EASTERN MICHIGAN UNIVERSITY
DIVISION OF ACADEMIC AFFAIRS

REQUEST FOR COURSE REVISIONS

TYPE OF REVISION: (CHECK ALL THAT APPLY.)

____________ Course Number/Subject Code
____________ Course Title
____________ Credit Hours
____________ Course Description
X Prerequisite/Corequisite
X Restriction

DEPARTMENT/SCHOOL: ________ PHYSICS & ASTRONOMY ____________ COLLEGE: _______ CAS

CONTACT PERSON: ___________ BONNIE WYLO

CONTACT PHONE: _______7-8642_______ CONTACT EMAIL: __bwylo@emich.edu

REQUESTED START DATE: TERM____ FALL ____ YEAR ____ 2015____

DIRECTIONS: COMPLETE SECTION A AND SECTIONS B1a, B2a, B3a B4a, B11, B12 AND B13. COMPLETE ONLY THE REMAINING PARTS OF SECTION B THAT CONCERN THE REVISIONS CHECKED ABOVE. FOR ASSISTANCE CONTACT THE COURSE AND PROGRAM DEVELOPMENT OFFICE.

A. Rationale for Revision: Students arrive at EMU with increasingly poor math abilities. While the PHY 100 Physics for Elementary Teachers course does not require any math beyond manipulating fractions and some simple algebra (solving for x with only two other variables), too many students do not have the requisite skills. Putting a math pre-requisite on the course not only ensures that students are better-prepared and more likely to pass the course, but it indicates that a certain proficiency in math at least at the middle school level is required. To that end, we are proposing a MATH 108 or ACT math of at least 22 or placement or at least a C in MATH 105.

Restricting the course to COE students will prevent those with non-teaching majors from taking the course for General Education credit (the course is particularly inappropriate for aviation majors).

B. Course Information

1. a) Current Subject Code and Course Number: ________ PHY 100 ____________

   b) (If new) Proposed Subject Code and Course Number: _________________________________

2. a) Current Course Title: ____________ Physics for Elementary Teachers ____________

   b) (If new) Proposed Course Title: _________________________________

3. a) Current Credit Hours: ____________ 3 ____________

   b) (If new) Proposed Credit Hours _________________________________

   c) (If new) Briefly describe how the increase/decrease in credit hours will be reflected in course content.

4. a) Current Catalog Description:
Designed to stimulate interest in physics by the use of simple and inexpensive equipment to demonstrate scientific principles. Motion, forces, sound, light, heat, electricity and magnetism.

Credit Hours: 3 hrs
Notes: Does not count toward a physics major or minor. Open only to students pursuing any curriculum for elementary teachers.

Knowledge of the Disciplines:
This course includes 3 hours of lecture and 1 hour of laboratory each week. In this course all elementary education students are introduced to the core knowledge used in physics to understand phenomenon. This knowledge is an important foundation for studying the other sciences required of the elementary teacher and shows very practically both how physics manifests in our everyday lives and how these concepts can be presented in the elementary classroom. This core knowledge is the same core knowledge used by scientists in every laboratory in the world. The appropriate terminology is introduced and students are shown how to “scale it down” to the elementary student’s vocabulary. The assumptions and shortcomings of models are highlighted. Whenever possible, appropriate simple demonstrations are used. Students are asked to estimate results, mathematics and models are used to predict results, and the results are compared with the student’s intuition. Modern applications are discussed to guide students to become scientifically literate citizens who are capable of making informed decisions about scientific information.

b) (If new) Proposed Catalog Description (Limit to approximately 50 words):

5. Method of Delivery (Check all that apply.)

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Standard (lecture/lab)</td>
<td>a. Standard (lecture/lab)</td>
</tr>
<tr>
<td>On Campus__ Off Campus____</td>
<td>On Campus__ Off Campus____</td>
</tr>
<tr>
<td>b. Fully Online</td>
<td>b. Fully Online</td>
</tr>
<tr>
<td>c. Hybrid</td>
<td>c. Hybrid</td>
</tr>
</tbody>
</table>

6. Grading Mode

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (A-E) Credit/No Credit</td>
<td>Normal (A-E) Credit/No Credit</td>
</tr>
</tbody>
</table>

7. (Complete only if prerequisites are to be changed.) List Current and Proposed Prerequisite Courses by subject code, number and title.

Students must complete prerequisites before they can take this course.

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>MATH 108 Problem Solving and Number Concepts for Elementary School Teachers or ≥22 on ACT math or placement or at least a C in MATH 105</td>
</tr>
</tbody>
</table>

8. (Complete only if corequisites are to be changed) List Current and Proposed Corequisite Courses by subject code, number and title.

Students must take corequisite courses at the same time as they are taking this course.

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. (Complete only if concurrent prerequisites are to be changed.) List Current and Proposed Concurrent Prerequisite Courses by subject code, number and title. Students must take concurrent prerequisites either before or at the same time as they are taking this course.

Current:

Proposed:

10. (Complete only if course restrictions are to be changed. Complete only those sections that pertain to the restrictions that are to be changed.) List Current and Proposed Course Restrictions. Course Restrictions limit the type of students who will be allowed to take the course.

a. Restriction by College: Check if course is restricted to those admitted to specific college.

Current

Proposed

College of Business:_______
College of Education:_______

College of Business:_______
College of Education:_______

b. Restriction by Majors/Programs: Check if course is restricted to those in specific majors/programs.

Current

Proposed

Yes________
No________

Yes________
No________

If “Yes”, list the majors/programs

Undergraduate

Current

Proposed

All Undergraduates
Freshperson ______
Sophomore ______
Junior
Senior
Second Bachelor
Post. Bac. Tchr. Cert._

All Undergraduates
Freshperson ______
Sophomore ______
Junior
Senior
Second Bachelor
Post. Bac. Tchr. Cert._

Graduate

---

---
Current
All Graduates
Certificate
Master’s
Specialist
Doctoral
UG Degree Pending
Low GPA Admit

Proposed
All Graduates
Certificate
Master’s
Specialist
Doctoral
UG Degree Pending
Low GPA Admit

Note: If this is a 400-level course to be offered for graduate credit, attach Approval Form for 400-level Course for Graduate Credit. Only “Approved for Graduate Credit” undergraduate courses may be included on graduate programs of study.

Note: Only 500-level graduate courses can be taken by undergraduate students. Undergraduate students may not register for 600-level courses

d. Departmental Permission: (Note: Department permission requires the department to enter authorization for every student registering.)

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

11. List all departmental programs in which this course is Required or a Restricted Elective.

<table>
<thead>
<tr>
<th>Program</th>
<th>All Elementary Education</th>
<th>Required</th>
<th>Restricted Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

12. Is this course required by programs in other departments? Yes  X  No

13. If “Yes”, do the affected departments support this change? Yes  No

If “Yes”, attach letters of support. If “No”, attach letters from the affected department explaining the lack of support, if available.

14. Will the proposed revision increase/decrease credit hours in any program? Yes  No  X

If “Yes”, list the programs and provide an explanation for the increase/decrease, along with a copy of the revised program that includes the new credit hour total.

C. Action of the Department/School and College

1. Department/School

   Vote of faculty: For 9  Against 0  Abstentions 0
   (Enter the number of votes cast in each category.)
2. College

[Signature]

College Dean Signature

Date

3. Graduate School (if Graduate Course)

[Signature]

Graduate Dean Signature

Date

D. Approval

[Signature]

Associate Vice-President for Academic Programming Signature

Date