**UWSP General Education Program**

**GEP Course Application**

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| **Department:** | Paper Science & Engineering |
| **Contact Person:** | Don Guay |
| **Instructor(s):** | Don Guay, Karyn Biasca, Amit Arora |
| **Curriculum:** | PSEN | **Course Number:** | 103 |
| **Course Title:** | Paper, Society, and the Environment |
| **Existing Course?** | Yes | **Credits:** | 3 | **Enrollment expected per section:** | 45 |
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| **If known, how often will this be offered and how many sections?** | 1 per semester |
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| **Catalog Description:**(link to [Catalog](https://www3.uwsp.edu/acadaff/Pages/resources/catalog.aspx)) | Study lifecycle of paper; raw materials; manufacturing; economic impact on society, recycling and sustainability; alternative disposal methods; impact on environment; policy and politics of pulp and paper industry. |
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| **Existing GDR?** | Yes |  |
|  | **If yes, which GDR Category / Categories?** |
|[ ]  Freshman English |[ ]  Humanities 1 |[ ]  History |
|[ ]  Writing Emphasis |[ ]  Humanities 2 |[ ]  Social Science 1 |
|[ ]  Communication |[ ]  Humanities 3 |[ ]  Social Science 2 |
|[ ]  Mathematics |[ ]  Humanities 4 |[ ]  Foreign Language |
|[ ]  Wellness |[ ]  Minority Studies |[ ]  Natural Science |
|[ ]  Non-Western |[x]  Environmental Literacy |  |  |
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| **Include Representative Syllabus** (please include filename: “PSEN 103 Syllabus Fall 2008” ) |
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| **Select GEP Category:** |
| *If appropriate, select at most ONE of the following:*  | Choose one from Foundation or Investigation. |
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| *If appropriate, select at most ONE of the following:*  | Environmental Responsibility |
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| *If appropriate, select from the following**(multiple selections are allowed):*  | [ ]  Experiential Learning | [ ]  Interdisciplinary Studies |

Note: A summary of the approved learning outcomes for each GEP Category can be found [here](https://www3.uwsp.edu/acadaff/Documents/GEP%20Category%20Learning%20Outcomes.docx).

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| **Course Learning Outcomes:**(describe or attach) | Upon completion of this course students will:1) Have a basic knowledge of the history of paper in society2) Describe how pulp and paper are made3) Describe how principles of economics affect manufacturing industries such as the paper industry4) Recognize the elements of life cycle analysis and describe the life cycle of paper5) Identify environmental and economic challenges facing the paper industry6) Describe how environmental policy is created through interactions between government, industry, and environmental groups |
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| **Explanation of Alignment:**(explain how your course learning outcomes align with the GEP category outcomes)(GEP outcomes can be found [here](https://www3.uwsp.edu/acadaff/Documents/GEP%20Category%20Learning%20Outcomes.docx)) | This class uses the paper industry as a basis to teach students how social, ecological, and cultural factors are intertwined and therefore influence environmental sustainability. There have been several significant events throughout the development of the pulp and paper industry that are excellent examples to show how technology, human consumption, economics, and ecological factors are difficult to balance. For example, we dive deeply into the topic of recycling. Most students in this course strongly believe that recycling is always better for the environment when they enter. However, in the class they learn about the PCB pollution in the Fox River which was mostly caused by a rush to recycle paper before the technology and methodology were available. We also discuss life cycle analysis of products in an attempt to solve the old question of “Paper vs. Plastic”. By the end of the course, students are able to identify and evaluate the various factors and scientific claims that are at the center of environmental debates. |
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| **How Student Learning will be Assessed:**(describe or attach) | The Paper Science & Engineering Department has several rubrics that we use for ABET accreditation. One of the rubrics is based on the societal impacts of engineering solutions. We use this rubric as the basis to evaluate student achievement of learning outcomes in PSEN 103. (See included file: “PSEN 103 Outcome H Rubric 2010”) |
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| **Example Assignment:**(describe or attach) | This assignment is one of three to four group projects to investigate an environmental issue that relates to the pulp and paper industry. Energy production and consumption is a huge issue for all of society and the pulp and paper industry is no different. After each group writes a paper, they present their main points in class for further discussion. Here is an example assignment that relates to using agriculutural products to produce ethanol. The assignment in regards to student learning is evaluated using the rubric described above. The class is divided into 8 equal groups. As a group prepare a 1-2 page discussion about the following problem. There is an impending energy crisis. Society must reduce its dependence on fossil fuels. Analyze the pros and cons for using ethanol derived from agricultural products to replace fossil fuels. Since we discussed generating ethanol from wood in class do not discuss this. Briefly discuss how ethanol is produced and provide at least three detailed reasons to support ethanol and at least three reasons to not support ethanol. Summarize your group's opinion as to whether you feel the generation of ethanol from agricultural products is beneficial both environmentally and economically. My recommendation is to save your report as a word file and post it to the discussion as an attachment. We will review each recommendation in class on Wednesday November 21st. You must post at least 2 reasons for and 2 reasons against in the discussion area by Monday November 12th at 11:59 pm. |

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| **Library Resource****and Services:** | 1. Have you contacted the Library about any additional resources (e.g., books, journals, DVDs, databases, streaming videos, etc.) needed for the proposed course? |
|  | No | < click here to contact Collection Development Librarian > |
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|  | 2. Would you be interested in discussing with a Librarian ways to support the research or information-literacy components of the proposed course? |
|  | No | < click here to contact the Coordinator of Library Instruction > |
| Note: Approval of the course proposal does not imply availability of library resources. |
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| **Department Vote:** | Approve: | Enter# | Oppose: | Enter# | Abstain: | Enter# | Date: | Select date |
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| **Next Steps / Instructions:** | Please submit completed form to the Chairperson of the General Education Committee |
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| **General Education Committee Action:** | Click here to enter a date.To be entered by GEC. |