ENGINEERING 1182.03 – Spring Semester 2016
Fundamentals of Engineering – II - Nanotechnology

Lab and Classroom: HI 224  
Computer Lab: HI 324

Course Objectives: ENGR 1182 is the second course in a two course sequence designed to provide you with knowledge of engineering fundamentals: technical communications, technical graphics, problem solving, the design process, data collection and data analysis. The goal of the two-course sequence is to expand that knowledge to a point of maximum usefulness with respect to both your future academic work and your professional career. This course is divided into two segments: (1) Classroom and (2) Hands-on Laboratory. The courses involve both individual and team based performance.

Class Activities: Each week, you will be introduced to important engineering skills and given an opportunity to practice those skills. Assignments will be made in each session and will be due either in class or on the date indicated in the Class Schedule. The In-Class Activity, which is not graded, must be submitted in order to receive credit for the Homework Assignment. Assignments received more than one session late will be marked but will not earn credit.

Lab Activities: Each week students will attend an 80-minute Hands-on Laboratory session. During the laboratory sessions, students will perform a variety of hands-on activities including disassembling and reassembling objects, testing components, and collecting and analyzing data. Assignments may include gathering additional information from the internet or library, solving problems related to the lab work, and preparing lab memos and reports. Each assignment will be graded. Questions on important concepts covered in the laboratories will be included on the final exam. There may be time at the end of Lab sessions and Class sessions for teams to work on lab reports and pre-lab work, where required.

Exams: Two mid-term exams will be given. Exams are given closed book, closed notes, closed outside resources unless otherwise stated at the time of the exam.

Grading: The contribution of each course segment to the overall course grade is outlined below. The University’s grade scale is posted below for your reference. Please note that the upper range of the numerical grade is the cut-off for that letter grade (e.g. 92.9% is an A- grade)

<table>
<thead>
<tr>
<th>Class Assignments</th>
<th>44%</th>
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<tbody>
<tr>
<td>Homework</td>
<td>21%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>3%</td>
</tr>
<tr>
<td>Exams</td>
<td>20%</td>
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<tr>
<td>Design Project</td>
<td>50%</td>
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<tr>
<td>Labs Memos, Lab Quiz</td>
<td>16%</td>
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<tr>
<td>Project Schedule, Constraints Assign.</td>
<td>2%</td>
</tr>
<tr>
<td>Final System Test</td>
<td>8%</td>
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<tr>
<td>Chip Designs</td>
<td>10%</td>
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<tr>
<td>Final Documentation</td>
<td>10%</td>
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<tr>
<td>Nano Quizzes</td>
<td>4%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>6%</td>
</tr>
<tr>
<td>Final Team Evaluation</td>
<td>3%</td>
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<tr>
<td>Attendance</td>
<td>1%</td>
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<tr>
<td>Journals</td>
<td>2%</td>
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<tr>
<td>Bonus Video</td>
<td>2%</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Grade</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-93</td>
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<tr>
<td>B+</td>
<td>87-90</td>
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<tr>
<td>B</td>
<td>83-87</td>
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<tr>
<td>B-</td>
<td>80-83</td>
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<tr>
<td>C+</td>
<td>77-80</td>
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<tr>
<td>C</td>
<td>73-77</td>
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<tr>
<td>C-</td>
<td>70-73</td>
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<tr>
<td>D+</td>
<td>67-70</td>
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<tr>
<td>D</td>
<td>60-67</td>
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<tr>
<td>E</td>
<td>&lt;60</td>
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</tbody>
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Note: No food or beverages are allowed in the classrooms or labs

Minimum Grade Requirements: A minimum grade of 50% is required in the following course components (Class Assignments and Design Project) to receive a passing grade in this course. This policy is independent of the overall course calculation that automatically appears in Carmen. For example, a student with less than 50% credit in Class Assignments would not pass the course, even if the Design Project score was above 50%. You must take each component seriously and complete the assigned work. You can track your progress in the Carmen grade-book by ensuring that your grades are posted in the appropriate columns, and by checking the columns marked Cumulative Class and Cumulative Project.

Note: This policy is independent of the overall course calculation that automatically appears in Carmen. Your overall grade must still be 60% or above.

Participation: Individual and team-based evaluations will be conducted throughout the semester. Electronic journal entries are required and factored into the course grade. The final team evaluation results will also be a factor in assigning a final team grade.

Attendance: Attendance is mandatory for both components (Class and Labs). Students are subject to losing points for absences unless prior approval is obtained from your Instructor or Teaching Associate.

Course Materials:
- **Book (At Campus Area Bookstores)**

- **Engineering 1182.03 Student Course Packet** (*Purchase at campus Barnes and Noble*)

- **EED Courses Website:** The EED Courses website contains course material including preparation documents, instructor’s presentations, in-class activities, and homework assignments. The site link is [eedcourses.engineering.osu.edu/1182nano](eedcourses.engineering.osu.edu/1182nano).

- **Student Resource Guide:** This guide is available on the EED Courses website and includes information which will help you be successful in this course. Some key components are:
  - Information on course organization and where to find all needed course materials.
  - Software availability for your personal computer.
  - Computer labs and password policies.
  - Remote access to the FEP network and software.

- **Technical Communications Guide:** This guide is available on the EED Courses website and includes information on the style and format, which will be required for memos, reports, and presentations.

Grading Guidelines:
- **General Lab Guidelines:**
  - If a student does not sign the Lab Participation Agreement when a team lab document (i.e. executive summary, lab memo, lab report, or project notebook) is submitted, they will receive a
zero until they contact the GTA to discuss the issue. The student’s teammates may be given the opportunity to vouch for the student-in-question’s participation.

- Students are required to attach the Lab Participation Agreement to all lab documents. If it is missing, points will be deducted from the final grade for that assignment as designated on the Grading Guidelines sheet.
- Students are required to attach the corresponding Grading Guidelines to all lab documents. If it is missing, a 2% penalty will be applied to the assignment.
- Any deviation from these guidelines must be approved by the class instructor. This includes any situation not covered in these guidelines or any special circumstances.

Late Lab Documents:

- “On-Time Policy”: The lab documents are due on a given date per the website are due at the beginning of lab. The GTAs (with the help of UTAs) will collect the lab documents within the first five minutes of lab. Lab documents due at the beginning of class should not be worked on during presentation or lectures.
- Late lab documents (without a valid, documented excuse) should be turned in at the next meeting time (lab or class) after they were originally due. For special situations, students should meet with his/her GTA to plan a later due date. Otherwise their assignment(s) will be considered late.
- Undocumented or invalid excuses for late lab documents should be graded as normal, but with a 30% penalty (e.g. if the student gets 80/100 before the penalty, the final grade will be (80-30) = 50/100).
- Late lab documents cannot be redone.

Re-dos:

- There are no re-dos for lab documents in general, except for the first lab memo in ENGR 1182.03, for which the student is allowed to resubmit the assignment if their score is less than 72/80. The redone executive summary will be graded out of 80, but with a maximum grade of 90%. (e.g., the redone executive summary grade is a 75, but they would get a 72).

Missed Labs:

- If a student misses a lab without a valid, documented excuse, he/she should immediately contact and meet with their instructor and GTA to discuss options.
- Any valid and documented absence, where the absence is known ahead of time, must be approved by the instructor or GTA one week prior to the missed lab. Students are expected to make arrangements with the instructor or GTA to make up the missed lab.
- If the student has a valid excuse, but did not anticipate the absence, the student will need to meet with their instructor and GTA to determine how their situation will be handled with a best attempt to make up the lab during another lab section.

Late Homework:

- “On-Time Policy”: The GTAs (with the help of UTAs) will collect the homework within the first five minutes of class. Homework due at the beginning of class should not be worked on or printed during presentation or lectures.
- Late homework (without a valid, documented excuse) should be turned in by the next meeting time (lab or class) after they were originally due. For special situations, students should meet with his/her GTA to plan a later due date. Otherwise their assignment(s) will be considered late.
• Undocumented or invalid excuses for late homework should be graded as normal, but with a 30% penalty (e.g. if the student gets 80/100 before the penalty, the final grade will be (80 - 24) = 56/100).

**Makeup Exam Policy and Guidelines:** All students are expected to take each exam at the regularly scheduled time.

**Allowed Accommodations:**

• **ILLNESS OR EMERGENCY ON EXAM DAY:** Students who are ill or have a family emergency (death or serious illness of a close family member) on the day of an exam will be allowed to take a makeup exam. Written documentation is required for illness or medical emergencies. You must contact your teaching staff as soon as possible and certainly WITHIN 24 HOURS after the exam. The makeup exam is usually scheduled with an open section in the same course.

• **UNAVOIDABLE CONFLICTS WITH EXAM TIME:** Such conflicts include another class scheduled to meet at the exam time, or participation in University sponsored events. Documentation of a conflict with the regularly scheduled exam time must be provided in writing one week prior to the day of the regularly scheduled exam.

If you miss an exam without a legitimate, documented excuse, you will receive a score of zero for that exam. Exceptions will be made only under unusual circumstances approved by the section’s professor and the College Office for Academic Affairs. These policies are strictly enforced so that all students are treated equally and fairly.

**WRITTEN DOCUMENTATION** supporting the need for a makeup examination must be SIGNED by an appropriate person (e.g., physician, employer, parent) with their NAME and TELEPHONE NUMBER or other contact details clearly printed on the document. Such documentation must be submitted to the course professor for approval.

**No Show, Lateness, or Illness:**

1. A student who misses a scheduled exam without a written excuse may reschedule the exam through his/her GTA or instructor, provided the following conditions are met:
   a. The student contacts his/her GTA or instructor on the same day as the scheduled exam, and
   b. The student takes the exam within 24 hours of the original exam time.

**Note:** An automatic 20% penalty will be applied to the exam score.

2. A student who is late for his/her scheduled exam has two options:
   a. Take a seat quietly and begin the exam regardless of how much time remains; no additional time will be granted; no penalty will be applied to the exam score.
   b. Reschedule the exam for the full allotment of time according to conditions in #1 above, including a 20% penalty applied to the exam score.

**First Year Engineering Computer Lab (HI 324):** In addition to your classrooms and labs, you will have access to the First Year Engineering Computer Lab located in Hitchcock Hall Room 324. This lab can be used for assignments and lab reports, as it contains SolidWorks, Excel, and Word. You may not install any software onto, or copy any software from the lab computers. **Food and drink are not permitted in the lab.** Violation of these policies will result in expulsion from the lab.
1. The door is unlocked the following hours: Monday - Thursday 7:45 am – 5:30 pm and is accessible using your BuckID during other hours.
2. There is a free tutoring service offered by the UTA’s to First Year Engineering students Monday - Friday in HI 324 per the posted schedule. The tutors may not answer direct homework or lab questions, but can assist in your understanding of concepts.

Online Evaluation Tools:

Journal Entries: Journals are located on Carmen under Activities: Quizzes. Students will be asked to respond to prompts about aspects of the class; the journals include multiple choice questions, short answer questions, and essay responses. Journals are due each week on Sunday night at 11:59 PM. All entries will be read and summarized by the instructors and GTAs and kept confidential beyond the instructional staff. Your responses are used to assess the use of technology in the classroom, and to measure student satisfaction of the instructional team, teaching styles, curriculum decisions, policies, and programs. You are encouraged to be honest and leave constructive feedback. If you have a complaint, please follow it with a suggestion for improvement or cite exactly where the problem is. Be clear and precise in your comments.

Team Evaluations: There will be two mid-semester team evaluations and one final team evaluation. These will be the weeks of the midterm and final exams. You will receive an e-mail from your GTA with instructions. As part of each evaluation, you will rate each of your teammates in several areas of teamwork skills. The mid-semester evaluations do not count towards your grade but act as a tool to monitor how your group views your contributions. The final team evaluation will count towards your grade. If you need to change your working habits you should do so quickly. There is a 10% deduction for not completing the evaluation.

Student Permission for Program Publicity: During participation in the First-Year Engineering Program, photographs, printed material and videotapes may be made for the purpose of informing the university community and the general public about activities in the College. Student images in the above media may be used to promote College programs and to make public announcements of student accomplishments and those of other students. If you do not wish for your image to be used, please contact eeic@osu.edu.

Academic Misconduct: Cheating or plagiarism will be reported using official University procedures. With respect to all written assignments and oral presentations, the material must be relevant to and support the course objectives. Inappropriate language and visuals will not be tolerated. Policies and procedures can be found in a Synopsis of the Code of Student Conduct included in each semester’s Master Schedule Book. The Code of Conduct is printed in the Student Handbook and Student Telephone Directory. Copies may be obtained from Student Conduct, a department within the Office of Student Life, 33 W 11th avenue, Room 115.

All cases of suspected misconduct must be reported to the University Committee on Misconduct. Any students observing misconduct should report such to the course instructor.

- The Code of Student Conduct defines Academic misconduct to include:
  - Violation of course rules,
  - Providing or receiving information during quizzes or exams,
  - Submitting plagiarized work,
  - Falsification, fabrication, or dishonest in reporting research results.
- Students need to know that faculty is obligated to report all misconduct cases to the University Committee on Academic Misconduct. This is not an option.
- For purposes of Academic misconduct, the Associate Dean for Academic Affairs will act as the Department Chair in any reported cases.
• The College of Engineering encourages collaboration among students. However, work turned in as an individual must be the product of that person.

ENGR 1182 will utilize Turn-It-In, an online originality checking tool. This tool compares submitted assignments with other submitted assignments, online journals, articles, and books, among other sources. All class and lab assignments are subject to review by this software.

Methods to Determine the Quality of Individual Work:
1. Can the student explain and/or demonstrate how to complete each step or element of a problem or exercise?
2. Did the student complete the work using his/her own words and terms?
3. Can each person complete the end product for themselves as an individual or explain the process involved?

Official Ohio State Academic Misconduct Code: Committee on Academic Misconduct
Academic misconduct is defined as any activity which tends to compromise the academic integrity of the institution, or subvert the educational process. The First Year Engineering Program takes Academic Misconduct very seriously. Examples of academic misconduct include, but are not limited to:
   o violation of course rules as contained in the course syllabus or other information provided the student; violation of program regulations as established by departmental committees;
   o providing or receiving information during quizzes and examinations such as course examinations and general examinations; or providing or using unauthorized assistance in the laboratory, at the computer terminal, or on field work;
   o submitting plagiarized work for an academic requirement. Plagiarism is the representation of another's works or ideas as one's own; it includes the unacknowledged word for word use and/or paraphrasing of another person's work, and/or the inappropriate unacknowledged use of another person's ideas; see an expanded definition at the end of the syllabus
   o falsification, fabrication, or dishonesty in reporting research results;
   o serving as, or enlisting the assistance of, a "ringer" or substitute for a student in the taking of examinations;
   o alteration of grades or marks by the student in an effort to change the earned grade or credit.
   o alteration of University forms used to drop or add courses to a program, or unauthorized use of those forms

Source: http://oaa.osu.edu/coam.html

Ten Suggestions for Preserving Academic Integrity:

The following suggestions will help you preserve academic integrity by avoiding situations where you might be tempted to cheat or you might be perceived to be cheating (see http://oaa.osu.edu/coam/ten-suggestions.html and http://oaa.osu.edu/coam/faq.html for more information).

1. ACKNOWLEDGE THE SOURCES THAT YOU USE WHEN COMPLETING ASSIGNMENTS.
2. AVOID SUSPICIOUS BEHAVIOR.
3. DO NOT FABRICATE INFORMATION.
4. DO NOT FALSIFY ANY TYPE OF RECORD.
5. DO NOT GIVE IN TO PEER PRESSURE.
6. DO NOT SUBMIT THE SAME WORK FOR CREDIT IN TWO COURSES.
7. DO YOUR OWN WORK.
8. MANAGE YOUR TIME.
9. PROTECT YOUR WORK AND THE WORK OF OTHERS.
10. READ THE COURSE SYLLABUS AND ASK QUESTIONS.
**Official Ohio State Sexual Harassment Policy:** The University administration, faculty, staff, student employees, and volunteers are responsible for assuring that the University maintains an environment for work and study free from sexual harassment. Sexual harassment is unlawful and impedes the realization of the University's mission of distinction in education, scholarship, and service. Sexual harassment violates the dignity of individuals and will not be tolerated. The University community seeks to eliminate sexual harassment through education and by encouraging faculty, staff, student employees, and volunteers to report concerns or complaints. Prompt corrective measures will be taken to stop sexual harassment whenever it occurs.

Source: [http://hr.osu.edu/policy/policy115.pdf](http://hr.osu.edu/policy/policy115.pdf)

**Students with Disabilities:** Course materials and exercises can be made available in alternative formats. Please contact the instructor or the Office for Disability Services (ODS) at 292-3307 for further information. Test accommodations may include, but are not limited to:

- Adaptive technology
- Scanned exams
- Extended time
- Braille
- CCTV
- Large print
- Computer
- Reader
- Raised table
- Scribe
- Tape recorded exam
- Distraction reduced space

**ODS facilitates exam accommodations in cooperation with instructors.**

**For exam accommodations through ODS:**

- Obtain a "Proctor Checklist" from ODS for each course. New Proctor Checklists must be obtained each semester. They do not transfer from semester to semester.
- Have your instructor fill out the "Proctor Checklist" completely including signatures required (refer to specific instructions on the back of the form). Incomplete checklists may result in exams not being scheduled.
- Give your instructor the pink copy of the checklist after being completed and before bringing the white and yellow copies to ODS.
- Personally bring (do not mail) all completed Proctor Checklists to ODS at the beginning of each semester to schedule exams for the entire semester or at least within five days of your exam or quiz. You are more likely to get your accommodations, equipment, or space that you need.

**Failure to notify ODS of cancellations or changes of scheduled exam times subjects you to possible loss of exam accommodations through ODS. Please refer to the "Policy for No Show, Lateness, or Illness" in the link below for detailed information.**

Source: [http://www.ods.osu.edu/services/exam-accommodations/](http://www.ods.osu.edu/services/exam-accommodations/)