COURSE INFORMATION

Course Title

Sustainable Earth

Course Description (60 words max)

An introduction to earth and environmental processes focusing on issues related to the mutual interaction of human society and the planet. Both human and environmental sustainability will be emphasized by exploring current topics. Three hours lecture, two hours lab

Course Abbreviation and Number

EES 1070

Course Credit Hours

4 semester hours

Course Cross Listing(s) Abbreviation and Number

None

This course is an Element 6 Core Course of the Wright State Core.

General Education Course _X_
Writing Intensive Course __
Service Learning Course __
Laboratory Course ____
Ohio TAG (Transfer Assurance Guide) Course __
Ohio Transfer Module Course X___
Other Lecture, Lab course

COURSE REGISTRATION

Prerequisites

None

Co-requisites

None

Restrictions

None

Other

STUDENT LEARNING OUTCOMES
Students will be able to (a) understand the nature of scientific inquiry; (b) critically evaluate competing explanations for observed phenomena; (c) distinguish between pure and applied science, the latter relating to the exploitation of earth resources; (d) discuss the societal impacts of extracting and utilizing earth resources; (e) discuss fundamental theories of modern science, specifically the theory that the composition of the atmosphere affects global climate.

a.

**SUGGESTED COURSE MATERIALS**

**REQUIRED**


**SUGGESTED METHOD OF INSTRUCTION**

Lecture _____ Lecture, Lab_____  
Seminar _____  
Distance Learning_______  
Web-Based ____  
Other ________________

**SUGGESTED EVALUATION AND POLICY**

**Labs:**

Lab will consist of a brief introduction with an accompanying exercise. Assignments may include brief write-ups, inquiry-based learning activity, hands-on identification, etc. Laboratory exercises and lab final exam constitute 25% of the total grade.

**Exams**

There will be three multiple choice exams given during the semester. Each exam will be 25% of the student’s grade.

**Class Policies:**

While attendance is not mandatory, it is highly recommended.

Classroom announcements will be made on changes to the syllabus, such as changes in exam and assignment dates, topics covered, and reading assignments; all changes are the responsibility of the student. Make-up exams are strongly discouraged. Exams cannot be made up except in case of absence
due to illness, court appearance, or military duty when properly authenticated in writing by the appropriate authority. Make-up tests will only be given to students that have a valid excuse (Medical/Family Emergency). Makeup exams are at the discretion of the Instructor.

SUGGESTED GRADING POLICY
The final grade for EES 1070 will be calculated in the following manner:

Exam 1 .......................25%
Exam 2 .......................25%
Exam 3 .......................25%
Lab ...........................25%

Students must pass the lab portion of the class with a grade of 60% or better in order to pass the class.

Final grades will be assigned letter grades based on the following scale:

90 – 100.................................A
80 – 89.................................B
70 – 79.................................C
60 – 69.................................D
Below 60..............................F

SUGGESTED ASSIGNMENTS AND COURSE OUTLINE
(Topic and/or typical assignments)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Text (read prior to lecture)</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Science and the Environment/Economics, Politics and Public Policy</td>
<td>1,2</td>
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<tr>
<td>Week 2</td>
<td>Living Things, Populations, Communities, Ecosystems</td>
<td>3,4,5,6,7</td>
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<td>Week 3</td>
<td>The Human Population/Population and Development</td>
<td>8,9</td>
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<td>Week 4</td>
<td>Water – Hydrologic Cycle and Human Use</td>
<td>10</td>
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<tr>
<td>Week 5</td>
<td>Soil – Foundation for Land Ecosystems</td>
<td>11</td>
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<td>Week 6</td>
<td>Energy and Fossil Fuels</td>
<td>14</td>
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<td>Week 7</td>
<td>Nuclear Power/Renewable Energy</td>
<td>15,16</td>
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<td>Week 8</td>
<td>Environmental Hazards and Human Health</td>
<td>17</td>
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<td>Week 9</td>
<td>Global Climate Change</td>
<td>18</td>
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<td>Week 10</td>
<td>Atmospheric Pollution</td>
<td>19</td>
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<td>Week 11</td>
<td>Water Pollution and Prevention</td>
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<td>Week 12</td>
<td>Municipal Solid Waste: Disposal and Recovery</td>
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<td>Week 13</td>
<td>Hazardous Chemicals: Pollution and Prevention</td>
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<td>Week 14</td>
<td>Sustainable Communities and Life Styles</td>
<td>23</td>
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Topical outline for the laboratory component.

Week 1: No Lab Meeting
Week 2: Systems concepts for earth system science
Week 3: Energy balance
Week 4: Hydrologic cycle
Week 5: Biogeochemical cycles: carbon
Week 6: Atmosphere-ocean interactions
Week 7: El Niño-Southern Oscillation
Week 8: Vernadsky's Biosphere
Week 9: Earth system history: long-term evolution of earth systems
Week 10: Earth system history: Quaternary environmental changes
Week 11: The instrumental period and evidence for global warming
Week 12: Stratospheric ozone depletion
Week 13: Human-environment interactions: policy
Week 14 Laboratory Final