

Engineering 1282.01H

Engineering Fundamentals & Laboratory II (3 Credits)

Classrooms: HI 206, HI 214, or HI 216

Engineering 1282.01H Instructors:

Name (.#)*	Office	Phone (area code 614)
Paul Clingan(.3)	HI 223	292-1563
Rick Freuler(.1)	HI 244B	688-0499
Kathy Harper(.217)	HI 211	688-7538
Rachel Kajfez(.2)	HI 211	688-2934
Krista Kecskemety(.1)	HI 211	688-2934

* Note: Instructor e-mail name.#@osu.edu only—not buckeyemail.osu.edu

Engineering 1282.01H GTAs:

Name (.#)	Major	Office
Robby Breetz(.3)	ECE	HI 309
Titus Chen(.1293)	ECE	HI 309
Chris Hartle(.10)	ECE	HI 209
Meagan Ita(.4)	BME	HI 209
Sara Vinson(.36)	ISE	HI 209
Pat Wensing(.2)	ECE	HI 209
Kevin Witt(.87)	ECE	HI 309
Beth Yoak(.8)	MSE	HI 209

Engineering 1282.01H UTAs:

Name (.#)	Major	Name (.#)	Major
Katlyn Ashley(.95)	CBE	Lisa Lau(.136)	CSE
Cailin Buchanan(.195)	CBE	Tyler Leonhardt(.25)	CSE
Lizzy Burl(.2)	CSE	Mikayla Lowenkamp(.1)	BME
Bill Cohen(.507)	CBE	Jake Malesky(.1)	ME
Clare Cui(.163)	ME	Maggie McConnell(.223)	ECE
Nathan Derry(.13)	ECE	Leah Milosh(.1)	ME
Jessica Fleck(.48)	CSE	Drew Phillips(.1166)	ECE
Charles Fletcher(.236)	CBE	Kyle Phillips(.1007)	ME
Lindsey Fox(.809)	BME	Brian Raderstorf(.11)	ME
Trever Frye(.1022)	AAE	Brielle Reiff(.29)	ME
Mary Ann Ginier(.3)	ME	Brian Rice(.609)	ME
Kayleigh Gordon(.686)	AAE	Tabi Smith(.7423)	CBE
Brian Grzybowski-Cuff(.1)	ECE	Eric Soppi(.2)	CSE
Stefan Heglas(.3)	CBE	Owen Tyndall(.12)	AAE
Emily Helber(.26)	CBE	Hugo vanderWalt(.1)	ME
Anne Marie Jackson(.1923)	BME	Nick Vilagi(.3)	ECE
John Jackson(.2028)	CSE	Kevin Wegman(.12)	CBE
Patrick Kinnunen(.4)	CBE	Jillian Yuricich(.2)	AAE
Richard Kochert(.8)	CSE	Tom Ziebro(.2)	AAE
Paul Lacher(.13)	MSE	Hannah Zierden(.3)	CBE
Robert LaTour(.2)	CSE		

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Introduction and Course Organization

Engineering 1282.0xH is the second course in the fundamentals of engineering sequence and includes engineering graphics, visualization, and engineering design. This course is coordinated with FEH math, chemistry, and physics courses. This course meets three times a week for 125-minute class periods on Monday, Wednesday, and Friday in HI 206, 214, or 216. During the graphics portion of the semester, the class will meet for a 125-minute session that will have a brief presentation followed by in-class studio time. All students will be expected to complete preparation assignments prior to class, which may include reading, videos, exercises, or quizzes. For the design portion, the class will consist of a hands-on engineering design project. Many days will include a short presentation and may also require a short preparatory exercise and/or quiz.

Students requiring help with specific aspects of the course should arrange individual meetings with their instructors or teaching assistants during office hours. Items of class management, such as submission of problems, attendance, seat assignments, etc., will be handled by the course instructor. Students should also note that smoking is prohibited on the OSU campus and that no food or drinks are allowed in the Engineering classrooms or labs.

Course Objectives

The purpose of this course and the other course of the sequence is to provide you with a knowledge of engineering fundamentals and graphics, engineering communication, engineering problem solving, the design process, and experiences in a hands-on laboratory. The objective is to expand that knowledge to a point of maximum usefulness with respect to both your future academic work and professional career.

At the end of this course, successful students will be able to do the following: produce engineering drawings and models both by hand and using the SolidWorks CAD package, visualize objects in three dimensions, work in teams to perform various elements of engineering design, and demonstrate effective technical communication skills.

The design project portion of this course will focus primarily on the planning, management, execution, documentation, and presentation of the FEH robot design project. Students will learn how to:

- plan and manage a project
- present analyses of results
- write a project report
- make an oral presentation
- analyze and model a device
- design, build, and test a device

The main objective for each team is to build a self-controlled, self-contained, and self-propelled robotic vehicle that will travel over a well-defined course. Each robot will have to start when the light in the start area turns on, navigate through the course, and complete the required tasks. Teams will be scored based on how well their design performs in both individual and head-to-head competition runs.

During the time allocated for this course, there will be brief lectures on the technical approach to design, mathematical calculations required, and the various laboratory tools and techniques that are helpful in completing the design. The majority of class time will be open lab time where teams may work on their projects with instructors and teaching assistants available to answer questions.

The design and construction of the robot will require knowledge from Engineering 1281, as well as from earlier in this course. A separate document will provide the complete design project specifications and competition rules.

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A Note to the Student

The process of engineering design is more than just tinkering...it is the logical application of scientific principles to a tangible design. It involves creativity, dedication, thought, research, ingenuity, and work. The purpose of this design project is to introduce you, the student, to the principles and practices involved in an engineering design project. It may very well be your first experience in "real world" engineering. This part of the course will be quite different from any you may have taken thus far, and will give you experience in areas that other courses cannot. You will be evaluated during all phases of the development work. Your robot grade will reflect a combination of your performance in the design process, your demonstration of both written and verbal communication skills, your ability to work in a team environment, and the performance of your team's robot in the contest. It will be predominately a team effort. Therefore, a good grade can only be achieved by developing a competent design and implementing it as a team.

Course Grades

Your performance during the engineering graphics portion of the semester will be measured by the following: your ability to demonstrate preparation for class, your successful completion of a series of daily application assignments in engineering fundamentals, and your performance on announced quizzes and a midterm examination. See the daily schedule presented later in this syllabus for scheduling specifics.

Your performance during the engineering design project portion of the semester will be measured by the following: ability to demonstrate preparation for class, successful completion of a series of individual and team assignments to support the engineering design process, creation of a successful design that satisfies the project specifications, demonstration of the ability to work effectively in a team, and creation of a technical documentation set.

Course grades will be calculated according to the following weighted elements:

Preparation Assignments	5%	Midterm Exams	14%
Graphics App. Assignments	15%	Design Project and Laboratory*	60%
Announced Quizzes	3%	Electronic Journals	3%

***The breakdown of the robot design project component is as follows:**

Individual Laboratory	6%	Performance Tests	7%
Lab Quiz	3%	Competitions	7%
Team Design Project	37%		

The preparation, application, and team design project assignments, listed in the daily schedule attached to this syllabus and in the design project documentation, are available either in a course packet purchased from UniPrint or on Carmen. Online quizzes are only available on Carmen. Unless otherwise instructed, the assignments are to be done individually. You may discuss assignments with others at your table or in your class and assist each other in understanding the assignment, but sharing of assignment files or copying another student's assignment is an act of plagiarism.

The preparation assignments are graded on a 10 point scale and each day's application assignments generally total 20 points. Individual application or design assignments that are submitted **on time**, but receive a grade of **60% or less**, will be eligible for "**Correct and Return**" (C&R). If you receive a grade of 60% or less, you are **not**

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required to resubmit the assignment. If you choose to C&R, please ask your teaching assistants for a new copy of the assignment sheet. You must attach the original assignment to your newly submitted assignment and resubmit both within **three** class periods of the return of your original assignment. The final grade recorded will be the average of the two assignments. As a team, you may choose to resubmit up to two of the team design assignments for a C&R. The same rules apply for the team C&R.

If an application or design assignment is turned in late but within 24 hours of the time due, its grade will be reduced by 30%. Application and design assignments submitted after 24 hours past the time due will be given 0 points. In such cases, they will be marked up to provide feedback. Preparation assignments may not be submitted late and are not eligible for C&R. All course grades will be entered into Carmen. It is strongly suggested that you keep all your graded assignments for future reference.

The midterm exams will be given on the date indicated in the daily schedule and will be scheduled for 120 minutes. The design project will be further described as the semester progresses. Journal entries must be submitted electronically no later than 11:59 PM each Sunday evening or as otherwise prescribed by the online FEH Journal System (<http://feh.osu.edu/journals.html>).

Computer Laboratory:

You will be using computer equipment in your regularly scheduled classroom (HI 206, 214, or 216) and will have access to the First-year Engineering Program computer lab located in HI 324. These labs contain Windows-based personal computers, printers, and a variety of application software packages. You may use the computers to work on your assignments and to produce printouts. Although a computer lab manager is usually available in HI 317 during the day to help you with hardware, software, or printer problems, the lab personnel will not help you with assignment-related problems. On the other hand, your instructor and teaching assistants will be available during scheduled classroom hours. There will also be a Graphics Open Lab available in HI 206 on Tuesdays and Thursdays from 8:00am - 5:00pm. This lab will be staffed with TAs from 10:20am – 12:40pm and 3:00pm – 5:00pm. You are to use only the software supplied in these labs; that is, you may not install any software onto or copy any software from the lab computers unless specifically permitted. Food and drink are not permitted in the labs or classrooms. Violation of these policies will result in expulsion from the classroom or lab and possible failure in the course.

Course Fees, Textbooks, Materials, and Equipment

The following textbooks are required:

- ***Introduction to Graphics Communication for Engineers***, by Bertoline. ISBN 978-0-07-352264-7

We also require the following materials:

- ***Engineering 1282.0xH FEH Drawing Packet***: Available in the OSU bookstores.
- USB Storage/Flash Drive.
Note: At least 3GB storage space on a network drive accessible by FTP (File Transfer Protocol) or Remote Desktop Connection from outside of class is provided by the First-Year Engineering Program.
- Pad (100 or 200 sheets) of green engineering problem paper

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We also suggest the following materials, all of which can be purchased as a package in the bookstores:

- Scale: 6" combination decimal inches and millimeters [Fairgate F561 79-102 or Staedtler-Mars 561 79-102]
- Lead holder: 0.7mm [Staedtler 925 07 – 0.7mm HB lead]
- Eraser: stick type [Staedtler-Mars 528 50]

We will be using the following software:

- Cisco AnyConnect VPN Client. *Note: This software may be obtained through the office of the CIO (ocio.osu.edu/software/directory)*
- NX Client. *Note: See class notes for directions on how to obtain this software.*
- Citrix XenApp. *Note: See Carmen for directions on how to install and use this software.*
- SolidWorks 2012-2013
- Additional software may be used that is specific to the design project.

Useful FEH Program Web Sites

- <http://feh.osu.edu> FEH Program main web page
- <http://carmen.osu.edu> OSU Carmen main web page
- <http://www.howstuffworks.com> A useful reference web site

ENGR 1282.0xH Course and University Policies

Lab policies and safety rules are intended to minimize the opportunity for accidents or injuries during any hands-on laboratory session. Please note that all tools, equipment, and materials assigned to a team must be returned and formally accounted for at the end of each lab session or at the end of the semester. Failure to return any OSU item will result in a grade of incomplete for the entire team until the item is found or otherwise accounted for, and the situation will be taken to the Committee on Academic Misconduct.

The Lab Safety rules are:

- No dangling jewelry or loose clothes.
- No open-toe footwear of any kind. (You will be asked to leave and return with closed-toe shoes.)
- Be careful with sharp corners.
- Eye protection will be provided and required for some lab activities.
- Know location of phone and first-aid kit.
- Report ALL injuries to the lab instructor.
- No food or drink in the lab. (You will be asked to leave and return without food or drink.)

Carmen: Online Course Management System. Carmen is OSU's course management system. Carmen may be accessed at <http://carmen.osu.edu>. For troubleshooting, call 688-HELP or go to <http://elearning.osu.edu/carmen-help/students/index.htm>. Please note that in 1282.0xH, the course number listed on the Carmen site may not match the course number of your section.

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Uses

- Check the “News” items for any course-related or on-campus activities announcements.
- Check your grades from the “Grades” link on the main toolbar in Carmen.
- Check your syllabus and daily assignment list from the “Content” link and view instructional team contact information on the syllabus.
- Access other evaluation tools: journals, some quizzes, and Purdue Visualization Tests from the Carmen web page.
- Access materials for the course, including class presentations and supplemental information consisting of exam study guides, video resources, assignment seed files, helpful websites, and common questions and answers about the team projects from the “Content” link on the main toolbar.

Academic Misconduct such as cheating or plagiarism will be reported using official University procedures. Policies and procedures can be found in the Code of Student Conduct available online in several places including at http://studentaffairs.osu.edu/resource_csc.asp. The Code of Student Conduct is also printed in the Student Handbook and Student Telephone Directory. Copies may be obtained from Student Judicial Affairs, 33 West 11th Avenue, Room 115.

- All cases of suspected misconduct must be reported to the University Committee on Academic 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 of any kind (e.g., written, computer produced, hand-drawn, etc.)
 - Falsification, fabrication, or dishonesty in reporting research results
- As a student, you need to know that faculty members are obligated to report all alleged misconduct cases to the University Committee on Academic Misconduct. Not reporting is not an option.
- For purposes of academic misconduct in any reported cases in any Engineering course, the College of Engineering's Associate Dean for Academic Affairs will act as the Department Chair.
- It is acknowledged that the First-Year Engineering Program encourages collaboration among students on some assignments from time to time. However, when an assignment is identified as an individual assignment, the work turned in by an individual must be his or her own individual product.

A Test that Faculty May Use to Determine Individual Product:

- Can you explain and demonstrate how you did each step or element of a problem or exercise?
- Is the work shown in your own words and terms?
- Can the team members work together to understand concepts and explain things to each other?
- Can a team member produce the end product for himself or herself as an individual or explain the process involved?

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Excerpt from the Code of Student Conduct, Section 3335-23-04 Prohibited conduct:

Any student found to have engaged in the following conduct while within the university's jurisdiction, as set forth in Section 3335-23-02, will be subject to disciplinary action by the university.

A. Academic misconduct

Any activity that tends to compromise the academic integrity of the university, or subvert the educational process. Examples of academic misconduct include, but are not limited to:

1. Violation of course rules as contained in the course syllabus or other information provided to the student; violation of program regulations as established by departmental committees and made available to students;
2. Knowingly providing or receiving information during examinations such as course examinations and candidacy examinations; or the possession and/or use of unauthorized materials during those examinations;
3. Knowingly providing or using assistance in the laboratory, on field work, or on a course assignment unless such assistance has specifically been authorized;
4. Submitting plagiarized work for an academic requirement. Plagiarism is the representation of another's work or ideas as one's own; it includes the unacknowledged word-for-word use and/or paraphrasing of another person's work, including electronic files, and/or the inappropriate unacknowledged use of another person's ideas;
5. Submitting substantially the same work to satisfy requirements for one course that has been submitted in satisfaction of requirements for another course, without permission of the instructor of the course for which the work is being submitted;
6. Falsification, fabrication, or dishonesty in reporting laboratory and/or research results;
7. Serving as, or enlisting the assistance of a substitute for a student in the taking of examinations;
8. Alteration of grades or marks by the student in an effort to change the earned grade or credit;
9. Alteration of academically-related university forms or records, or unauthorized use of those forms; and
10. Engaging in activities that unfairly place other students at a disadvantage, such as taking, hiding or altering resource material, or manipulating a grading system.

Source: http://studentaffairs.osu.edu/resource_csc.asp

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.

1. **ACKNOWLEDGE THE SOURCES THAT YOU USE WHEN COMPLETING ASSIGNMENTS:** If you use another person's thoughts, ideas, or words in your work, you must acknowledge this fact. This applies regardless of whose thoughts, ideas, or words you use as well as the source of the information. If you do not acknowledge the work of others, you are implying that another person's work is your own, and such actions constitute plagiarism. Plagiarism is the theft of another's intellectual property, and plagiarism is a serious form of academic misconduct. If you are ever in doubt about whether or not you should acknowledge a source, err on the side of caution and acknowledge it.
2. **AVOID SUSPICIOUS BEHAVIOR:** Do not put yourself in a position where an instructor might suspect that you are cheating or that you have cheated. Even if you have not cheated, the mere suspicion of dishonesty might undermine an instructor's confidence in your work. Avoiding some of the most common types of suspicious behavior is simple. Before an examination, check your surroundings carefully and make sure that all of your notes

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are put away and your books are closed. An errant page of notes on the floor or an open book could be construed as a "cheat sheet." Keep your eyes on your own work. Unconscious habits, such as looking around the room aimlessly or talking with a classmate, could be misinterpreted as cheating.

3. **DO NOT FABRICATE INFORMATION:** Never make up data, literature citations, experimental results, or any other type of information that is used in an academic or scholarly assignment.

4. **DO NOT FALSIFY ANY TYPE OF RECORD:** Do not alter, misuse, produce, or reproduce any University form or document or other type of form or document. Do not sign another person's name to any form or record (University or otherwise), and do not sign your name to any form or record that contains inaccurate or fraudulent information. Once an assignment has been graded and returned to you, do not alter it and ask that it be graded again. Many instructors routinely photocopy assignments and/or tests before returning them to students, thus making it easy to identify an altered document.

5. **DO NOT GIVE IN TO PEER PRESSURE:** Friends can be a tremendous help to one another when studying for exams or completing course assignments. However, don't let your friendships with others jeopardize your college career. Before lending or giving any type of information to a friend or acquaintance, consider carefully what you are lending (giving), what your friend might do with it, and what the consequences might be if your friend misuses it. Even something seemingly innocent, such as giving a friend an old term paper or last year's homework assignments, could result in an allegation of academic misconduct if the friend copies your work and turns it in as his/her own.

6. **DO NOT SUBMIT THE SAME WORK FOR CREDIT IN TWO COURSES:** Instructors do not give grades in a course, rather students earn their grades. Thus, instructors expect that students will earn their grades by completing all course requirements (assignments) while they are actually enrolled in the course. If a student uses his/her work from one course to satisfy the requirements of a different course, that student is not only violating the spirit of the assignment, but he/she is also putting other students in the course at a disadvantage. Even though it might be your own work, you are not permitted to turn in the same work to meet the requirements of more than one course. You should note that this applies even if you have to take the same course twice, and you are given the same or similar assignments the second time you take the course; all assignments for the second taking of the course must be started from scratch.

7. **DO YOUR OWN WORK:** When you turn in an assignment with only your name on it, then the work on that assignment should be yours and yours alone. This means that you should not copy any work done by or work together with another student (or other person). For some assignments, you might be expected to "work in groups" for part of the assignment and then turn in some type of independent report. In such cases, make sure that you know and understand where authorized collaboration (working in a group) ends and collusion (working together in an unauthorized manner) begins.

8. **MANAGE YOUR TIME:** Do not put off your assignments until the last minute. If you do, you might put yourself in a position where your only options are to turn in an incomplete (or no) assignment or to cheat. Should you find yourself in this situation and turn in an incomplete (or no) assignment, you might get a failing grade (or even a zero) on the assignment. However, if you cheat, the consequences could be much worse, such as a disciplinary record, failure of the course, and/or dismissal from the University.

9. **PROTECT YOUR WORK AND THE WORK OF OTHERS:** The assignments that you complete as a student are your "intellectual property," and you should protect your intellectual property just as you would any of your other property. Never give another student access to your intellectual property unless you are certain why the student wants it and what he/she will do with it. Similarly, you should protect the work of other students by reporting any suspicious conduct to the course instructor.

10. **READ THE COURSE SYLLABUS AND ASK QUESTIONS:** Many instructors prepare and distribute (or make available on a web site) a course syllabus. Read the course syllabus for every course you take! Students often do not realize that different courses have different requirements and/or guidelines, and that what is permissible in

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one course might not be permissible in another. "I didn't read the course syllabus" is never an excuse for academic misconduct. If after reading the course syllabus you have questions about what is or is not permissible, ask questions!

Source: <http://oaa.osu.edu/coamtensuggestions.html> Reference: <http://oaa.osu.edu/coamfaqs.html>

Students with Disabilities: Course materials and exercises can be made available in alternative formats. Please contact the Office for Disability Services (ODS) at 292-3307 for further information and let your instructor know that you intend to make use of ODS facilities.

The ODS facilitates exam accommodations in cooperation with instructors. To make exam accommodations, you must meet with your instructor(s) at the beginning of each semester to discuss your disability and exam accommodation arrangements. Your instructor(s) may choose to provide you with the appropriate exam accommodation(s) in the classroom or at another site under his/her supervision. You have three exam options available to you:

1. Take the exam with the class
2. Take the exam with appropriate accommodations, if you and the instructor agree to a time and place.
3. Schedule your exams at ODS.

Test accommodations may include but are not limited to:

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

For exam accommodations through ODS:

- Obtain "Proctor Checklist" from ODS for each course. New Proctor Checklists must be obtained each semester. They do not transfer from semester to semester.
- Have 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 instructor the pink copy of the checklist after being completed and before bringing the white and yellow copies to ODS.
- Mark on the checklist(s) the accommodations that are appropriate for each exam. Accommodations may not be made available to you on the day of the exam if you did not indicate them on the checklist(s).
- 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.

The student is directed to the "[Exam Accommodations](#)" portion of the Office for Disability Services web site for the most current information on ODS exam accommodations, including rules and procedures for Scheduling Exams,

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Lateness, Illness, No Show, Cancellation, and Rescheduling Policies. Failure to notify ODS of cancellations or changes of scheduled exam times may result in the possible loss of exam accommodations through ODS.

Source: http://www.ods.osu.edu/services_exam.asp

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>

Student Permission for Program Publicity: During your 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 Dr. John Merrill in 244 Hitchcock Hall or at Merrill.25@osu.edu.

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This is the DAL for this course. The * symbolizes the assignment can be found on Carmen.

Date	Day	Class Num	Topic(s) Introduced	Preparation Due	Application	
					Started	Due
1/6	Mon.	<i>Classes Canceled</i>				
1/8	Wed.	G01 G03	Introduction to Graphics, Isometric Drawings, Introduction to SolidWorks		APP-B01-1 APP-B01-2 APP-B01-3 APP-B03-1*	APP-B01-1 APP-B01-2
1/10	Fri.	G02 G03	Multiview Drawings, Converting btw. Isometric & Multiview		APP-B02-1 APP-B02-2 APP-B02-3 APP-B03-2	APP-B01-3 APP-B02-1
1/13	Mon.	G04	Curved & Oblique Surfaces, Missing Views, Constraint-Based Modeling	PRE-G01 (BONUS) PRE-G02 PRE-G03 PRE-G04	APP-B03-3 APP-B04-1 APP-B04-2* APP-B04-3	APP-B02-2 APP-B02-3 APP-B03-1 APP-B03-2 APP-B03-3 APP-B04-1
1/15	Wed.	G05	Quiz 1: Isometric & Orthographic Projection More Drawing Practice, Extracting Drawings	PRE-G05	APP-B05-1 APP-B05-2* APP-B05-3	APP-B04-2 APP-B04-3 APP-B05-1
1/17	Fri.	R01	Scenario, Brainstorming, Sensors, Laser Cutting, 3D printing	PRE-R01	R01	APP-B05-2 APP-B05-3
1/20	<i>Martin Luther King, Jr. Day – No Class</i>					
1/22	Wed.	R02	Teamwork, Decisions, Strategy	PRE-R02	R02 R03	R01
1/24	Fri.	R03	Mockups, Drivetrain, Design Schedule	PRE-R03	R04 R05	R02
1/27	Mon.	G06	Quiz 2: Curved & Oblique Surfaces, Missing Lines and Views Section Views, Feature Based Modeling	PRE-G06	APP-B06-1 APP-B06-2* APP-B06-3	APP-B06-1
1/29	Wed.	R04	Team Review Process, Shop Tours LAB 01: Sensors/Servos Lab	PRE-R04 PRE-LAB 01		APP-B06-2 APP-B06-3 R03
1/31	Fri.	R05	Performance Test 1	PRE-R05		R04
2/3	Mon.	G07	Introduction to Dimensioning	PRE-G07	APP-B07-1* APP-B07-2 APP-B07-3	APP-B07-1 R05
2/5	Wed.	R06	Progress Reports, Flowcharts, Pseudocode	PRE-R06	R06 R09	APP-B07-2 APP-B07-3 LAB 01
2/7	Fri.	R07	Performance Test 2			
2/10	Mon.	G08	Quiz 3: Dimensioning Functional Dimensioning, Assembly Modeling, Midterm Review	PRE-G08	APP-B08-1 APP-B08-2* APP-B08-3* R07	APP-B08-1
2/12	Wed.	R08	Final Reports LAB 02: Shaft Encoding/RPS Lab	PRE-LAB 02	R08	APP-B08-2 APP-B08-3
2/14	Fri.	R09	Performance Test 3			R06 R07
2/17	Mon.	GM	Graphics Midterm			

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2/19	Wed.	R10	LAB 03: Line Following Lab	PRE-LAB 03		R08 LAB 02	
2/21	Fri.	R11	Performance Test 4			R09	
2/24	Mon.	R12	Software Tips and Hints		R10		
2/26	Wed.	R13	Review for Lab Quiz, Guest Speaker			LAB 03	
2/28	Fri.	R14	Performance Test 5				
3/3	Mon.	R15	Electrical Systems Documentation	PRE-R15	R11 R12	R10-1	
3/5	Wed.	R16	Lab Quiz				
3/7	Fri.	R17	Performance Test 6			R10-2	
<i>Spring Break – No Class or Open Lab</i>							
3/17	Mon.	R18	Oral Reports, Visual Aids	PRE-R18	R14 R16		
3/19	Wed.	R19	Work Day		R13	R11	
3/21	Fri.	R20	Performance Test 7				
3/24	Mon.	R21	Guidelines for Individual Competition			R12	
3/26	Wed.	R22	Work Day				
3/28	Fri.	R23	Individual Competition				
3/31	Mon.	R24	Lessons from Individual Competition, Guidelines for Final Competition			R13	
4/2	Wed.	R25	Work Day				
4/4	Fri.	R26	Work Day				
4/5	Sat.	R27	Final Competition				
4/7	Mon.	G09	Review Documentation Requirements, Tolerancing, Introduction to Working Drawing Sets	PRE-G09	R15 APP-B09-1 APP-B09-2	R14 APP-B09-1	
4/9	Wed.	G10	Distributed Tolerancing	PRE-G10	APP-B10-1 APP-B10-2	APP-B09-2 APP-B10-1	
4/11	Fri.	G11	Creating Working Drawing Sets, Midterm Review	PRE-G11	APP-B11-1* APP-B11-2	R15 APP-B10-2 APP-B11-1	
4/14	Mon.	R28	Work Day				
4/16	Wed.	R29	Oral Reports			R16 APP-B11-2	
4/18	Fri.	GM	Graphics Midterm				
4/21	Mon.	R30	Documentation/Equipment Turn In			R17 R18	

Robot “R” Assignment Descriptions

Assignment Number	Assignment Title
R01	Individual Brainstorming
R02	Team Working Agreement
R03	Sketches, Decisions, and Strategy
R04	Design Schedule
R05	Drivetrain Analysis
R06	Pseudocode/Flowchart
R07	Chassis Drawing Set
R08	Final Report Outline
R09	Progress Report
R10-1	Report Peer Review

Assignment Number	Assignment Title
R10-2	Report Peer Feedback
R11	Final Report Draft 1
R12	Electrical Sketches
R13	Final Report Draft 2
R14	Oral Report Outline
R15	Working Drawing Set
R16	Oral Report
R17	Final Report
R18	Notebook