

Eastern Illinois University  
*Revised Course Proposal*  
**PHY 1072, Physics of Sound and Music Laboratory**

Please check one: ☐ New course ☒ Revised course

**PART I: CATALOG DESCRIPTION**

1. **Course prefix and number, such as ART 1000:** PHY 1072
2. **Title (may not exceed 30 characters, including spaces):** Physics of Sound and Music Lab
3. **Long title, if any (may not exceed 100 characters, including spaces):** Physics of Sound and Music Laboratory
4. **Class hours per week, lab hours per week, and credit [e.g., (3-0-3)]:** (0-2-1)
5. **Term(s) to be offered:** ☒ Fall ☒ Spring ☐ Summer ☐ On demand
6. **Initial term of offering:** ☒ Fall ☐ Spring ☐ Summer **Year:** 2011
7. **Course description (not to exceed four lines):** Experimental work demonstrating physical and acoustical principles and their applications. P1 901L
8. **Registration restrictions:**
  - a. **Identify any equivalent courses** (e.g., cross-listed course, non-honors version of an honors course). none
  - b. **Prerequisite(s)**, including required test scores, courses, grades in courses, and technical skills. Indicate whether any prerequisite course(s) MAY be taken concurrently with the proposed/revised course. none.
  - c. **Who can waive the prerequisite(s)?**  
☐ No one ☒ Chair ☐ Instructor ☐ Advisor ☐ Other (Please specify)
  - d. **Co-requisites** (course(s) which MUST be taken concurrently with this one): PHY 1071: Physics of Sound and Music
  - e. **Repeat status:** ☒ Course may not be repeated.  
☐ Course may be repeated to a maximum of \_\_\_\_\_ hours or \_\_\_\_\_ times.
  - f. **Degree, college, major(s), level, or class** to which registration in the course is restricted, if any: none
  - g. **Degree, college, major(s), level, or class** to be excluded from the course, if any: none
9. **Special course attributes** [cultural diversity, general education (indicate component), honors, remedial, writing centered or writing intensive] none
10. **Grading methods** (check all that apply): ☒ Standard letter ☐ C/NC ☐ Audit ☐ ABC/NC ("Standard letter"—i.e., ABCDF—is assumed to be the default grading method unless the course description indicates otherwise.)
11. **Instructional delivery method:** ☐ lecture ☒ lab ☐ lecture/lab combined ☐ independent study/research  
☐ internship ☐ performance ☐ practicum or clinical ☐ study abroad ☐ other

## PART II: ASSURANCE OF STUDENT LEARNING

### 1. List the student learning objectives of this course:

Students will be able to:

- A. Take proper measurements with appropriate instruments
- B. Record data in a clear and accurate manner
- C. Analyze data to distinguish between proposed models
- D. Graphically represent data in an appropriate manner
- E. Prepare written reports of laboratory work in the appropriate style of writing

**a. If this is a general education course, indicate which objectives are designed to help students achieve one or more of the following goals of general education and university-wide assessment:**

- EIU graduates will write and speak effectively.
- EIU graduates will think critically.
- EIU graduates will function as responsible citizens.

**b. If this is a graduate-level course, indicate which objectives are designed to help students achieve established goals for learning at the graduate level:**

- Depth of content knowledge
- Effective critical thinking and problem solving
- Effective oral and written communication
- Advanced scholarship through research or creative activity

### 2. Identify the assignments/activities the instructor will use to determine how well students attained the learning objectives:

Goal \ Activity	A. Measure	B. Record data	C. Analyze data	D. Graph data	E. Prepare reports
Lab performance	X	X	X	X	
Lab report			X	X	X

### 3. Explain how the instructor will determine students' grades for the course:

Numeric grades will be assigned based on the quality and completeness of lab reports or worksheets submitted. Lab reports (formal write-ups that include Statement of Purpose, Procedures, Presentation of Data, Analysis of Data, and Conclusion) are required for selected labs; for those labs, each lab is worth 50 points. Worksheets (informal write-ups that include data, data analysis and graphs) are required for the other labs; for these labs, each lab is worth 20 points. Semester numeric grades will be assigned based on the percentage of the total points earned relative to the maximum possible total points. Semester letter grades will be assigned based on the following grading scale:

Grade assignments:

- A if students score is greater than or equal to 90%
- B if students score is greater than or equal to 80% but less than 90%
- C if students score is greater than or equal to 70% but less than 80%
- D if students score is greater than or equal to 60% but less than 70%
- F if students score is less than 60%

4. For technology-delivered and other nontraditional-delivered courses/sections, address the following:
  - a. Describe how the format/technology will be used to support and assess students' achievement of the specified learning objectives:
  - b. Describe how the integrity of student work will be assured:
  - c. Describe provisions for and requirements of instructor-student and student-student interaction, including the kinds of technologies that will be used to support the interaction (e.g., e-mail, web-based discussions, computer conferences, etc.):
5. For courses numbered 4750-4999, specify additional or more stringent requirements for students enrolling for graduate credit. These include:
  - a. course objectives;
  - b. projects that require application and analysis of the course content; and
  - c. separate methods of evaluation for undergraduate and graduate students.
6. If applicable, indicate whether this course is writing-active, writing-intensive, or writing-centered, and describe how the course satisfies the criteria for the type of writing course identified. (See Appendix \*.) n/a

### PART III: OUTLINE OF THE COURSE

Provide a week-by-week outline of the course's content. Specify units of time (e.g., for a 3-0-3 course, 45 fifty-minute class periods over 15 weeks) for each major topic in the outline. Provide clear and sufficient details about content and procedures so that possible questions of overlap with other courses can be addressed. For technology-delivered or other nontraditional-delivered courses/sections, explain how the course content "units" are sufficiently equivalent to the traditional on-campus semester hour units of time described above.

Week	Lab Topic (2 lab hours each week)
1	Graphical analysis
2	Uniformly accelerated motion
3	Newton's second law
4	Conservation of momentum
5	Work and energy
6	Simple harmonic motion: mass-spring system
7	Approximate simple harmonic motion: pendulum
8	Ideal gas law
9	General wave properties: ripple tank
10	Speed of sound in air: travel time
11	Sound waves in air: resonance
12	Sound intensity level
13	Frequency analysis of sound
14	Formants
15	Sound waves and beats

## PART IV: PURPOSE AND NEED

**1. Explain the department's rationale for developing and proposing the course.**

This course already exists and was approved at least 20 years ago (change of course number more recently).

- a. If this is a general education course, you also must indicate the segment of the general education program into which it will be placed, and describe how the course meets the requirements of that segment. n/a
- b. If the course or some sections of the course may be technology delivered, explain why. n/a

**2. Justify the level of the course and any course prerequisites, co-requisites, or registration restrictions.**

This course is the lab course that is a co-requisite to PHY 1071 (Physics of Sound and Music). There are no prerequisites.

**3. If the course is similar to an existing course or courses, justify its development and offering.**

- a. If the contents substantially duplicate those of an existing course, the new proposal should be discussed with the appropriate chairpersons, deans, or curriculum committees and their responses noted in the proposal. n/a
- b. Cite course(s) to be deleted if the new course is approved. If no deletions are planned, note the exceptional need to be met or the curricular gap to be filled. This is an existing course.

**4. Impact on Program(s):**

- a. For undergraduate programs, specify whether this course will be required for a major or minor or used as an approved elective. This course is a requirement for the Communication Disorders and Sciences (B.S.) degree.
- b. For graduate programs, specify whether this course will be a core requirement for all candidates in a degree or certificate program or an approved elective. n/a

If the proposed course changes a major, minor, or certificate program in or outside of the department, you must submit a separate proposal requesting that change along with the course proposal. Provide a copy of the existing program in the current catalog with the requested changes noted.

## PART V: IMPLEMENTATION

**1. Faculty member(s) to whom the course may be assigned:** Physics Department faculty

If this is a graduate course and the department does not currently offer a graduate program, it must document that it employs faculty qualified to teach graduate courses.

**2. Additional costs to students:** There is an approved lab fee for this course.

**Include those for supplemental packets, hardware/software, or any other additional instructional, technical, or technological requirements. (Course fees must be approved by the President's Council.)**

**3. Text and supplementary materials to be used (Include publication dates):**

There is no text. There is a lab manual authored by the faculty of the physics department (2011).

## **PART VI: COMMUNITY COLLEGE TRANSFER**

**If the proposed course is a 1000- or 2000-level course, state either, "A community college course may be judged equivalent to this course" OR "A community college course will not be judged equivalent to this course." A community college course will not be judged equivalent to a 3000- or 4000-level course but may be accepted as a substitute; however, upper-division credit will not be awarded.**

A community college course may be judged equivalent to this course.

## **PART VII: APPROVALS**

**Date approved by the department or school: August 12, 2011**

**Date approved by the college curriculum committee: August 17, 2011**

**Date approved by the Honors Council (*if this is an honors course*):**

**Date approved by CAA: September 1, 2011**

**\*In writing-active courses**, frequent, brief writing activities and assignments are required. Such activities -- some of which are to be graded -- might include five-minute in-class writing assignments, journal keeping, lab reports, essay examinations, short papers, longer papers, or a variety of other writing-to-learn activities of the instructor's invention. Writing assignments and activities in writing-active courses are designed primarily to assist students in mastering course content, secondarily to strengthen students' writing skills. In **writing-intensive courses**, several writing assignments and writing activities are required. These assignments and activities, which are to be spread over the course of the semester, serve the dual purpose of strengthening writing skills and deepening understanding of course content. At least one writing assignment is to be revised by the student after it has been read and commented on by the instructor. In writing-intensive courses, students' writing should constitute no less than 35% of the final course grade. In **writing-centered courses** (English 1001G, English 1002G, and their honors equivalents), students learn the principles and the process of writing in all of its stages, from inception to completion. The quality of students' writing is the principal determinant of the course grade. The minimum writing requirement is 20 pages (5,000 words).

**Student  
Success  
Center**

<http://www.eiu.edu/~success/>

**581-6696**



<http://www.eiu.edu/~counsctr/>

**581-3413**

**Career  
Services**

<http://www.eiu.edu/~careers/>

**581-2412**

**Disability  
Services**

<http://www.eiu.edu/~disabltv/>

**581-6583**