Kent Core Learning Outcomes Assessment Plan

Course number, title (credit hours): PHY 11030, Seven Ideas that Shook the Universe, 3 credit hours
Department/School: PHYSICS  Proposed Kent Core Category: Basic Sciences (V)

A sample syllabus must accompany the plan.

<table>
<thead>
<tr>
<th>I. Kent Core learning objectives</th>
<th>II. Ohio Transfer Module learning objectives</th>
<th>III. What corresponding learning outcomes are included in this course?</th>
<th>IV. What method(s) will be used to assess student learning?</th>
<th>V. What evidence of this assessment will be presented annually for the five-year Kent Core review of this course?</th>
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<tr>
<td>Acquire critical thinking and problem solving skills</td>
<td>Evaluate arguments in a logical fashion; competence in analysis and logical argument</td>
<td>Students will be able to trace the development of ideas through seven revolutions in scientific thought; students will demonstrate an understanding of the nature of science and its methods.</td>
<td>Initial and Exit Surveys consisting of at least 10 multiple choice questions</td>
<td>Results from Initial and Exit Surveys</td>
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<tr>
<td>Cultivate their natural curiosity and begin a lifelong pursuit of knowledge</td>
<td></td>
<td>Students will come into class with natural curiosity about how the world works, and this course taps into and cultivates that curiosity.</td>
<td>Initial and Exit Surveys</td>
<td>Results from Initial and Exit Surveys</td>
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<tr>
<td>Understand basic concepts of the academic discipline</td>
<td>Employ the methods of inquiry characteristic of natural sciences, social sciences and the arts and humanities</td>
<td>Students will be able to apply knowledge of basic principles that govern the universe on all size scales, from the atomic to the galactic.</td>
<td>Initial and Exit Surveys</td>
<td>Results from Initial and Exit Surveys</td>
</tr>
</tbody>
</table>

ASSURANCES:

By submitting this proposal, we assure that:
1. The faculty members who teach this course have agreed to the learning outcomes and assessment methods.

2. Assessment results will be reviewed annually by the faculty and submitted to the University Requirements Curriculum Committee.

3. Modifications to the course and/or assessment plan will be based on the annual review.

Department Chair/School Director (or designee) Signature

Date

[Signature]

Kent Core Learning Outcomes Assessment Plan
24 April 2010 (approved by the University Requirements Curriculum Committee)
17 May 2010 (approved by the Educational Policies Council)
13 September 2010 (approved by the Faculty Senate)
PHY 11030 – Seven Ideas that Shook the Universe

Spring, 2012
3:45 - 5:00 PM Tuesdays and Thursdays
Office: 120 Smith Hall
Hours: 10 - 11 AM daily and by appointment

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Thanks for taking this course, where we will unravel the heroic story of people working to understand the universe and our place in it. Along the way we will also come to understand what science is and how the scientific world view works. My approach to the course is reflected in this quote from one of those people we will be studying, James Clerk Maxwell:

In Science it is when we take some interest in the great discoverers and their lives that it becomes endurable, and only when we begin to trace the development of ideas that it becomes fascinating.

You will sooner or later forget most of the details of what you will learn here. But the flavor will remain, reinforced by every new understanding you achieve of the very few relationships that unite all of our diverse experiences.

Learning Outcomes

You will be able to…

• recount the origins, development, and significance of each of the seven major ideas of the course.
• explain several other key ideas in the same way.
• describe the nature of science as a dynamic human activity, always open to improvement and new insights.
• demonstrate your knowledge through a project and other activities.
• relate classroom content to current events in science.
• feel comfortable and at home with the physical universe, as much as possible.

This course may be used to satisfy a Kent Core requirement. The Kent Core as a whole is intended to broaden intellectual perspectives, foster ethical and humanitarian values, and prepare students for responsible citizenship and productive careers. But more importantly, it will help you grasp, as much as possible, the beauty and simplicity of the entire universe, and give you interesting things to think about for your whole life.

Required materials

1) You will need to a course packet from Wordsmith’s Copy Center, 402 East Main Street in Kent. That is in the same block as Starbucks, across the street from the Valvoline oil change shop. Ask for packet number 41. The cost is about $10.

2) I suggest but do not require that you purchase a copy of the text with the same name as the course, by Spielberg and Anderson. Any edition will do – first, second, third, or trade. Find the best deal on-line.
Points

60 Attendance, two points per class

20 Project, due by Tuesday of week eight, which can be completed in any one of four ways. See page 113 in the packet for your options and detailed instructions for each.

20 “Scavenger Hunt” handout from the packet (pages 115-116), relating to a set of posters along the hallway at the front of Smith Hall (past the vending machines, right toward the parking lot, about halfway down the hall on the left), due by Tuesday of week twelve.

160 Midterm exams, 80 points each. The first midterm will fall on Thursday of week five and the other on Thursday of week ten. Each exam is 40 multiple choice questions.

10 Two magazine article summaries, five points each, due by Tuesday of week fifteen. See page 113 in the packet for instructions.

200 Final exam, with 50 multiple choice questions during week sixteen.

470 Total possible points.

University policy statements

1) The official registration deadline for this course is January 22. University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by published deadlines should not be attending classes and will not receive credit or a grade for the course. You must confirm your enrollment by checking your class schedule (using Student Tools in FlashLine) prior to the deadline indicated. Registration errors must be corrected prior to the deadline. The last day to drop is also January 22 – but why would you?

The last day to withdraw from the course is March 18.

2) University policy 3342-3-01.8 deals with the problem of academic dishonesty, cheating, and plagiarism. None of these will be tolerated in this class. The sanctions provided in this policy will be used to deal with any violations. If you have any questions, please read the policy at:


3) University policy 3342-3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services. Contact 330-672-3391 or visit www.kent.edu/sas for more information on registration procedures.