

TO: EPCC
FROM: Werner Kolln, Dept. of Chemistry & Physics
DATE: November 11, 2008
RE: Proposals for Changes in Physics

Attached are proposals for changes in physics. These changes follow the plan for strengthening the physics major that was outlined in the department proposal for an additional physics faculty member that resulted in the hiring of Frank Curti. A brief summary of the changes is below:

- 1) Add Physics 231: Modern Physics Lab (1 hour) – This adds to the experimental options for physics majors and minors. There is currently a limited amount of experimental physics in the major. Some of the experiments currently done in Phys 271: Experimental Physics will be done in this lab course.
- 2) Change Physics 271: Experimental Physics to Physics 371: Experimental Physics (2 hours)- With the addition of Phys 231, more advanced lab work will be done in this lab course. The course description is revised and the course number changed to the 300 level to indicate the more advanced nature of the work.
- 3) Add Physics 310 Thermal Physics (3 hours)– This new course in thermodynamics will be a 300 level elective for the major. This is a major topic of physics not currently covered by department courses. This new course eliminates this omission in department offerings.
- 4) Add Physics 370: Physics Seminar (1 hour) – This will serve as a capstone experience in the major similar to seminars in the other department majors, chemistry and biochemistry.
- 5) Changes are made in the Physics and Physics-Engineering Option majors to reflect these additions

A) Physics Major Changes

- 1) Chem 102 has been dropped from the supporting courses list – Most physics majors require one or fewer semesters of chemistry. This opens up time to add to the physics course requirements while still lowering the total hours required.
- 2) Phys 231: Modern Physics Lab has been added as an option in the experimental requirements for the major. Students now have more flexibility in meeting this requirement and students planning on graduate school can get additional experience in experimental physics.
- 3) Phys 310: Thermal Physics has been added as an option in the 300 level course requirements. This course has been offered as a Phys 390 and is an important topic area that was missing from the major before Frank Curti was added to the staff.
- 4) Phys 370: Physics Seminar has been added as a capstone experience for the major.
- 5) The total physics hours required have been increased to 30 for the physics major.
- 6) This reduces the total required hours including supporting courses to 53 hour from 56 hours

B) Physics-Engineering Option Changes

- 1) Physics 310: Thermal Physics is added as an option in the 300 level electives.
- 2) The required hours of 300 level engineering electives transferred from the engineering school is reduced from 15 to 12 to reduce the maximum hours required to 59 hours from 63 hours.