

Course Syllabus

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| LECTURE HOURS: | Online Class You can find lecture video on blackboard under the folder 'video'. |
| OFFICE HOUR: | The TAs will be available during our regular office hours, via Google meet. During these sessions we will be able to share our screens and have audio as well. We will send you hyperlinks to join these sessions. |
| REQUIRED TEXTBOOK: | Engineering Graphics Essentials , Plantenberg, SDC Pub, 5 th 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 BlackBoard 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 as "documented emergency". |
| EXAMS: | Two midterm exams will be held online with the aid of the Respondus LockDown browser. The dates and times will be posted in the later of this semester. The exam will be deployed on blackboard and you can appear for the exam remotely. Your activity during the exam will be recorded. A sample test will be deployed in order for you to test your setup and get used to the process. The instruction of online exam can be found in 'Test' folder. |
| FINAL PROJECT: | One final project using Autodesk Fusion 360. Details will be posted on Blackboard. • 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% |

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| Final Project | 20% |
| Mid-Term I Exam | 20% |
| Mid-Term II Exam | 20% |

GRADING SCALE

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

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|------------|------------|------------------|------------|
| 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). | |

Required technology for Online exam

- **Computer and Internet Connection:** This course requires that you have a good, reliable (preferably wired internet connection) to a reliable and working computer with a webcam and microphone. Cheap wifi connections do not work well and in the past students have had difficulties taking exams when they were connected to unreliable wifi access points, such as at coffee shops. We will not be responsible for you not being able to connect to the servers during the exam and no extensions on time will be given. Please do not underestimate the importance of having a reliable computer and internet connection. This is the primary reason why students in the past have suffered a great deal. Please install all the updates on your computer well before an exam. The newer versions of Microsoft Windows OS are not very flexible with scheduling updates. You don't want to initiate an update just before a critical assignment, such as quiz or exam is due.
- **Respondus LockDown Browser:** You will need to use this browser to take quizzes and exams online; please download it from this link:

<http://www.respondus.com/lockdown/download.php?id=772113517>

- **Webcam Option for All with A Smartphone**

We have identified a webcam app that we can suggest: **EpocCam**

This particular webcam app for a smartphone is usable by students during exams with Lockdown/Monitor (by Respondus). Many others are not an option. There has been a run on webcams in stores and online (just like hand sanitizer). This is an option for students to use during exams as the monitoring webcam.

1. go to your app store and get EpocCam (I installed the free version on my iPhone).
2. go to <http://www.kinoni.com/> and install the driver for your system (I did in Windows 10); as soon as the installation completed, my computer was connected to my iPhone and was working
3. Then, in Zoom, or whatever you use for streaming/capturing, you will see the EpocCam as one of the video devices to select (e.g., instead of your built-in web cam).

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 I | 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 | Mid-Term II | Final Project |

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

BLACKBOARD:

All homework assignments and solutions will be posted on the Blackboard course account (<http://blackboard.sunysb.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 Blackboard exclusively to communicate with you off class. It is your responsibility to make sure that your email id is a correct one on the blackboard 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 for the final project.

FINAL PROJECT:

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

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 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>