

Course Syllabus

- INSTRUCTOR:** Shikui Chen, 165 Light Engineering
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Xiaoqiang Xu, 156A Light Engineering
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- TA:** Ran Zhuang
E-mail: ran.zhuang@stonybrook.edu
- LECTURE HOURS:** Online Class
The course is divided into lecture parts and lab parts.
The lecture tutorial is given in the form of pre-recorded podcasts, which is asynchronous. The lecture podcasts are usually posted on Mondays and Wednesdays.
The lab tutorial is scheduled as an online recitation class synchronously, which is held during instructor Xiaoqiang Xu's office hours. The time is 3:00 pm to 4:30 pm every Wednesday. It usually takes about 45 minutes to 1 hour. It is highly recommended that students can attend the lab tutorial. We will also record the lab tutorial in case you have time conflicts.
- OFFICE HOUR:** The instructors/TA will be available during our regular office hours, via Zoom or onsite.
Instructor Prof. Shikui Chen: Monday 1:00 pm – 2:30 pm
Meeting ID: **934 5742 2506** Passcode: **930767**
Link: <https://stonybrook.zoom.us/j/93457422506?pwd=VkZmWFpqKytJMUfuaTJmc0pWTkpKdz09>
Instructor Xiaoqiang Xu: Wednesday 3:00 pm – 4:30 pm
Meeting ID: **921 8905 9574** Password: **586110**
Link: <https://stonybrook.zoom.us/j/92189059574?pwd=TSkZ3o4M2RSZDJqQTl1VGd3Tk9DQT09>
Teaching assistant Ran Zhuang: Monday 2:00 pm - 3:30 pm
Meeting ID: **927 0270 2604** Password: **741852**
Link: <https://stonybrook.zoom.us/j/92702702604?pwd=YUNiVmliZGpMdG8rK05ScSthMExiQT09>
- REQUIRED TEXTBOOK:** **Engineering Graphics Essentials**, Plantenberg, SDC Pub, 5th Ed.
(The above textbook can be found at the university bookstore)
- REQUIRED SOFTWARE:** **Autodesk Fusion 360**
(The Autodesk Fusion 360 software package can be downloaded for students for free. Details will be posted on Brightspace and introduction files)
- PREREQUISITES:** MEC or BME Major
- HOMEWORK:** Late homework will **NOT** be graded unless there is a documented emergency.
Note: Computer issues, Internet issues, or any other technical issues are not considered “documented emergencies”.
- EXAMS:** **One Midterm exam and one Final exam:** The details will be announced later in this semester.

FINAL PROJECT: One final project using Autodesk Fusion 360. Details will be posted on Brightspace. Late final project will **NOT** be graded unless there is a documented emergency. **Note: Computer issues, Internet issues, or any other technical issues are not considered as “documented emergency”.**

GRADING: Semester letter grade is based on your performance in the following categories.

Lecture Homework	15%
CAD Homework	25%
Final Project	20%
Mid-Term Exam	20%
Final Term Exam	20%

GRADING SCALE Not a curve – accumulation of your course work, as follows:

A (100-94)	A- (93-90)	B+ (89-87)	B (86-82)
B- (81-79)	C+ (78-76)	C (75-72)	C- (71-68)
D+ (67-64)	D (63-60)	F (59 or below).	

Course Overview

Introduces engineering graphics and its role in the design process. Includes the principles of engineering drawing and sketching for mechanical design, using computer graphics and solid modeling in design representation of 3D objects, assembly, and simulation and ASME standards on geometric dimensioning and tolerances. Includes hands-on experience in using CAD software packages for engineering design.

STUDENT OUTCOMES

- (c) Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (g) Ability to communicate effectively
- (k) Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

COURSE LEARNING OBJECTIVES	SOs	ASSESSMENT TOOLS
Know the steps of the engineering design process	c	Grading Rubrics for Project
Know how to create orthographic views	g	Competency Exam
Know how to create sectional views and auxiliary views	g	Competency Exam
know how to create 3D models	g k	Grading Rubrics for Project

Understand and know how to obtain orthographic, auxiliary and section views from a 3D model	g k	Grading Rubrics for Project
Know how to add dimensions and text to 2D and 3D models	g k	Grading Rubrics for Project
Understand ASME standards for GD&T and know how to add tolerances to 2D and 3D models	g k	Grading Rubrics for Project
Know how to create an assembly from graphical components	g k	Grading Rubrics for Project

Course Schedule

Week	Lecture	Lab
1	Introduction	Introduction & Sketch
2	Orthographic view	Practice on examples
3	Pictorial I	Sketch & Extrude/Revolve
4	Pictorial I	Practice on examples
5	Section View I	Planes & Extrude/Revolve
6	Section View II	Practice on examples
7	Auxiliary View	Assembly & Simulation
8	Review Week	Practice on examples
9	Mid-Term	No Lab
10	Dimensioning I	Final Project
11	Dimensioning II	Final Project
12	Tolerance I	Final Project
13	Tolerance II & Assembly	Final Project
14	Review Week	Final Project
15	Review Week	Final Project
16	Final Term Exam	Final Project

PS: 1. The exam date will be announced in the Brightspace Announcement.

2. The final project details will be posted later in the semester.

Note:

The course schedule is subject to change during the semester. Changes will be announced on Brightspace.

BRIGHTSPACE:

All homework assignments and solutions will be posted on the Brightspace course account (<https://mycourses.stonybrook.edu>). For problems logging in, go to the

Helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@ic.sunysb.edu

I use email and Brightspace exclusively to communicate with you off class. It is your responsibility to make sure that your email id is the correct one on the Brightspace system. I suggest that you use a university email id for this class; it is free and official. I am not responsible for the emails not delivered to your commercially available email accounts.

CADLAB

You may install the student version of the software on your laptop for free. The software is also available in CADLAB (Engineering Building, room 112) if you need to work on the final project.

FINAL PROJECT:

Apart from the CAD models/assembly/motion simulation, a video podcast presentation to give a full introduction to the project is also required. The details will be posted on Brightspace.

FINAL EXAM POLICY

The campus policies on the final exam are available on the Web (http://sb.cc.stonybrook.edu/bulletin/current/policiesandregulations/records_registration/final_examinations.php)

The academic calendar provides seven days each semester for a Final Examination Period. The last examination of the course, whether comprehensive or covering only a portion of the material, must be given during the Final Examination Period at the time designated for the course. Exceptions may only be granted by the dean of the faculty member's college for compelling academic reasons. Unit exams may only be given during the last week of the semester if a final examination is also given during the Final Examination Period. Instructors are reminded that students who request an accommodation for religious reasons are entitled to that accommodation under New York State law. It is the responsibility of the student to plan class schedules to avoid conflicts with Evening Midterm exams and regularly scheduled classes and to avoid conflicts with Final Exams. Final schedules may be found online at <http://www.stonybrook.edu/commcms/registrar/registration/exams.html>.

ACADEMIC HONESTY:

The campus policies on academic honesty are available on the Web (<http://naples.cc.sunysb.edu/CAS/ajc.nsf/pages/info>).

Academic dishonesty is an extremely serious offense and will not be tolerated in any form. Academic dishonesty, in general, is the presentation of intellectual work that is not originally yours. Examples include, *but are not limited to*, copying or plagiarizing class assignments including homework, reports, designs, computer programs, graphics, and other submitted materials; copying or otherwise communicating answers on exams with other students; bringing unapproved aids, either in physical (written) or electronic form to an exam; obtaining copies of an exam prior to its administration, etc. Academic dishonesty violates both the ethical and moral standards of the Engineering profession, and all infractions related to academic dishonesty will be prosecuted to the fullest via the CEAS CASA committee. For you, the honest student, academic dishonesty results in lower class curves, hence a depression in your GPA and class standing, while cheapening the degree you earn.

SPECIAL NOTE ON ADA:

If you have a physical, psychological, medical or learning disability that may impact your coursework, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following website
<http://www.ehs.sunysb.edu/fire/disabilities/asp>.

AMERICANS WITH DISABILITIES ACT:

If you have a physical, psychological, medical or learning disability that may impact your coursework, please contact Disability Support Services, ECC (Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.
<http://studentaffairs.stonybrook.edu/dss/index.shtml>.

ACADEMIC INTEGRITY:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

CRITICAL INCIDENT MANAGEMENT:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

FAMILY EDUCATION RIGHTS & PRIVACY ACT:

"The campus community must remain vigilant about any intentional or unintentional abuse of the existing privacy laws, including the misuse of any student identifier, including the student's Social Security Number and the Stony Brook ID number. To report any concerns or violations, please contact the Office of University Counsel, 328 Administration, (631) 632-6110, or the Office of the Registrar, 276 Administration, (631) 632-6175."
<https://www.stonybrook.edu/commcms/registrar/policies/ferpa.php>