

Philosophy 242-1001: Ethics for Engineers and Scientists

Fall 2014 • Tuesday & Thursday 10:00 am – 11:15 am (CBC C227)

Course Instructor: Dr. Abigail Aguilar; contact information: Tuesdays and Thursdays 11:30am–12:30pm (CDC 430, phone 895-4334), and by appointment, e-mail aguila26@unlv.nevada.edu (and WebCampus).

Course Description: Ethical issues (e.g., whistle-blowing, the environment) that commonly arise in engineering and science practice. Ethical theory, followed by case-study centered discussions designed to hone students' abilities to recognize and articulate ethical problems and to utilize institutional supports for ethical behavior that already exists in the professional environment.

Course Objectives: To have students become familiar with the major ethical theories and be able to apply them (UULO # 5: Citizenship and Ethics), to examine ethical claims concerning issues specific to engineers and scientists (Americans of all backgrounds and non-Americans – UULO #5 and UULO #4: Global/Multicultural Knowledge & Awareness), to examine and offer solutions to case studies that illustrate these issues, to demonstrate the value of critical reasoning and a healthy skepticism (UULO #2: Inquiry and Critical Thinking), and to develop practical methods for identifying, dealing with, and resolving engineering and science related dilemmas (UULO #5) (including an ability to communicate solutions to others, both professionals and non-professionals – UULO #3: Communication), in order to flourish in both their professional and personal lives (UULO #5 and UULO #1: Intellectual Breadth and Lifelong Learning).

Required Texts: (1) Clancy Martin, Wayne Vaught, Robert C. Solomon, *Ethics Across the Professions: A Reader for Professional Ethics*, Oxford University Press, 2010. (2) John D. Kemper, Billy R. Sanders, *Engineers and Their Profession*, Fifth Edition, Oxford University Press, 2001. (3) Aristotle, *The Nicomachean Ethics*, Oxford World's Classics, 2009. (4) Baruch Fischhoff & John Kadvanly, *Risk: A Very Short Introduction*, Oxford University Press, 2011. (5) John Stuart Mill, Utilitarianism, chapter 2, at www.utilitarianism.com/mill2.htm (and on WebCampus); (6) Desai case study, on WebCampus, and (7) case studies (specified in the class schedule below) found in the library (and ethics cases) at www.engineering.com (and on WebCampus).

Formal Requirements: There will be 300 points total possible in the course, as follows:

- 15 points: attendance (including exam days) and participation: students will receive 1 point for the first class **fully** attended and ½ point for each subsequent class session **fully** attended (there are 29 class meetings scheduled during this semester). Although excused absences are noted, they do **not** count toward attendance; excused absences are unforeseen and serious emergencies (such as medical emergencies, death in the family) documented afterwards or official university activities (which must be e-mailed to the instructor at least one week in advance).

- 40 points: top four scores from six 10-point short synopses (one page) of selected readings from the textbooks. These are pop-quizzes given out at random in class during the semester, to be done in the beginning 15 minutes over a reading assigned for that class; there are **NO** make-up synopses (neither for students who come to that class late nor for students who do not attend class at all that day).

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- *90 points*: two 45-point take-home essays (due: October 16 and November 20). The directions for each will be discussed on the first day of class and will then be available on WebCampus.
- *100 points*: two 50-point midterm exams (September 25 and October 30). Exams will consist of multiple choice, true/false, and short answer fill-in questions about the content, and at least one essay question; the second midterm will cover the material that begins after the first exam. Make-up exams will be given only for excused absences and will be more difficult than the regular exams. Students who will miss an exam should contact the instructor as soon as it is known beforehand to discuss a make-up date and time; those who miss an exam due to an emergency should contact the instructor as soon as possible afterwards (even by e-mail) to arrange a make-up date and time.
- *55 points*: Final examination (Tuesday, December 9, 10:10 am - 12:10 pm). The format will be the same as the midterms, but with at least two essay questions. This exam will be cumulative, but will emphasize the material of the last part of the course, that is, the material covered after the second midterm exam. There will be **NO** make-up final examinations given except for excused absences (unforeseen and serious emergencies, or official university activities).

Grading: Grades for all graded assignments will be updated on WebCampus after the assignments have been returned to students in class. Mid-semester grades will be posted on both myUNLV and WebCampus. **Students should assume that the final grading scale for the course shall be a straight scale;** with 300 points in the course, this means the following:

A = 93% = 279+ points	C = 73% = 219 – 230.5 points
A– = 90% = 270 – 278.5 points	C– = 70% = 210 – 218.5 points
B+ = 87% = 261 – 269.5 points	D+ = 67% = 201 – 209.5 points
B = 83% = 249 – 260.5 points	D = 63% = 189 – 200.5 points
B– = 80% = 240 – 248.5 points	D– = 60% = 180 – 188.5 points
C+ = 77% = 231 – 239.5 points	F = 179.5 points or less

N.b.: *Stultum est queri de adversis, ubi culpa est tua* (Publilius Syrus, *Sententiae*)

Extra Credit: Maximum *10 points* total possible (*5 points* maximum for each submission; last date for submissions is 10:10am on Tuesday, December 9). Points will be given for **original and relevant** examples of the ethical, engineering and scientific issues raised in class. See the list of examples you should **not** use at the end of the directions for the research papers and on WebCampus. You may submit newspaper, magazine or journal articles, or even descriptions of current or historical events or of movies or television shows. Each submission should be a page to a page-and-a-half typed, and should include a paragraph that describes your example, another paragraph that describes what issue from class your submission relates to and explains why it relates to it, and a final paragraph that serves as a brief analysis of the example (*i.e.*, give your own thoughts). **You may submit these by e-mail at any time during the semester** (before Tuesday, December 9, 10:10am; none will be accepted for credit after 10:10am).

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Academic Misconduct: Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <http://studentconduct.unlv.edu/misconduct/policy.html>.

Department Policy on Academic Dishonesty: Students caught engaging in academic dishonesty must be reported to the Office of Student Conduct, and if the accusations are sustained, then in addition to any other penalties, the name of the offending student must be reported to the department.

Disability Resource Center (DRC): The Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you.

If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to me during office hours so that we may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach me before or after class to discuss your accommodation needs.

UNLV Writing Center: One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu>.

Tutoring: The Academic Success Center (ASC) provides tutoring and academic assistance for all UNLV students taking UNLV courses. Students are encouraged to stop by the ASC to learn more about subjects offered, tutoring times and other academic resources. The ASC is located across from the Student Services Complex (SSC). Students may learn more about tutoring services by calling (702) 895-3177 or visiting the tutoring web site at: <http://academicsuccess.unlv.edu/tutoring/>.

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Incomplete Grades: The grade of I – Incomplete – can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Copyright: The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://provost.unlv.edu/copyright/statements.html>.

Rebelmail: By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways student receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.

Religious Holidays Policy: Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the end of the first two weeks of classes, September 5, 2014, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Cell Phones: All cell phones should be turned off, or put on silent or vibrate mode during class meetings; no disruptions will be tolerated. **All cell phones must be turned off during examinations** – any student who has a phone out during examination time will be considered finished with the exam, and the exam will be turned in immediately.

Recording Devices: Recording devices of any kind are prohibited during class time, except with the express permission of the instructor.

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Class Schedule: The following schedule is tentative and subject to change at the instructor's discretion. Unless revised in class and on WebCampus, reading assignments are given for the date for which they must be read; **the actual schedule will be updated on WebCampus after every class (as an "announcement"). WebCampus will also be the source of any and all handouts for the course (none will be handed out in class), including the syllabus, take-home assignment directions and the Desai case study** (and the case studies that are available on www.engineering.com as well as the Mill reading); students will be informed that there is a handout in class and in the announcements. (Students who do not know how to access to WebCampus should come see me, early in the semester.)

NOTE:

'MVS' = Clancy Martin, Wayne Vaught, Robert C. Solomon, *Ethics Across the Professions*

'KS' = John D. Kemper, Billy R. Sanders, *Engineers and Their Profession*

CASE STUDIES specified below are found at www.engineering.com (see "Ethics Case Studies" in the "Library" on the home page) and on WebCampus

Also, there is a case study on Dr. Desai that we will use **throughout the course**; it is found on WebCampus, and ideally should be read before the course begins

WEEK 1

August 26 Introduction to Course; Preface (MVS xi-xii)

August 28 **Ethical Theories:** chapter 2 introduction (MVS 52-54); Aristotle, *Nicomachean Ethics* Book I chapters 1-5, 7-10 (pages 3-7, 10-18)

WEEK 2

September 2 Aristotle, *Nicomachean Ethics* Book II chapters 1-4, 6-9 (23-28, 29-37), (MVS 54-57); Book X chapters 6-9 (192-203); Solomon (MVS 87-92)

September 4 Kant (MVS 69-76); Harris (MVS 77-81)

WEEK 3

September 9 Mill (MVS 82-86; and full text of *Utilitarianism* chapter 2 as found at www.utilitarianism.com/mill2.htm and on WebCampus); case 2.2 (MVS 94-95)

September 11 Bowie (MVS 60-64); Ethics and Public Responsibility (KS 230-232, 243-245, 260, and #3 on 261); Engineering Societies and Codes of Ethics (KS 267-275 and Appendix 2 KS 322-329); **HYDROLEVEL CASE** (also at KS 245-246)

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WEEK 4

- September 16 **Professionalism, Justice, and Social Welfare:** chapter 7 intro (MVS 342-343); Singer (MVS 349-359); Physicians and War (MVS 360-365); Case 7.3 (MVS 392-393)
- September 18 **What is a ‘Profession’?:** chapter 1 introduction (MVS 1-2); Mintzberg (MVS 2-8); Bayles (MVS 9-12); Professional Registration (KS 189-198)

WEEK 5

- September 23 Davis (MVS 12-18); Gorovitz (MVS 37-47); cases 1.1-1.3 (MVS 47-51); Engineering a Profession? (KS 3-16, 24-31)
- September 25 **MIDTERM EXAMINATION #1**

WEEK 6

- September 30 **Truth, Lies, and Deception:** chapter 4 introduction (MVS 161-162); Solomon (MVS 162-165); Ellin (MVS 166-175)
- October 2 Bok (MVS 181-192); Leiser (MVS 213-221) and **FORD PINTO**; cases 4.3 and 4.4 (MVS 224-225)

WEEK 7

- October 7 **Reciprocity, Conflicts of Interest, Government Regulation:** chapter 8 intro (MVS 394-395); Bellow (MVS 395-398); DeGeorge (MVS 398-400); Burger (MVS 411-413); case 8.1 (MVS 428-431), Kickbacks (KS 246-247, #10 on 263), conflicts (KS #5 and #9 on 261-263), **HYDROLEVEL CASE**
- October 9 **Privacy, Confidentiality, Secrecy, and Trust:** chapter 5 introduction (MVS 226-227); Armstrong (MVS 227-234) and BART case (KS 244-245); Solomon and Flores (MVS 234-237); Pinkard (MVS 238-242)

WEEK 8

- October 14 Bok (MVS 243-252); Bok (MVS 266-269); Johnson (MVS 269-273); case 5.4 (MVS 282)
- October 16 **TAKE-HOME ESSAY #1 DUE; Intellectual Property and Technology:** Intellectual Property (KS 276-304); Technology (KS 233-236, 241-243, #2 and #4 on 261, #8 on 262)

WEEK 9

- October 21 **Risk, Informed Consent, Liability Responsibility:** Risk Decisions (*Risk* introduction and chapter 1, pages 1-21)
- October 23 Defining Risk (*Risk* chapter 2, pages 22-41), **FORD PINTO**

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WEEK 10

October 28 Analyzing Risk (*Risk* chapter 3, pages 42-64), **HYATT WALKWAY, CHALLENGER**

October 30 **MIDTERM EXAMINATION #2**

WEEK 11

November 4 Making Risk Decisions (*Risk* chapter 4, pages 65-87), **FORD PINTO**

November 6 Risk Perception (*Risk* chapter 5, pages 88-111)

WEEK 12

November 11 **NO CLASS** (Veteran's Day)

November 13 Risk Communication (*Risk* chapter 6, pages 112-134)

WEEK 13

November 18 chapter 3 introduction (MVS 96-97); Bayles MVS 97-105); Meisel and Kuczewski (MVS 136-142); **FORD PINTO**

November 20 **TAKE-HOME ESSAY #2 DUE**; Product Liability (KS 305-316); Responsibility (KS 236-241); **CHALLENGER** (and KS 247-249), #7 and #11 (KS 262-263), **TACOMA BRIDGE, HYATT WALKWAY** (and KS #1 on 260-261), **TV ANTENNA COLLAPSE**

WEEK 14

November 25 **Management** (KS 199-229); **Whistleblowing**: chapter 6 introduction (MVS 283-284); Royce (MVS 316-318); Duska (MVS 294-298); McFall (MVS 298-301); case 6.1 (MVS 325-326)

November 27 **NO CLASS** (Thanksgiving Recess)

WEEK 15

December 2 Bok (MVS 284-288); **CHALLENGER** (and KS 247-249), Davis (MVS 289-294)

December 4 Whistleblowing cases: **BF GOODRICH**, case 6.3 (MVS 328-339), (KS 249-260)

FINAL EXAMINATION

Tuesday, December 9, 10:10 am – 12:10 pm

NOTE: Tuesday, December 9, 10:10am is the **last possible date and time** for submission of any extra credit; **none** will be accepted for credit at all after 10:10am