

# COURSE CHANGE FORM

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for Items being changed.

**1. General Information.**

- a. Submitted by the College of: Arts and Sciences Today's Date: August 17, 2010
- b. Department/Division: Department of Physics and Astronomy
- c. Is there a change in "ownership" of the course? YES  NO   
 If YES, what college/department will offer the course instead? \_\_\_\_\_
- d. What type of change is being proposed?  Major  Minor<sup>1</sup> (place cursor here for minor change [OSC1] definition)
- e. Contact Person Name: Kwok-Wai Ng Email: kwng@uky.edu Phone: 7-1782
- f. Requested Effective Date:  Semester Following Approval OR  Specific Term<sup>2</sup>: \_\_\_\_\_

**2. Designation and Description of Proposed Course.**

- a. Current Prefix and Number: PHY 535 Proposed Prefix & Number: PHY 535W
- b. Full Title: Experimental Physics: Advanced Physics Laboratory Proposed Title: Advanced Physics Laboratory
- c. Current Transcript Title (if full title is more than 40 characters): EXP PHY: ADV PHYSICS LAB  
 Proposed Transcript Title (if full title is more than 40 characters): Advanced Physics Lab
- d. Current Cross-listing:  N/A OR Currently<sup>3</sup> Cross-listed with (Prefix & Number): \_\_\_\_\_  
 Proposed –  ADD<sup>3</sup> Cross-listing (Prefix & Number): \_\_\_\_\_  
 Proposed –  REMOVE<sup>3,4</sup> Cross-listing (Prefix & Number): \_\_\_\_\_

e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours<sup>5</sup> for each meeting pattern type.

- |           |                                   |   |                                     |                                     |                                       |
|-----------|-----------------------------------|---|-------------------------------------|-------------------------------------|---------------------------------------|
| Current:  | <input type="checkbox"/> Lecture  | <input checked="" type="checkbox"/> <u>4hr/wk</u> Laboratory <sup>5</sup>               | <input type="checkbox"/> Recitation | <input type="checkbox"/> Discussion | <input type="checkbox"/> Indep. Study |
|           | <input type="checkbox"/> Clinical | <input type="checkbox"/> Colloquium   | <input type="checkbox"/> Practicum  | <input type="checkbox"/> Research   | <input type="checkbox"/> Residency    |
|           | <input type="checkbox"/> Seminar  | <input type="checkbox"/> Studio   | Other – Please explain: _____       |                                     |                                       |
| Proposed: | <input type="checkbox"/> Lecture  | <input checked="" type="checkbox"/> <u>4hr/wk</u> Laboratory <i>6 hr/wk 211 3/12/12</i> | <input type="checkbox"/> Recitation | <input type="checkbox"/> Discussion | <input type="checkbox"/> Indep. Study |
|           | <input type="checkbox"/> Clinical | <input type="checkbox"/> Colloquium   | <input type="checkbox"/> Practicum  | <input type="checkbox"/> Research   | <input type="checkbox"/> Residency    |
|           | <input type="checkbox"/> Seminar  | <input type="checkbox"/> Studio   | Other – Please explain: _____       |                                     |                                       |

- f. Current Grading System:  Letter (A, B, C, etc.)  Pass/Fail  
 Proposed Grading System:  Letter (A, B, C, etc.)  Pass/Fail

- g. Current number of credit hours: 2 Proposed number of credit hours: 3

<sup>1</sup> See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair. If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.*

<sup>2</sup> Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

<sup>3</sup> Signature of the chair of the cross-listing department is required on the Signature Routing Log.

<sup>4</sup> Removing a cross-listing does not drop the other course – it merely unlinks the two courses.

<sup>5</sup> Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

## SIGNATURE ROUTING LOG

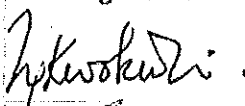
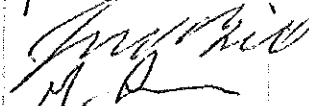
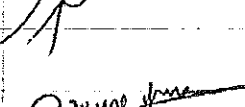
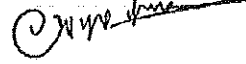

### General Information:

Proposal Type: Course  Program  Other   
 Proposal Name<sup>1</sup> (course prefix & number, pgm major & degree, etc.): PHY535W (change)  
 Proposal Contact Person Name: Kwok-Wai Ng Phone: 7-1782 Email: kwng@uky.edu

### INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

### Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Physics & Astronomy	8/19/10	Kwok-Wai Ng, DUS / 7-1782 / kwng@uky.edu	
Physics & Astronomy	8/19/10	Joe Brill, DGS / 7-4670 / jwbrill@uky.edu	
Physics & Astronomy	8/19/10	Mike Cavagnero / 7-6901 / mike@pa.uky.edu	
		/ /	
A&S Ed. Policy Cmte.	9/21/10	G. Murthy, Nat. Sci. / 7-4729 / ganpathy.murthy@uky.edu	
A&S Dean	9/21/10	Anna Bosch, Associate Dean / 7-6689 / bosch@uky.edu	

### External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision <sup>2</sup>
Undergraduate Council	3/1/2011	Sharon Gill	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

<sup>1</sup> Proposal name used here must match name entered on corresponding course or program form.

<sup>2</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

**Brothers, Sheila C**

**From:** Brothers, Sheila C  
**Sent:** Friday, December 01, 2006 1:47 PM  
**To:** Gill, Sharon  
**Subject:** FW: PHY 535

**Attachments:** 0607-C002.pdf

Just wanted to make sure this would be reviewed by UC. ☺

Sheila

*Office of the Senate Council  
Phone: (859) 257-5872  
Fax: (859) 257-8375*

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**From:** Nikou, Roshan  
**Sent:** Tuesday, November 21, 2006 2:07 PM  
**To:** Barnett, Stephen L; Blackwell, Jeannine; Brothers, Sheila C; Gill, Sharon; Hanson, Roxie; Lindsay, Jim; Nikou, Roshan ; Price, Cleo; Vance, Sandra M  
**Subject:** PHY 535

Hello everybody:

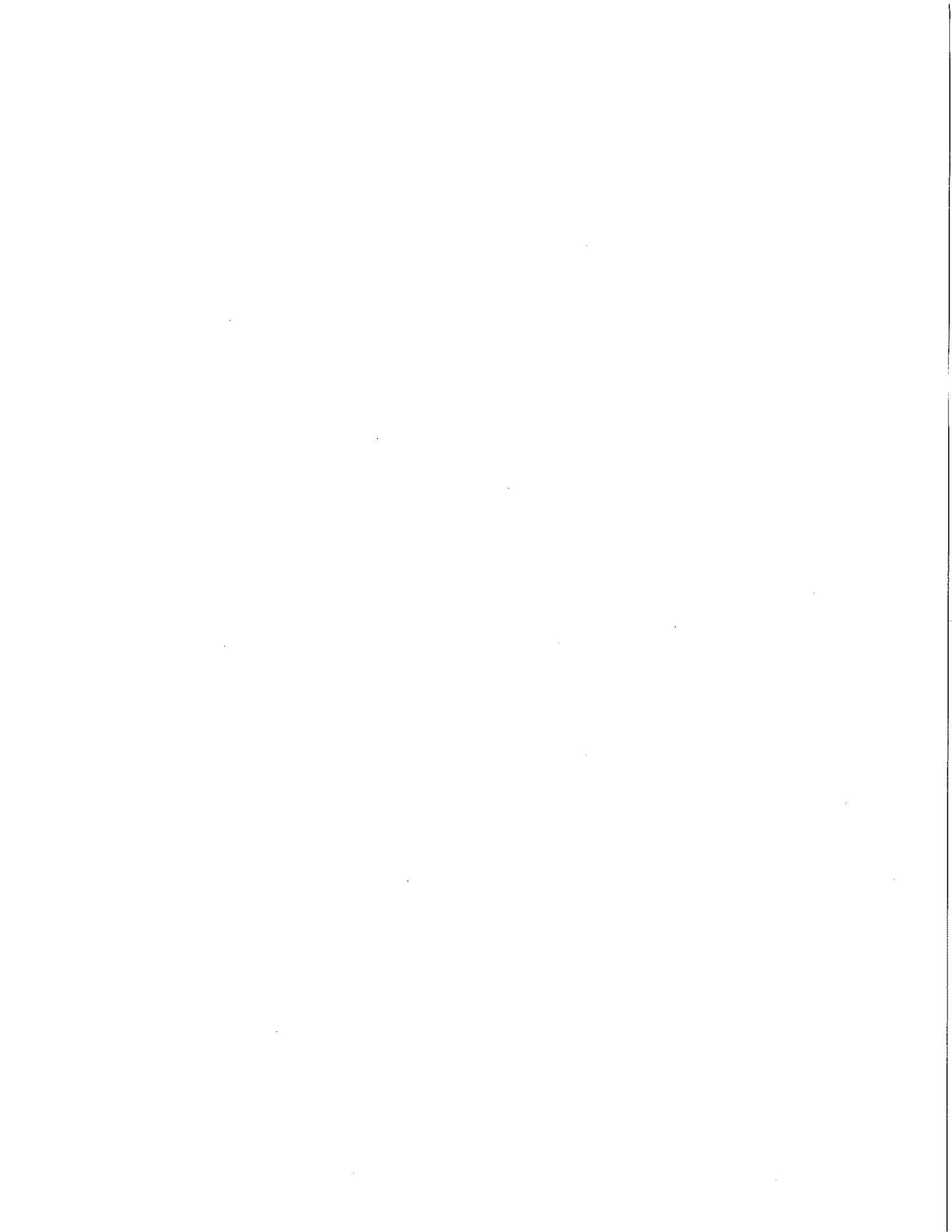
PHY 535 was passed by Graduate Council via Consent Agenda on November 16<sup>th</sup>.



0607-C002.pdf  
(472 KB)

Thank you and happy thanks giving

***Roshan Nikou  
The Graduate School  
101 Gillis Building  
Lexington, KY 40506-0027  
Phone: 257-1457  
Fax: 323-1928  
Email: [roshan.nikou@uky.edu](mailto:roshan.nikou@uky.edu)***



## COURSE CHANGE FORM

- h. Currently, is this course repeatable for additional credit? YES  NO   
 Proposed to be repeatable for additional credit? YES  NO   
 If YES: Maximum number of credit hours: \_\_\_\_\_  
 If YES: Will this course allow multiple registrations during the same semester? YES  NO

- i. Current Course Description for Bulletin: An advanced laboratory course covering topics in atomic, solid state, and nuclear physics, geometrical and wave optics, and principles and techniques of spectroscopy. May be repeated to a maximum of 4 credits.  
 Proposed Course Description for Bulletin: An advanced laboratory course emphasizing quantum phenomena in atomic, solid state and nuclear systems. Laboratory techniques include optical spectroscopy, gamma-ray and particle detection, optical pumping, atomic and nuclear collisions, and interferometry.

- j. Current Prerequisites, if any: PHY 335, PHY 361  
 Proposed Prerequisites, if any: PHY 335, PHY 361

- k. Current Distance Learning(DL) Status:  N/A  Already approved for DL\*  Please Add<sup>6</sup>  Please Drop

\*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box ) that the proposed changes do not affect DL delivery.

- l. Current Supplementary Teaching Component, if any:  Community-Based Experience  Service Learning  Both  
 Proposed Supplementary Teaching Component:  Community-Based Experience  Service Learning  Both

3. Currently, is this course taught off campus? YES  NO   
 Proposed to be taught off campus? YES  NO   
 4. Are significant changes in content/teaching objectives of the course being proposed? YES  NO

If YES, explain and offer brief rationale:

Currently, students complete 6 or 7 projects and submit a final report on each. Their daily work in the lab, the lab notebook they keep, and the final report are all evaluated to determine the project grade. We propose to use PHY 535 (and PHY 435) to satisfy the Graduating Writing Requirement of our students. ALL students in both courses will be held to higher standards of writing than at present, and their written reports will be routinely returned for corrections. While the time spent in class will remain unchanged, this represents a significant increase in the overall workload of the students. We therefore also propose to increase the course credit from 2 to 3 hours.

5. Course Relationship to Program(s). Has this course been approved for GWR?  
 a. Are there other depts and/or pgms that could be affected by the proposed change? YES  NO   
 If YES, identify the depts. and/or pgms: \_\_\_\_\_  
 b. Will modifying this course result in a new requirement<sup>7</sup> for ANY program? YES  NO   
 If YES<sup>7</sup>, list the program(s) here: BS Physics

6. Information to be Placed on Syllabus.

- a.  changed to 400G or 500. Check box if changed to 400G- or 500-level course you must send in a syllabus and you must include the differentiation between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate

<sup>6</sup> You must also submit the Distance Learning Form in order for the course to be considered for DL delivery.

<sup>7</sup> In order to change a program, a program change form must also be submitted.

## PROJECT REPORTS

Because PHY 535 satisfies the Graduation Writing Requirement (GWR), we will emphasize effective methods for writing concise, coherent, and informative stand-alone lab reports. *All* undergraduate students enrolled in PHY 535, not just those seeking to satisfy the GWR, will be expected to prepare their reports to the same high standards. The total number of projects completed by each student, and therefore the number of reports prepared, will depend upon the specific projects that are selected. However, all students will complete at least 4 projects and prepare 4 reports. Each report must be typewritten and contain at least 4 double-spaced pages of text. All figures must be carefully designed and properly labeled. The overall structure of the report must be carefully organized and contain all of the essential ingredients of a technical report. In addition, the sentences and paragraphs must be clearly constructed and free of grammatical and spelling errors. The first draft of your reports will be graded and returned to you for correction. Following this iteration procedure, a final grade will be assigned to the report.

## GENERAL-AUDIENCE PAPER

Near the end of the term each student will select one of their previously reported lab projects to rewrite in the style of a short article that might appear in *Scientific American*. This popular journal is well known for presenting informative articles in a variety of scientific and mathematical fields which are understandable to a literate audience of nonspecialists. The text for this final assignment must be at least 4 pages in length, and must include one or more captioned figures as well as a set of references.

The deadline for submitting the first draft of this paper is exactly one week before the scheduled final exam hour for PHY 535. The corrected drafts will be available from the instructor two days later. The finished revised paper is then due at the time of the scheduled final exam. (Note: Homework assignments which are listed in the syllabus are allowed during dead week.)

Excerpted from [www.uky.edu/UGS/WritingInitiative/wchecklist.htm](http://www.uky.edu/UGS/WritingInitiative/wchecklist.htm):

### Writing-Intensive Course Requirements

*Any course approved for the Graduation Writing Requirement will involve the following learning outcomes, writing requirements, and grading policies.*

#### *Learning Outcomes*

- *Write a paper that is essentially free of mechanical errors (grammar, punctuation, spelling, and syntax) and awkwardness, using a style that is appropriate to the purpose and audience.*

- *Write a capable, interesting essay about a complex issue (discipline-specific) for a general university audience.*
- *Demonstrate an ability to discover, evaluate, and clearly present evidence in support of an argument in the subject area and utilize documentation that conforms to the formats and the citation conventions of the subject area.*
- *Be aware that composing a successful text frequently takes multiple drafts, with varying degrees of focus on generating, revising, editing, and proofreading.*

### *Writing Requirements*

- *Students will be required to write a minimum of 15 pages of formal writing. At least 10 of the 15 pages must be single-authored assignments. No assignments requiring fewer than 4 pages may be included in the 15-page minimum.*
- *All of these 15 pages must go through a draft, review, and revise process.*

### *Grading Policies*

- *To pass the course, students must submit all formal writing assignments (in draft and final form) and earn a grade of C or higher on each. Assignments other than the formal writing assignments enter into the final grade determination only if the student has achieved grades of C or higher on the formal writing assignments.*
- *Any major assignment that receives a D or below must be revised to reflect competency and resubmitted. Instructors may limit the number of revision attempts.*
- *In no case may a student whose writing fails to reach the level of C (competent) receive a passing grade in a course that satisfies the University Writing Requirement.*

*In summary: To pass the course and fulfill the upper tier of the GWR, students must submit all formal writing assignments and earn a grade of C or better on each assignment. Any major assignment that receives a D or below must be revised to reflect competency and resubmitted. Students may resubmit such assignments 2 times. If they fail to achieve a C grade on the final version of any major writing assignment, the student will receive a failing grade for the course. Note that assignments or requirements other than the formal writing become a factor in the final determination of the course grade only if the student has achieved a grade of C or higher on all formal writing assignments.*

### *Assessment*

- *Students will submit two copies of their final paper of the semester. One copy will be graded by the instructor; the second copy will be used for SACS assessment and should be a clean copy, with only the student's student number listed at the top of the page.*

### *Student Eligibility*

- *This is a writing-intensive (W) course approved to fulfill the upper tier of the graduation writing requirement (GWR). To receive W credit for this course, students must have successfully completed the first-year writing requirement (ENG 104 or its equivalent) and have completed at least 30 hours of coursework.*

### *Plagiarism*

*Part II of Student Rights and Responsibilities (available online at <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.*

*When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.*

*Plagiarism includes reproducing someone else's work, whether it be published article, chapter of a book, a paper from a friend or some file, or whatever. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.*

*When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain. (Section 6.3.1).*

### **GRADING**



A daily classwork grade of 0-10 points will be assigned by the instructor for work in each regular (Tue. & Thur.) lab period. Students who arrive on time and well prepared for class, and who are diligent, careful, accurate and effective in their lab work will receive a daily score of 10; students whose work in the lab is somewhat less than ideal will receive a score of 8; students who exhibit serious deficiencies in their lab work will receive a score of 6; and students with an unexcused absence will receive a daily score of 0. *Do not for a minute think that you will be penalized in your daily score for asking questions in class. Indeed, asking insightful questions can actually help you earn a 10-point score.* And don't worry if you have no questions; the instructor will usually have plenty for you.

*There will be no mid-term and no final exam in this course;* each student's accumulated score on their lab work will be the basis for their final grade assignment. The final project grade for each of the 7 experiments will be the weighted average of the score for the lab notebook (25%), the lab report (50%), and a classwork grade (25%). Note that the project grade for experiments N5, N6, SO1 and SO8 will carry double-weighting since these are 8-period projects. The general-audience paper will contribute to the overall grade with the same weighting as the project grade of a 4-period project.

The assignment of final course grades for undergraduate students will be made in accordance with University Senate Rules 5.1.1:

Grade	Senate Criterion	PHY 535 Criterion
A 90-100	'Represents an exceptionally high achievement as a result of aptitude, effort, and intellectual initiative'	Laboratory work displays a very high level of independence, accuracy and creativity; Reports consistently provide an accurate, clear, informative and grammatically correct summary of the motivation, methods, results and interpretation of the measurements
B 80-90	'Represents a high achievement as a result of ability and effort'	Laboratory work displays a high level of independence, accuracy and creativity; Reports usually provide an accurate, clear, informative and grammatically correct summary of the motivation, methods, results and interpretation of the measurements
C 70-80	'Represents average achievement'	Laboratory work frequently lacks independence, accuracy or creativity; Reports often do not provide an accurate, clear, informative or grammatically correct summary of the motivation, methods, results and interpretation of the measurements
D 60-70	'Represents the minimum passing grade'	Either the student work in the laboratory or the project report is consistently of minimally acceptable quality
E 0-60	'Represents unsatisfactory performance and indicates a failure in the course'	Either the laboratory work or the project report is generally of unsatisfactory quality

Grading standards (but not the course requirements!) for graduate students will be the same as those for undergraduates, except that a grade of D will not be awarded. Graduate students whose overall quality of work is below that earning a C grade will receive a course grade of E.

Students with unexcused absences may be explicitly penalized when final grades are assigned. Also note that an 'I' grade in this course will only be given in cases where a student is unable to complete the lab work because of illness or similarly debilitating personal circumstance. Other students will receive scores of zero for all uncompleted work, and a final course grade will be assigned.

Students with a documented disability that requires academic accommodations should contact the instructor as soon as possible. Students may obtain this documentation from the Disability Resource Center in room 2 of the Alumni Gym.