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, & F, and 2:00 – 2:50 T. 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 to 1:20 p.m. Tuesdays and Thursdays in AGHILL CTR room 330.
Class runs from January 10, 2017 through March 2, 2017.

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 are our course outcomes and 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).


In this course we will briefly cover items from the following topics:
- Know the codes of ethics,
- Be able to critically evaluate arguments,
- Understand and apply sound moral reasoning to societal and engineering design decisions,
- Know the meaning and responsibilities of a professional, and
- Consider the basis for ethical decisions and morality.

Course Notes:

Topics, partial notes, and reading assignments will be posted a day or more before the next class.

Grading:

You will automatically 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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<td>Assignments/class participation/attendance</td>
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<td>Final Exam</td>
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The FINAL EXAM will be during the last class period of the course.

Homework assignments are due at the BEGINNING the class, assignments turned in after 5:00 p.m. of the due date will be penalized up to 40%. Reading assignments should be read BEFORE class. All class periods will include a quiz. Quizzes will typically include questions from the current lecture material and from previous lectures and classes. 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 pretest and the lowest two quiz grades you receive in the course will be dropped from the calculations for your grade.

Students with special requirements: Any students with disabilities or other special needs, who need special accommodations in this course are invited to share these concerns or requests with the instructor as soon as possible. The instructor may ask for verification and that, plus other assistance, can be requested from Disability Services in Wallman Wellness Center 170 (231-8463). [http://www.ndsu.edu/disabilityservices/](http://www.ndsu.edu/disabilityservices/).

Veterans and military personnel: Veterans or military personnel with special circumstances or who are activated are encouraged to notify the instructor as early as possible.

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:

COE 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 COE Honor System available at https://www.ndsu.edu/coe/undergraduate_students/honor_code/

Academic dishonesty discovered by the instructor is covered under Senate Policy, Section 335 and the COE 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, the instructor’s discretion and the honor code jurisdiction.

Some information concerning ABET:

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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.
  e. Identify, formulate, and solve engineering problems.
  k. 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:

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.

Student Expectations:

- Attend class
- Have a copy of any posted notes with you at class
- Read assigned materials, notes, and chapters before class
- Be prepared for class and ready for the daily quiz
- Be respectful of fellow classmates, guest speakers, different views or opinions, and the instructor,
- Have homework done when assigned,
- Hopefully, enjoy the class and learn some new things.

Instructor Expectations:

- Be prepared for class
- Be respectful of students and different views or opinions,
- Post grades for quizzes and homework in a timely manner (will depend somewhat on the grader’s schedule),
- Enjoy the class.