Course Syllabus for engr390/gbus390 – Engineering in a Global Context
Walla Walla University - Seventh-day Adventist Higher Education
Spring Term 2018

Course Information
• Class: 6 – 7:40pm TTh (Time change possible)
• Room CSP163

Instructor Information
• Instructor: Dr. Curtis Nelson
• Office: 263 Chan Shun Pavilion
• Phone: 509-527-2076
• Email: curt.nelson@wallawalla.edu

The default communication method between the instructor and students is through email via mywwu at your standard WWU email address. Please monitor this email address daily for any class updates.

• Web page: http://people.wallawalla.edu/~curt.nelson/engr390/index_2018.html
• Office Hours: 1 – 2pm MThF, 10 – 11am Th, Other times by appointment

Course Description
Study of the practice of engineering in a global context. Students will complete a design project constrained by local conditions in a chosen geographic region. Considerations may include issues such as language and social context; material selection and manufacturing processes; supply chains, labor force, and infrastructure.

Prerequisites: Completion of general studies natural science coursework; one course from the culture and business section of the G.H.E.E. requirements. Or permission of the instructor.

Course Aims
Engineering in a Global Context is an interdisciplinary course that aims to improve the quality of life of underserved communities worldwide through the design and delivery of technology-based solutions combined with the building of local capacity. To do this effectively, practitioners must integrate their technical training with an understanding of economics and business, social science and politics. More specific aims:
• To give an overview of the global engineering sector and consider motivations and methods for entering it professionally;
• To help those thinking about a career in global engineering or international development to decide whether or not it is a suitable field for them;
• To explore the various technical areas a global engineer might encounter and provide a basis for deciding if they have sufficient skills to address issues in these areas;
• To provide an in-depth culturally-sensitive design project experience that addresses a real-world need;
• To give exposure and practice to the non-technical skills necessary for sustainable project design and implementation.

Course Materials
• There are no initial required course materials. However, as we progress into the quarter and tackle a development project, reference materials may be required with proper notice from the instructor;
• We will be reading and discussing some articles that will be provided throughout the quarter.

Caveat
The course schedule will be massaged to address the personalities and interests of the students. Expect variations. The instructor has considerable experience in global engineering itself, but less experience in packaging the material into a classroom learning experience.
Course Schedule
A daily schedule of course topics is presented in a separate document that can be found on the course web page. The schedule may change based on the professional judgment of the instructor, with appropriate notice to the students.  http://people.wallawalla.edu/~curt.nelson/engr390/common/outline 2018.pdf

Project
Students will undertake a technology-based social entrepreneurial project in cooperation with partnering governmental and community organizations. Students will work as a team on the various design, testing, and commercialization / implementation aspects of the project. The project hopes to offer a multi-disciplinary real-world integrated engineering research and design experience, from problem formulation through assessment of performance. Project elements include:
- Identifying project partners and stakeholders;
- Planning for needs assessment;
- Supply chain identification and budget calculations;
- Project planning, design, construction, implementation, evaluation, and monitoring.

Attendance
Attendance is an integral part of the learning experience. Attendance (or lack thereof) is typically reflected in one’s performance and, as a result, in one’s final grade. This class is project and team based, so attendance will be used to form a portion of your grade. Students are responsible for all announcements and assignments given during class.

Evaluation:
Each assignment in class will be assigned points based on the instructor’s estimation of its importance. All points will be summed together at the end of the quarter. Students’ final grade will be based upon their performance in homework, class participation and attendance, and project work. There are currently no tests scheduled for the quarter but that may change depending on how the class progresses. Grades will be posted in D2L and earned according to overall percentages. Pluses and minuses will be awarded according to where you fall within the grade range. The instructor reserves the right to issue a better grade than indicated by the % earned by the student.

A  90% - 100%
B  80% - 90%
C  70% - 80%
D  60% - 70%
F  Below 60%

 Returned Materials
All materials submitted by a student will be evaluated in a timely manner, typically within 1 week.

Progress Reports
Progress reports will be submitted for students identified at risk, or for students who are performing poorly.

Academic Integrity
• See the Walla Walla University Academic Integrity Policy here:  https://wallawalla.edu/academics/academic-administration/academic-policies/academic-integrity-policy/
• All work done in this class is to represent the understanding and work of the person submitting the work. While discussing the methods and principles relating to homework and lab work with your fellow students is strongly encouraged, it is unethical to copy another person’s work, to copy from a solutions manual, or to read another person’s work and follow it as an outline in completing your own. This constitutes cheating and is unfair to your career, profession, and most of all, your fellow students. **CHEATING IS REWARDED.** With an F. For the quarter. At the teacher’s discretion.
• Remember – you are not just taking a class and earning a grade. You are training for a profession that holds the highest regard for the ethics of its members.

Accommodations for a Disability
• [https://wallawalla.edu/dss](https://wallawalla.edu/dss)
• If you have a physical or learning disability and need accommodations please contact Sue Huett in the Teaching Learning Center, Village Hall, or call extension x2366. Accommodations for documented disabilities are arranged through the Disability Support Services (DSS) office. This syllabus and course materials are available in alternate format as appropriate to the disability. Accommodations are not retroactive. If you do not declare the disability to the DSS office, you may not receive appropriate accommodations.

Emergency Procedures
An emergency procedures flip chart and evacuation routes are posted in classrooms near the door. Additionally, emergency procedures can be found here: [https://wallawalla.edu/security](https://wallawalla.edu/security)

University Core Themes/Values

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<thead>
<tr>
<th>University Core Theme</th>
<th>Summary of How The Core Theme is Actualized in this Course</th>
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<tbody>
<tr>
<td>Excellence in Thought</td>
<td>Students learn basic principles of global engineering through consideration of case studies, project management, and a culturally sensitive project that addresses a real need in the developing world.</td>
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<tr>
<td>Generosity in Service</td>
<td>Students learn the benefit of applying their skills to technical and societal challenges in the global marketplace.</td>
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<tr>
<td>Beauty in Expression</td>
<td>Students document their learning through homework and project exercises including oral and written presentations.</td>
</tr>
<tr>
<td>Faith in God</td>
<td>Each student in this course will experientially consider the global mission they are called too, simply by exposure to people and cultures on this earth who have life circumstances considerably different than ours.</td>
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