Master Course Guideline Syllabus – PHY 2450

I. College/School: College of Science and Mathematics
Department: Physics

II. Course Information
Course Title: Concepts in Physics for Early Childhood Education
Course Abbreviation and Number: PHY2450
Course Credit Hours; 3.5
Course Cross Listing(s) Abbreviation and Number:
Check ("x") all applicable:
General Education Course ___ X ___ Writing Intensive Course _____ Service Learning
Course ______ Laboratory Course ___ X ___ Ohio TAG (Transfer Assurance Guide) Course _____
Ohio Transfer Module Course _____ Others (specify) ______

III. Course Registration
Prerequisites: MTH 1260 or Math Placement Level 4
Corequisites:
Restrictions:
Other: Students may use either PHY 2450 or PHY 2460, but not both courses to satisfy
the requirements of the Wright State Core.

IV. Student Learning Outcomes
Fundamental concepts and applications of physics designed for early childhood education
majors. Topics are integrated with mathematics and include laboratory experiences,
demonstrations, and projects.

The Core Element 6 learning outcomes also apply:
a. Understand the nature of scientific inquiry
b. Critically apply knowledge of scientific theory and methods of inquiry to evaluate information from a variety
   of sources
c. Distinguish between science and technology and recognize their roles in society
d. Demonstrate an awareness of theoretical, practical, creative and cultural dimensions of scientific inquiry
e. Discuss fundamental theories underlying modern science

V. Suggested Course Materials (required and recommended)
2450 Laboratory Manual by Basista, Howell or Physics by Inquiry by Lillian McDermott

VI. Suggested Method of Instruction
Integrated Lecture/Lab.

VII. Suggested Evaluation and Policy
Tests 50 ___, Homework 20 ___, Quizzes _____, In-Class Writing ___, Out-of-Class Writing____
___, Journals/notebooks _____, Individual/Group Projects 20 ___, Attendance Policy 10 ___.

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VIII. Suggested Grading Policy
A final course letter grade is earned based on a percent of the total evaluated work per course policy.

IX. Suggested Assignments and Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>Basics of Scientific Investigations, Observation and Inference, Describing</td>
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<td></td>
<td>Motion</td>
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<td>2</td>
<td>Motion; Linear and Non-linear Relationships; Proportional Reasoning</td>
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<tr>
<td>3</td>
<td>Motion</td>
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<td>4</td>
<td>Falling Objects and Projectile Motion</td>
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<td>5</td>
<td>Newton’s Laws: Explaining Motion</td>
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<td>6</td>
<td>Circular Motion, the Planets, and Gravity</td>
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<td>7</td>
<td>Energy and Oscillations</td>
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<td>8</td>
<td>Electrostatic Phenomena</td>
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<td>9</td>
<td>Electric Circuits</td>
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<tr>
<td>10</td>
<td>Electric Circuits (continued); Creating Conceptual Models</td>
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<tr>
<td>11</td>
<td>Magnets and Electromagnetism</td>
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<tr>
<td>12</td>
<td>Making Waves</td>
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<td>13</td>
<td>Light Waves and Color</td>
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<tr>
<td>14</td>
<td>Light and Image Formation</td>
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X. Other Information

None

This is a sample course syllabus guideline. Course materials, method of instruction, evaluation and policy, grading policy, assignments, and other course matters can differ by specific course sections and individual professors. Additional information can be obtained by contacting the appropriate college and department.
Approved:
Undergraduate Curriculum and Academic Policy Committee ________________________
Faculty Senate ____________________________________________________________