Dear Melissa,

Please find attached a revision to the Physics Minor. The changes were approved by ASCC on Friday, February 20, 2015. The revision will next need to be reviewed by CAA. The attached documents are: (1) cover letter from Robert Perry, (2) current minor advising sheet, (3) revised minor advising sheet with track changes, (4) response from Dept to NMS Panel questions, and (5) NMS cover letter to ASCC.

Please let me know if you have any questions.

My best,
Bernadette

Bernadette Vankeerbergen, Ph.D.
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Dr. Bernadette Vankeerbergen  
Program Manager  
Arts & Sciences Curriculum Assessment

January 28, 2015

Dear Dr. Vankeerbergen,

The Physics Department requests that Physics 2095, Introductory Physics Seminar, be removed from the requirements for a Physics Minor. We have had numerous comments on SEI forms for this course noting that it is largely irrelevant to Physics minors. Perhaps half of the course is focused on what students can do with a degree in Physics, largely aimed at graduate school and employment. Physics minors do not go on to the same graduate programs as Physics majors and do not gain employment in the same industries. The course also introduces students to some of the research going on in the department but this is partially to help students find research opportunities, and Physics minors do not typically do any research in our department.

Sincerely,

Robert J. Perry  
Vice Chair for Undergraduate Studies  
The Ohio State University Department of Physics  
1040L Physics Research Building  
614-397-1031  
perry.6@osu.edu
Contact Information
For information about the physics minor, or to enroll in the program, contact Lindsey Thaler, Director of Undergraduate Studies, at 614-247-1635 or thaler.21@osu.edu

About the Physics Minor
Students whose career goals lie in directions other than physics have often expressed interest in physics and a wish for greater exposure that what can be provided in the introductory physics sequence. The physics minor program allows students to gain additional exposure to physics topics such as mechanics, electromagnetism, optics, quantum mechanics, or nanotechnology. The physics minor program requires a minimum of 15 semester credit hours beyond the 10 credit hour introductory calculus based physics sequence (Physics 1250-1251) along with the appropriate number of supporting math courses.

Physics Minor Requirements

Pre-requisites
Physics 1250 – Introductory Physics I (5 hours)
Physics 1251 – Introductory Physics II (5 hours)

Required Courses
Physics 2300 – Intermediate Mechanics II (4 hours)
Physics 2095 – Physics Seminar (1 hour)

Elective Lectures (choose two)
Physics 2301 – Intermediate Mechanics II
Physics 5400 – Electromagnetism
Physics 5400H – Honors Electromagnetism I
Physics 5401H – Honors Electromagnetism II
Physics 5500 – Quantum Mechanics
Physics 5500H – Honors Quantum Mechanics I
Physics 5501H – Honors Quantum Mechanics II
Physics 3470 – Optics
Physics 5300 – Theoretical Mechanics
Physics 5600 – Statistical Physics

Elective Labs (choose one)
Physics 3700 – Data Analysis Lab
Physics 4700 – Electronics Lab
Physics 3201H – Honors Holography
Physics 6810 – Computational Physics

Physics minor program guidelines

Required for graduation No

Credit hours required A minimum of 15 credit hrs. 1000 level courses shall not be counted toward the 15 credit hr minimum.

Transfer credit hours allowed No more than one half of the credit hours required on the minor.

Overlap with the GE No

Overlap with the major Not allowed and
• The minor must be in a different subject than the major.
• The same courses cannot count on the minor and on the major.

Overlap between minors Each minor completed must contain 12 unique hours. Some minors (like physics) require more hours.

Grades required
• Minimum C- for a course to be listed on the minor.
• Minimum 2.00 cumulative point-hour ratio required for the minor.

Minor Approval The minor program description sheet indicates if the minor course work must be approved by:
• The Department of Physics
• The college in which the student’s major is located

Filing the minor program form The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

Changing the minor Once the minor program is filed in the college office, any changes must be approved by the Department of Physics.
Physics Minor Program (PHYSICS-MN)

Physics minor program guidelines

Required for graduation No

Credit hours required A minimum of 14 credit hrs. 1000 level courses shall not be counted toward the 14 credit hr minimum.

Transfer and EM credit hours allowed A student is permitted to count up to 9 total hours of transfer credit and/or credit by examination. No more than one half of the credit hours required on the minor.

Overlap with the GE A student is permitted to overlap up to 6 credit hours between the GE and the minor.

Overlap with the major and additional minor(s) No

Overlap between minors Each minor completed must contain a minimum of 12 unique hours. Some minors (like physics) require more hours.

Grades required
• Minimum C- for a course to be listed on the minor.
• Minimum 2.00 cumulative point-hour ratio required for the minor.
• Course work graded Pass/Non-Pass cannot count on the minor.
• No more than 3 credit hours of course work graded Satisfactory/Unsatisfactory may count toward the minor.

X193 credits No more than 3 credit hours.

Minor Approval The minor program description sheet indicates if the minor course work must be approved by:
• The Department of Physics
• The college in which the student's major is located

Filing the minor program form The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

Changing the minor Once the minor program is filed in the college office, any changes must be approved by the Department of Physics.
Dr. Bernadette Vankeerbergen
Program Manager
Arts & Sciences Curriculum Assessment

February 17, 2015

Dear Dr. Vankeerbergen,

We appreciate the feedback from the ASC Curriculum Committee and have made several changes to the minor advising sheet in response. After removing Physics 2095 from the minor requirements, we still require 14 hours and so we do not want to add any requirements to replace 2095. We discussed whether to make 2301 a requirement since, as ASCC notes almost all electives require this course, but we prefer to maintain the flexibility of not having it required. Almost all of our minors do complete 2301 but some end up not needing it and have this prerequisite waived for any elective courses that require it. This typically happens because the essential skills from 2301 can be acquired as part of their major studies in some cases. This is a judgment call, whether it is better to require 2301 and waive the requirement for some students or to not require and waive the prerequisite for some students. We think the latter works best for our minors but can add Physics 2301 as a requirement if pressed.

Sincerely,

Robert Perry
Vice Chair for Undergraduate Studies
The Ohio State University Department of Physics
1040L Physics Research Building
614-397-1031
perry.6@osu.edu
February 16, 2015

To
Meg Daly,
Chair, Arts and Sciences Curriculum Committee

Dear Meg,

The ASCC NMS Panel is pleased to forward the proposal for revisions to the Physics Minor for approval through the Arts and Sciences Curriculum Committee.

The proposed revisions to the Physics Minor consist of (1) the removal of Physics 2095, Introductory Physics Seminar from the list of required courses, and consequently (2) dropping the required number of credit hours for the Physics Minor from 15 to 14 credit hours.

The requested revisions are based on student feedback, noting the heavy focus of this course on career options for students with a physics degree. Students with a Physics minor will generally not apply to the same graduate programs as Physics majors, or seek employment in the same industries. Furthermore, Physics 2095 is also designed to help students find undergraduate research opportunities in Physics laboratories. Physics minor students generally do not perform their undergraduate research in Physics labs.

The ASCC NMS Panel discussed the requested changes to the Physics Minor at the regular meeting on February 10, 2015. The Panel supports the requested changes, but made a number of suggestions for the revised Physics Minor advising sheet.

The ASCC NMS Panel voted unanimously in support of the revised Physics Minor.

Respectfully submitted,

[Signature]

Harald Vaessin
Chair, ASCC NMS Panel