

**Engineering Seminar  
ME 196**

**Course Syllabus  
Spring 2023**

**Instructor** Dr. Dan Jensen  
Office: WH 327  
Office Phone: 719-237-3079  
Email: djensen@westmont.edu  
Office Hours: TBD

**Textbooks**

Textbooks: Being a Christian in Science, Walter R. Hearn (InterVarsity Press, 1997)

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.
  - Westmont Institutional Learning Outcomes:
    - Christian Understanding, Practices and Affections and Oral Communication
    - Written Communication
  - ABET Student Outcome: an ability to communicate effectively with a range of audiences
  - 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.
  - 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

**Commented [dj3]:** Papers specifically stated as assessment measure for this LO

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

**Commented [dj4]:** Papers specifically stated as assessment measure for this LO

### 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:

**Commented [dj5]:** The "major paper" topic and some details are explained

- i) A well-developed central message
- ii) A thesis or central argument with thoughtful arguments and good supporting material
- iii) A good organization and flow for the paper including introductions, good transitions, and effective conclusion(s)
- iv) Appropriate references

**Commented [dj6]:** Evaluation criteria for the papers is given

### 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.

**Commented [dj7]:** Details of the 4 written requirements are provided

### 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](mailto: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