowledged ___/___/___

b. Comment:

Signed:  Date: 4/22/08
(Dr. John R. Halstead, President, SUNY College at Brockport)

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COLLEGE SENATE COPIES: Originator, College Senate Website, Other: _____

**COLLEGE SENATE OFFICE
RESOLUTION PROPOSAL COVER PAGE**

**Routing Number	#30 07-08 UC
Replaces Resolution	#

**Routing # assigned by Senate Office

DEADLINE FOR SUBMISSIONS: FEBRUARY 28

Incomplete proposals or proposals received after the deadline may not be reviewed until next semester.

INSTRUCTIONS – please, no multiple attachments – each proposal must be submitted as one document:

- Submit only complete proposals. Include support letters from department chair and dean.
- Proposals must be prepared individually in Word format using committee guidelines (guidelines online).
- Fill out this cover page for each proposal and insert it electronically as the front page of your document. (available online at www.brockport.edu/collegesenate)
- Email whole proposal with cover page as one attachment to senate@brockport.edu and facpres@brockport.edu.
- All updates must be resubmitted to the Senate office with the original cover page including routing number.
- Questions? Call the Senate office at 395-2586 or the appropriate committee chairperson.

1. **PROPOSAL TITLE:** Please be somewhat descriptive, i.e. *Graduate Probation/Dismissal Proposal* rather than *Graduate Proposal*.

Revision of the Minor in Physics

2. BRIEF DESCRIPTION OF PROPOSAL:

Students taking a minor in Physics will be required to complete Years 1 and 2 of the Physics Major curriculum. This will lead to a few adjustments from the previous form of the minor. The changes will allow for a reasonable and consistent training in basic Physics.

3. ANTICIPATED EFFECTIVE DATE:

Fall Semester 2008

4. SUBMISSION & REVISION DATES: PLEASE PUT A DATE ON ALL UPDATED DOCUMENTS TO AVOID CONFUSION.

<i>First Submission</i>	<i>Updated on</i>	<i>Updated on</i>	<i>Updated on</i>

5. SUBMITTED BY: (contact person)

<i>Name</i>	<i>Department</i>	<i>Phone</i>	<i>Email</i>
Stanley F. Radford	Physics	395-5576	sradford@brockport.edu

6. COMMITTEES TO COPY: (Senate office use only)

Standing Committee	Forwarded To	Date
___ Enrollment Planning & Policies	To Committee for approval	2/28/08
___ Faculty & Professional Staff Policies	Committee Chair Sign Here When Passed	
___ General Education & Curriculum Policies *	To Executive Committee	3/10/08
___ Graduate Curriculum & Policies	GED to Vice Provost	Na
___ Student Policies	To Senate	3/24/08 – vote 4/7/08
___ Undergraduate Curriculum & Policies	To College President	4/11/08
<small>* follow special Gen Ed procedures for submission of General Education proposals at "How to Submit Proposals" on our Website.</small>	REJECTED -WITHDRAWN	

***Use routing number and title in all reference to this proposal.*

Table 1: Side-by-side comparison of previous and proposed Physics minor

Previous Physics Minor Curriculum		
Number	Course Title	Cr.
PHS 201	College Physics I (with laboratory)	4
PHS 202	College Physics II (with laboratory)	4
PHS 300	Classical Physics	3
PHS 303	Classical Physics Laboratory	1
PHS 301	Mathematical Methods of Physics	3
PHS 317 or PHS 302	Modern Physics or Classical Mechanics or	3
PHS 320	Electricity and Magnetism	
Total Physics credit hours:		18

Revised Physics Minor Curriculum		
Number	Course Title	Cr.
PHS 235	Physics I	4
PHS 240	Physics II	4
PHS 307	Physics III	3
PHS 325	Intermediate Physics Laboratory	2
PHS 332	Mathematical Methods of Physics	3
PHS 328	Modern Physics	3
Total Physics credit hours:		19

~~PHS 320~~ is deleted due to change in requirement.

Rationale for Physics Minor curricular changes

The Physics Minor is intended to serve students majoring in a variety of disciplines: Biology, Chemistry, Computational Science, Computer Science, Earth Science, and Mathematics among them. In order to do this, we would like the students to see the material which serves as the foundation for the major. To this end, we propose to adjust the Physics Minor to include the first two years of the Physics Major courses, as well as the Mathematics courses which support them. The Physics portion of the minor will thus increase by 1 Credit.

At the same time, we have “cleaned up” our course offerings by removing courses that have not been taught for many years, and have rationalized the course naming and numbering scheme across our course offerings. A prime example of the need for this “clean-up” is the dropping of the names “General Physics” and “College Physics” in favor of “Introduction to Physics” and “Physics” respectively. This change is necessitated by the confusing fact that the Brockport naming – General Physics = algebra-based physics and College Physics = calculus-based physics – is exactly the reverse of the usage in almost the entire rest of the Physics education universe. This has proven to be confusing to students (particularly those transferring in or out), registrars, and various physics faculty members. The proposed numbering scheme is intended to re-establish the appropriate hierarchy among our courses and to create a comprehensive rule which will allow the addition/replacement of courses in the future. In brief, courses which are taught in the Fall semester (or Fall and Spring semesters) have odd numbers, courses taught only in the Spring semester have even numbers, and courses with laboratory content have numbers which are multiples of 5.

A side-by-side comparison of the previous and proposed minors is provided in Table 1.

No departments are directly affected by these changes.

Key modifications:

1. The main modification to the minor is the elimination of two upper division options (Classical Mechanics and Electricity and Magnetism) and replacing that option with the requirement of Modern Physics.
2. The second modification is the requirement of the new 2 Cr lab course PHS 325 Intermediate Physics Laboratory.

Description of new courses

One new course will be required.

PHS 325 Intermediate Physics Laboratory (A). *Corequisite: PHS 307.* Allows students to perform experiments with mechanical and electrical oscillators, Fourier series, statistical mechanics, and the wave properties of sound and light. Provides an introduction to methods

of data analysis, such as curve fitting and error propagation. One hour of lecture and three hours of lab per week. 2 Cr. Fall.

This course replaces the old PHS 303 Classical Physics Laboratory and PHS 318 Modern Physics Laboratory which were 1 Credit each, and thus represents an increase of 1 Cr in Physics for the Minor.

Staffing Issues

These changes will have no impact on staffing.

Resources and facilities needed to implement this program

These changes will not require additional or new resources or facilities.