Code # SM09 (2015)

**Program and/or Course Deletion Proposal-Bulletin Change Transmittal Form**

**Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

**Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to [pheath@astate.edu](mailto:pheath@astate.edu)

|  |
| --- |
| **Program and/or Course Deletion**  Please complete the following and attach a copy of the catalogue page(s) showing what changes are necessary. |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

**1. Program and/or Course Title, Prefix and Number**

Advanced Physics Laboratory II, PHYS 4442

**2. Contact Person** (Name, Email Address, Phone Number)

William Burns, [wburns@astate.edu](mailto:wburns@astate.edu) 870-972-2535

**3. Last semester student can graduate with this degree and/or last semester course will be offered**

Last semester offered Spring 2009

**4. Student Population**

a. The program and/or course was initially created for what student population?

Undergraduate Physics students

b. How will deletion of this program and/or course affect those students?

No impact. The BS physics degree requirements include a physics laboratory experience, which is fulfilled by completing PHYS 3272 and PHYS 3282 OR PHYS 4432 and PHYS 4442. The department has elected to only continue offering PHYS 3272 and PHYS 3282. Experiments introduced in PHYS 4442 can easily be accommodated under the current PHYS 3282 course description if desired.

**5.**

**a. How will this affect the department?**

No impact. The BS physics degree requirements include a physics laboratory experience, which is fulfilled by completing PHYS 3272 and PHYS 3282 OR PHYS 4432 and PHYS 4442. The department has elected to only continue offering PHYS 3272 and PHYS 3282. Experiments introduced in PHYS 4442 can easily be accommodated under the current PHYS 3282 course description if desired.

**b. Does this program and/or course affect another department?**  no

**c. If yes, please provide contact information from the Dean, Department Head, and/ or Program Director whose area this affects.**

Enter text...

**6. (For courses only) Will another course be substituted?** Yes

**If yes, what course?**

PHYS 3272

**From the most current electronic version of the bulletin, copy all bulletin pages that this proposal affects and paste it to the end of this proposal.**

**To copy from the bulletin:**

1. Minimize this form.
2. Go to <http://registrar.astate.edu/bulletin.htm> and choose either undergraduate or graduate.
3. This will take you to a list of the bulletins by year, please open the most current bulletin.
4. Find the page(s) you wish to copy, click on the “select” button and highlight the pages you want to copy.
5. Right-click on the highlighted area.
6. Click on “copy”.
7. Minimize the bulletin and maximize this page.
8. Right-click immediately below this area and choose “paste”.
9. For additions to the bulletin, please change font color and make the font size larger than the surrounding text. Make it noticeable.
10. For deletions, strike through the text, change the font color, and enlarge the font size. Make it noticeable.

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A complete 8-semester degree plan is available at http://registrar.astate.edu/.

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| --- | --- |
| **University Requirements:** | |
| See University General Requirements for Baccalaureate degrees (p. 41) | |
| **First Year Making Connections Course:** | **Sem. Hrs.** |
| PHSC 1003, Making Connections - Chemistry and Physics | **3** |
| **General Education Requirements:** | **Sem. Hrs.** |
| See General Education Curriculum for Baccalaureate degrees (p. 83)  **Students with this major must take the following:**  *COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)*  *MATH 2204, Calculus I*  *PHYS 2034 University Physics I* | **36** |
| **Major Requirements:** | **Sem. Hrs.** |
| CHEM 1013 **AND** 1011, General Chemistry I and Laboratory | 4 |
| CHEM 1023 **AND** 1021, General Chemistry II and Laboratory | 4 |
| CS 2114, Structured Programming | 4 |
| MATH 2214, Calculus II | 4 |
| MATH 3254, Calculus III | 4 |
| MATH 4403, Differential Equations | 3 |
| PHYS 2044, University Physics II | 4 |
| PHYS 3103, Thermal Physics | 3 |
| PHYS 3153, Mechanics | 3 |
| PHYS 3203, Electromagnetic Theory | 3 |
| PHYS 3303, Modern Physics | 3 |
| PHYS 3253, Optics | 3 |
| **~~Physics Laboratory Experience (select one of the following combinations):~~**  PHYS 3272 Physical Instrumentation I **AND**  PHYS 3282, Physical Instrumentation II **~~OR~~**  ~~PHYS 4432, Advanced Physics Laboratory I~~ **~~AND~~**  ~~PHYS 4442, Advanced Physics Laboratory II~~ | 4 |
| PHYS 4353, Mathematical Physics | 3 |
| PHYS 4553, Principles of Quantum Mechanics | 3 |
| PHYS 4693, Research in Physics - Capstone | 3 |
| **Sub-total** | **55** |
| **Electives:**  *Ten hours of the electives below must be upper-level.* | **Sem. Hrs.** |
| Electives | **26** |
| **Total Required Hours:** | **120** |

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**PHYS 4393. Special Topics** Selected special or current topics of interest to faculty and students that require prerequisite coursework. See individual semester schedules for more information about each offering. Registration restricted by permission of instructor. Demand.

**PHYS 4403. Nuclear and Particle Physics** Introduction to the structure of the nucleus, nuclear scattering and decay processes, mesons, nucleons, and quarks. Lecture three hours per week. Special course fees may apply. Prerequisite, PHYS 3303. Spring, odd.

**PHYS 4432. Advanced Physics Laboratory I** Experiments in classical and modern physics. Laboratory four hours per week. Special course fees may apply. Prerequisites, PHYS 2044. Fall, even.

**~~PHYS 4442 Advanced Physics Laboratory II~~** ~~Continuation of PHYS 4432, including individual student projects. Special course fees may apply. Laboratory four hours per week. Prerequisite, PHYS 2044. Spring, odd.~~

**PHYS 4463. Advanced Mechanics** The Lagrangian and Hamiltonian formulations, rigid body mechanics, and special relativity. Special course fees may apply. Prerequisite, PHYS 3153. Demand.

**PHYS 4513. Advanced Electromagnetic Theory** Maxwells equations as applied to waveguides, radiation, and wave propagation in various media. Lecture three hours per week. Special course fees may apply. Prerequisite, PHYS 3203. Demand.

**PHYS 4533. Solid State Physics** Introductory study of the structure and physical properties of crystalline solids, including x-ray diffraction, specific heats, free electron theory, and band approxi­mation. Lecture three hours per week. Special course fees may apply. Prerequisite, 20 hours of physics. Demand.

**PHYS 4553. Principles of Quantum Mechanics** Solutions of the Schrodinger wave equation, including the harmonic oscillator, the hydrogen atom, and perturbation theory, and associated topics. Lecture three hours per week. Special course fees may apply. Prerequisite, 20 hours of physics. Spring, even.

**PHYS 4571. Physics Seminar** Prerequisite, Fourteen hours of physics. Special course fees may apply. Demand.

**PHYS 459V. Research in Physics** Prerequisite, Fourteen hours of physics. Special course fees may apply. Demand.

**PHYS 4693. Research in Physics-Capstone** Students will conduct research with a physics faculty member, write a paper and present a talk on their research, and take an exit exam. Phys­ics majors are required to take this course in their senior year. Special course fees may apply. Prerequisite, Twenty hours of Physics. Fall, Spring.

**General Science (SCI)**

**SCI 3003. Science in the Cinema** A study of the portrayal of science and scientists in the cinema throughout the last century. Students will study films and research scientific literature to investigate the accuracy of these portrayals and their effect on society. Prerequisite, ENG 1013. Fall, Spring.

**Teaching Internship (TI\_\_ \_\_)**

**TICH 4825. Chemistry Teaching Internship in the Secondary School** Ten semester hours. Full semester teaching internship. Fall, Spring.

**TICH 4826. Chemistry Teaching Internship in the Secondary School** Twelve semester hours. Full semester of teaching internship. Fall, Spring.