Engineering Seminar  
ME 196  

Course Syllabus  
Spring 2023

Instructor  
Dr. Dan Jensen  
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Office Hours: TBD

Textbooks  
Belief in God in an Age of Science, John Polkinghorne (Yale University Press, 1998)  

Also, numerous additional books will be made available in the area of faith integration

Class Times  
• TBD

Prerequisites  
Senior Status

Course Description  
Examination of principles of leadership and service in the engineering profession. Discussion of responsible stewardship and Christian vocation. Capstone integrative paper required. This is a writing intensive course and fulfills the “writing inside the major” GE requirement.

Course Learning Outcomes  
1. Students will be able to communicate both verbally and in writing regarding various engineering topics and their relationship with faith.  
   o Westmont Institutional Learning Outcomes:  
     ▪ Christian Understanding, Practices and Affections and Oral Communication  
     ▪ Written Communication  
   o ABET Student Outcome: an ability to communicate effectively with a range of audiences  
   o Method of Assessment – papers and presentations. Students will choose a book (from a set that Dr Jensen has approved) that relates to faith integration and write a paper from their reading. They will also do a presentation of this work.

2. Students will be able to understand and apply ethics principles to their engineering work.  
   o Westmont Institutional Learning Outcomes:  
     ▪ Identify, evaluate, and integrate sources effectively and ethically in various contexts  
     ▪ Effectively analyze topics and human experiences using categories such as race, ethnicity, gender, sexuality, socio-economic status, and disability with respect to a biblical vision of human flourishing

Commented [dj1]: Written communication specifically stated as a course objective
Commented [dj2]: Papers related to “faith integration” specifically stated as assessment measure for this Learning Outcome (LO)
ABET Student Outcome: an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
  - Method of Assessment – papers and presentations

3. Students will use various methods to obtain relevant information for the presentations and papers
   - Westmont Institutional Learning Outcomes:
     - Identify, evaluate, and integrate sources effectively and ethically in various contexts
   - ABET Student Outcome: an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
     - Method of Assessment – papers and presentations

Evaluation
There will be presentations and papers. Class discussion will also play a part in evaluations. Each student will write a major paper based on a book that they have chosen from a set provided by Dr. Jensen. The general topic of the books is integration of engineering (or science in general) and Christian faith. Students may propose a book of their choice if they prefer. The papers will be ~10 pages with references. These papers will be evaluated by both engineering faculty and writing faculty. Students will revise their papers based on this feedback. Students will also be asked to present their ideas from the book. Other smaller papers will be required. The evaluation criteria for the papers will include:
  i) A well-developed central message
  ii) A thesis or central argument with thoughtful arguments and good supporting material
  iii) A good or organization and flow for the paper including introductions, good transitions, and effective conclusion(s)
  iv) Appropriate references

Specific Course Details Related to GE Requirements
1. A short paper (~2 pages) that discusses how the American Society of Mechanical Engineering Ethics code relates to an engineering project of their choice.
2. A paper (~4 pages) that describes, from a biblical perspective, their thoughts on how faith and engineering (or science) relate. This paper is focused on the biblical perspective, not their personal experience or thoughts.
3. A paper (~10 pages) that provides an overview of a book that of their choice (and a variety of hard copy books are provided for them to use if they choose) in the area of how engineering (or science in general) relates to faith.
4. Paper #3 above will be reviewed by the engineering course instructor and by someone from the writing center or English department. Students will perform a major re-write of this paper based on that review.

Attendance
Class attendance in LECTURE is expected. However, there may be an unexpected circumstance where a student must miss a class. Students involved in extracurricular activities sponsored by the college will be excused for all scheduled events inclusive of the above policy. Since arriving late to class is disruptive, please be on time.
Grading:

1. Class participation 20%
2. Initial Faith Integration paper 20%
3. Revised Faith Integration paper 30%
4. Presentation and other papers 30%

Grading scale:

A = 93-100%  B = 83-87%  C = 73–77%  D = 63-67%
A- = 90-92%  B- = 80-82%  C- = 70-72%  D- = 60-62%
B+ = 88-89%  C+ = 78-79%  D+ = 68-69%  F = 60% and below

Academic Accommodations
Students who have been diagnosed with a disability are strongly encouraged to contact the Office of Disability Services as early as possible to discuss appropriate accommodations for this course. Formal accommodations will only be granted for students whose disabilities have been verified by the Office of Disability Services. These accommodations may be necessary to ensure your equal access to this course.

Please contact Sheri Noble, Director of Disability Services. (310A Voskuyl Library, 565-6186, snoble@westmont.edu) or visit the website for more information: https://www.westmont.edu/disability-services

Westmont College Statement of Academic Dishonesty
Westmont policies and procedures state that any sign of academic dishonesty including plagiarism (the use of someone else’s words or ideas without giving proper credit), cheating (the use of unauthorized sources of information on an examination or some other assignment) or falsification (the misrepresentation of facts in any academic project or obligation) could result in a failing grade in any given course and the filing of a report with the Provost’s Office. Be familiar with the College’s plagiarism policy.

Content for each week is described below

Week 1 Introduction, science/faith integration experiences
Week 2 Being a Christian in Science Chaps. 1 and 2
Week 3 Being a Christian in Science Chap. 3
Week 4 Being a Christian in Science Chap. 4
Week 5 Being a Christian in Science Chap. 5
Week 6 No class (Presidents’ Day)
Week 7 Being a Christian in Science Chap. 6 and Initial Faith Integration Paper due
Week 8 Oral Presentations
Week 9 No class (Spring Break)
Week 10 Belief in God in an Age of Science Chaps. 1 and 2 + Oral Presentations
Week 11 Belief in God in an Age of Science Chap. 3 + Oral Presentations
Week 12 Belief in God in an Age of Science Chap. 4+ Oral Presentations
Week 13 Belief in God in an Age of Science Chaps. 5 and 6+ Oral Presentations
Week 14 Course Evaluations - Revised Faith Integration Paper due