

## New/Revised Course Proposal Form

### Instructions:

- Prepare your proposal according to the following outline.
- Attach a proposed syllabus and/or course guidelines that include a list of measurable student learning outcomes and how they will be assessed.
- Have your proposal reviewed by the appropriate department and school/college committee.
- Submit the signed proposal to the Office of Academic Affairs. All forms must be completed in full with appropriate signatures. You will be contacted by the Curriculum Committee Coordinator with a date and time to present the proposal.

### Form information:

1. Department: BIOLOGICAL SCIENCES
2. Program: \_\_\_\_\_
3. Course Information: New \_\_\_\_\_ Revised   
SPIN / 1410 / PATTERNS IN LIGHT AND SOUND  
Prefix                      Number                      Title  
3 / NONE / \_\_\_\_\_  
Credit Hours                      Prerequisites
4. Catalog Description for the catalog: (This description should briefly describe the basic content of the course as it will be offered.)
5. May students repeat this course for credit?  Yes  No  
If there are limits, please explain? FOR FALL 2010 ONLY
6. What is the Rationale for the new/revised course?  
ADDITION OF FORTH TOPIC (ELECTRICITY/ELECTRONICS)
7. Should this new course be considered for General Education coding?  Yes  No  
If yes, attach the Application for General Education Coding Form.
8. Staffing requirements:
  - a. Qualifications necessary for instructor: PHYSICS TEACHING BACKGROUND
  - b. What staffing changes, if any, will be necessary to offer this additional course?  
NONE

9. When will this course be initiated? FALL 2010 How often will it be taught? FALL - 2 SECTIONS What campus(es) are likely to offer this course? WEBSTER - MAIN
10. Does this course affect degree requirements in your, or any other department/program's major, emphasis, minor or certificate?  Yes  No  
If yes, please attach corrected catalog copy for approval, with the Deans of that School/College's approval.
11. List any existing University course(s), which are similar in title and/or subject matter and explain how this course differs. NONE
12. Are University resources adequate to support this course? (Library holdings, space, specialized, equipment, etc.)  Yes  No  
If not, what additions are necessary? \_\_\_\_\_
13. Will any course be dropped as a result of this new course?  Yes  No  
If so, please list what course(s).

Endorsements and Approvals:

Bill Elliott  
 \_\_\_\_\_  
 Petitioner

[Signature]  
 \_\_\_\_\_  
 Department/ Program Chairperson

[Signature]  
 \_\_\_\_\_  
 Dean of College/School

[Signature]  
 \_\_\_\_\_  
 Chair/Curriculum Committee

10-5-09  
 \_\_\_\_\_  
 Date

10/16/09  
 \_\_\_\_\_  
 Date

11/17/09  
 \_\_\_\_\_  
 Date

2-16-10  
 \_\_\_\_\_  
 Date

**Syllabus**

**Wave Propagation ----- Topic One -----**

**Transverse/Longitudinal Waves, Pendulum, length, period, frequency, velocity, wave length.**

**Rectilinear Propagation, reflection, refraction, superposition, interference.**

**Sound ----- Topic Two -----**

**Spherical propagation, frequency response, Intensity/Loudness, decibel, Loudness curve, dynamic range.**

**Refraction, reflection, diffraction, interference, beat frequency, resonance.**

**Pitch/quality. Compressors / limiters / gates.**

**Light ----- Topic Three -----**

**The "Great Debate" ... wave or particle? Illumination, luminous/illuminated, intensity.**

**Reflection, coplanar mirrors, first/second surface, convex/concave, virtual/real.**

**Refraction, index, "total" reflection, fiber optics, laser.**

**Lenses, convex/concave, focal length, "near point", magnifier.**

**Diffraction, dispersion, color, chromatic aberration.**

**"The human experience" from light and sound.**

**Power of the Electron ----- Topic Four -----**

**Electrostatics, potential differences.**

**Direct current circuits, electric charges in motion, Continuous current.**

**Introduction to ohms, power in electric circuits.**

**Electro-magnetic induction, Inductors in series and parallel.**


**Electro applications and parameters. Common sense load transmission.**

*NEW*

**Rapport and expectations:**

**Key points for high success in this course: attendance, engagement.**

**If you have a disability that may have some impact on your work in this class, for which you may require accommodations, contact the Director of Academic Resource Center, Barbara Stewart at (314) 968-7495.**



**SCIN 1410 Description for FALL 2010**

Intended for any student in technical theater, sound and/or lighting, and for any student in music, video, photography, radio production, computer science, psychology, and education, who desires to learn the theories (and applications of theories) in light, sound, and electricity.

## **Learning Outcomes for SCIN 1410 offered FALL 2010**

**Students learn and are tested on Wave Theory.**

**Students learn and are tested on basic theories of sound, to include  
\*Intensity, \*Loudness, \*Dynamic Range, \*Fletcher-Munson Curves,  
\*Sound refraction and diffraction, \*Resonance, as well as  
\*Compressors/Limiters/Gates.**

**Students learn and are tested on basic theories of light, to include  
\*First and Second surface mirrors, \*Six cases of concave mirrors,  
\*Light refraction, \*Snell's Law, \*Fiber Optics, \*Diffraction, \*Color  
Addition and Subtractive Properties, \*Chromatic Aberration, \*Human  
Physiology of Light Perception.**

**Students learn and are tested on basic theories of electricity, to include  
\*Electrostatics and potential differences, \*Direct current circuits,  
\*Continuous current circuits, \*Ohm's Law, \*Power in electric circuits,  
\*Electromagnetic induction, \*Inductors in series and parallel,  
\*Electrical applications, \*Electrical Code and parameters.**

### **Monitoring daily engagement**

**Daily attendance is taken via student sign in. At the end of each day, it will be inspected by the instructor to note late arrivals. These students will likely experience learning difficulties due to missing foundation needed for the days topics.**

### **Testing technique to truly assess mastery**

**A minimum of 70% of each test will require written responses. This means that each student must write a summary paragraph explaining their mastery of each of these test items. Consider this as a short essay answer for 70% (or greater) of each test. Hence, mastery of understanding can be measured rather than measuring success in selecting multiple choice type test items.**