Course Approval Form

For instructions:
http://registrar.gmu.edu/facultystaff/catalog-revisions/course/

Action Requested: (definitions available at website above)
[ ] Create NEW [ ] Inactivate
[x] Modify (check all that apply below)

Course Level:
[x] Undergraduate [ ] Graduate

[ ] Title (must be 75% similar to original) [ ] Repeat Status [x] Prereq/coreq [ ] Grade Mode
[x] Credits [ ] Schedule Type [ ] Restrictions [x] Other: Hours reallocated Add note

College/School: COS **Department:** Physics & Astronomy
Submitted by: Phil Rubin **Ext:** 3815 **Email:** prubin@gmu.edu

Subject Code: PHYS **Number:** 407
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Effective Term: [ ] Fall [x] Spring [ ] Summer *Year* 2017

Title:
Current: Senior Laboratory in Modern Physics
Banner (30 characters max w/ spaces):
New:

Fulfills Mason Core Req? (undergrad only)
[ ] Currently fulfills requirement
[ ] Submission in progress

Credits: (check one)
[x] Fixed 4
[ ] Variable to
[ ] Lec + Lab/Rct 0 or

Repeat Status: (check one)
[x] Not Repeatable (NR)
[ ] Repeatable within degree (RD)
[ ] Repeatable within term (RT)
Max credits allowed: (required for RT/RD status only)

Grade Mode: (check one)
[x] Regular (A, B, C, etc.)
[ ] Satisfactory/No Credit
[ ] Special (A, B C, etc. +IP)

Schedule Type: (check one)
LEC can include LAB or RCT if linked sections will be offered
[ ] Lecture (LEC)
[x] Lab (LAB)
[ ] Recitation (RCT)
[ ] Internship (INT)
[ ] Independent Study (IND)
[ ] Seminar (SEM)
[ ] Studio (STU)

Prerequisite(s) (NOTE: hard-coding requires separate Prereq Checking form; see above website):
PHYS 402

Corequisite(s):

Restrictions Enforced by System: Major, College, Degree, Program, etc. Include Code(s).

Equivalencies (check only as applicable):
[ ] YES, course is 100% equivalent to
[ ] YES, course renumbered to or replaces

Catalog Copy (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	**Notes** (List additional information for the course)
Advanced experiments in modern physics: electronics, optics, condensed matter, and nuclear physics. Techniques for recording, graphically and statistically analyzing, and reporting data. Typical experiments include the Frank-Hertz experiment, Hall Effect, electron spin resonance, nuclear magnetic resonance and optical pumping.	Satisfies capstone requirement for physics B.S. This course meets the writing-intensive requirement.

Indicate number of contact hours: Hours of Lecture or Seminar per week: 2 Hours of Lab or Studio: 5
When Offered: (check all that apply) [x] Fall [ ] Summer [x] Spring

Approval Signatures

Department Approval Date
College/School Approval Date

If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

Undergraduate or Graduate Council Approval

UGC or GC Council Member
Provost's Office
UGC or GC Approval Date

Form revised 9/2/2016

Course Proposal Submitted to the College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference. Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL COURSES (required)
Course Number and Title: PHYS 407 - Senior Laboratory in Modern Physics

Date of Departmental Approval:

FOR MODIFIED COURSES (required if modifying a course)

- Summary of the Modification: Change requisites, credits, hours; add note

- Text before Modification (title, repeat status, catalog description, etc.):

PHYS 407 - Senior Laboratory in Modern Physics
Credits: 3
Not Repeatable for Credit
Offered by Physics and Astronomy Advanced experiments in modern physics: electronics, optics, condensed matter, and nuclear physics. Techniques for recording, graphically and statistically analyzing, and reporting data. Typical experiments include the Frank-Hertz experiment, Hall Effect, electron spin resonance, nuclear magnetic resonance and optical pumping.

Fulfills writing intensive requirement in the major.

Prerequisite(s): C or higher in PHYS 263, 305, 308.
Prerequisite(s) enforced by registration system.

Corequisite(s): PHYS 402.

Notes: This course meets the writing-intensive requirement.

Schedule Type: LAB
Hours of Lecture or Seminar per week: 3
Hours of Lab or Studio per week: 9

- Text after Modification (title, repeat status, catalog description, etc.):

PHYS 407 - Senior Laboratory in Modern Physics
Credits: 4
Not Repeatable for Credit
Offered by Physics and Astronomy Advanced experiments in modern physics: electronics, optics, condensed matter, and nuclear physics. Techniques for recording, graphically and statistically analyzing, and reporting data. Typical experiments include the Franck-Hertz experiment, Hall Effect, electron spin resonance, nuclear magnetic resonance and optical pumping.

Satisfies capstone requirement for the major. Franck
Fulfills writing intensive requirement in the major.

Prerequisite(s): PHYS 402.
Prerequisite(s) enforced by registration system.

Corequisite(s): ~~PHYS 402.~~

Notes: This course satisfies the capstone requirement. This course meets the writing-intensive requirement.

Schedule Type: LAB
Hours of Lecture or Seminar per week: 2
Hours of Lab or Studio per week: 5

- Reason for the Modification: Material requires an existing foundation of basic quantum mechanics to understand and interpret experiments; course meets for 7 hours/week, and ASTR 402, the other capstone course, earns 4 credits; Physics BS replacing Synthesis requirement with capstone.