Title:  Engr. 402, Engineering Ethics and Social Responsibility


Instructor:  Tom Bon, 202 Ag. & Biosystems Engineering Department, 231-7275 e-mail: Thomas.Bon@ndsu.edu

Office hours:  10:00 – 10:50 a.m. M & W, 9:30-10:20 a.m. T & Th, and 9:00 – 9:50 am. F. Also you can call for an appointment or drop by and see if I am in my office, I am usually available if I am in my office unless it is just before a class or meeting.

Meeting time and place:  12:30-1:20 p.m. Tuesdays and Thursdays, 104 Quentin Burdick Building (IACC).

Student Outcomes:

ABET is the Accreditation Board for Engineering and Technology. ABET is a specialized accreditation agency, meaning it certifies specific programs at a college or university. Each accredited department must be reviewed by a site visit at least once every six years. The method of accreditation has changed with the ABET 2000 initiative. Every department has a set of evaluation criteria it has developed and submits to the ABET reviewers. Criteria required by the ABET accreditation process that apply to Engr 402 include the following:

- An understanding of professional and ethical responsibility (abet f);
- the broad education necessary to understand the impact of engineering solutions in a global and societal context (abet h);
- a recognition of the need for, and an ability to engage in life-long learning (abet i); and
- a knowledge of contemporary issues (abet j).


Be able to critically evaluate arguments. Understand and apply sound moral reasoning to societal and engineering design decisions. Know the codes of ethics. Know the meaning and responsibilities of a professional. Consider the basis for ethical decisions and morality.
Course Outline (Subject to change)

Not completed as I am still waiting for yes/no replies from some invited speakers.

Grading:

You will receive the higher grade from the two grading systems:

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<th>System I</th>
<th>System II</th>
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<tr>
<td>Quizzes</td>
<td>50%</td>
<td>30%</td>
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<tr>
<td>Assignments/class participation(attendance)</td>
<td>20%</td>
<td>20%</td>
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<tr>
<td>Exam</td>
<td>30%</td>
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Homework assignments are due at the BEGINNING the class, assignments turned in after 5:00 p.m. of the due date will be penalized 40%. Reading assignments should be read BEFORE class. All class periods will include a quiz. Students with perfect attendance will receive 10 pts extra on the class participation/attendance section. Students who miss quizzes receive a zero for the quiz, there are no make-up quizzes. Students missing a class are responsible to obtain the missed information from another student. The two lowest quiz grades from the semester will not be considered in determining the student’s course grade. Also, the pre-test is not counted in the student’s course grade.

Students with disabilities needing special consideration are requested to alert me of their situation at the end of the first class.

Honor Code and Academic Honesty:

CEA Honor System: All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct (http://www.ndsu.nodak.edu/policy/335.htm) and the CEA Honor System available at http://www.ndsu.edu/cea/ug-honor-code.php

Academic dishonesty discovered by the instructor is covered under Senate Policy, Section 335 and the CEA honor code. All students are required to have a signed honor code pledge on file in their major department.

Penalties for violations can range from assigned seating, failure of quiz/exam, failure of the course, to expulsion from the university depending on the severity of the offence and the instructor’s discretion and the honor code jurisdiction.

Some information concerning ABET:

ABET is the Accreditation Board for Engineering and Technology. ABET is a specialized accreditation agency meaning it certifies specific programs at a college or university
as compared institutional accreditation agencies that examine an entire college or university. Each accredited department must be reviewed by a site visit at least once every six years. The method of accreditation has changed with the ABET 2000 initiative. Every department has a set of evaluation criteria it has developed and submits to ABET. These criteria form the evaluation basis for the department by the ABET reviewers.

Educational Objective 1: Provide students with technical knowledge, design, and problem solving skills that are foundational to their engineering careers by ensuring that graduates have ability to:

a. Apply knowledge of mathematics, science, and engineering.
b. Design and conduct experiments, as well as to analyze and interpret data.
c. Design a system, component, or process to meet desired needs.
d. Identify, formulate, and solve engineering problems.
e. Use techniques, skills, and modern engineering tools necessary for engineering practice.

Educational Objective 2: Provide learning and practice experiences that build student interpersonal and collaborative skills and the capacity for productive careers by ensuring that graduates have:

d. An ability to function on multi-disciplinary teams.
f. An understanding of professional and ethical responsibility.
g. An ability to communicate effectively.
h. The broad education necessary to understand the impact of engineering solutions in the global and societal context.
i. A recognition of the need for and an ability to engage in lifelong learning.
j. A knowledge of contemporary issues.

Educational Objective 3: Provide students with specialized (discipline-specific) knowledge, educational depth, and breadth to meet the challenges of changing careers and opportunities in agricultural and closely related biological industries by ensuring that graduates have competencies in one or more of the following areas:

l(i) Apply engineering skills to agricultural systems.
l(ii) Apply engineering skills to biomaterials systems.
l(iii) Apply engineering skills to environmental systems.

Criterion 4. Professional component from the 2003-2004 Criteria for Accrediting Engineering Programs also states the following:

Students must be prepared for engineering practice through the curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating engineering standards and realistic constraints that include most of the following considerations: economic; environmental; sustainability; manufacturability; ethical; health and safety; social; and political.