

### Course Syllabus

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LECTURE HOURS:	Online Class
OFFICE HOURS:	You can find the office hours of the instructors in BlackBoard→Faculty information
REQUIRED TEXTBOOK:	<b>Engineering Graphics Essentials</b> , Plantenberg, SDC Pub, 4 <sup>th</sup> Ed. <b>PTC Creo Parametric 3.0 for Designers</b> (The above two textbooks can be found at the university bookstore) (The PTC Creo software package can be downloaded for free on <b>Windows-PCs</b> . Details will be posted on BlackBoard and introduction files)
PREREQUISITES:	MEC or BME Major
HOMEWORK:	Homework (Lecture & Lab) normally is due one week after it is assigned unless stated otherwise. Late homework will <b>NOT</b> be graded unless there is a documented emergency.
EXAMS:	One Final Exam ( <b>Will be scheduled in a classroom on campus. For students who cannot attend exams on campus, please contact SUNY Proctoring System to schedule your exam ahead of time.</b> <a href="http://open.suny.edu/courses/proctoring/">http://open.suny.edu/courses/proctoring/</a> ).
FINAL PROJECT:	One final project using PTC Creo Parametric. Details will be posted on Blackboard • Late final project will <b>NOT</b> be graded unless there is a documented emergency.
GRADING:	Semester letter grade is based on your performance in the following categories. Lecture Homework                    15% CAD Creo Homework                25% 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: 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).

Apart from the above grading scale, to earn a passing grade in this class, you must also earn a passing grade (60/100 percentile on average) in all Creo projects. This means you must get at least 27% in total on average for all the Creo Project plus the Final Project ( $25% * 60/100 + 20% * 60/100 = 27%$ ). The final project will be graded using rubrics, which will be provided to you in class later in the semester.

### 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 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	<b>Mid-Term I</b>	<b>No Lab</b>
10	Dimensioning I	<b>Final Project</b>
11	Dimensioning II	<b>Final Project</b>
12	Tolerance I	<b>Final Project</b>
13	Tolerance II & Assembly	<b>Final Project</b>
14	Review Week	<b>Final Project</b>
15	Review Week	<b>Final Project</b>
16	<b>Mid-Term II</b>	
17	<b>Mid-Term II</b>	

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](mailto: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 (PTC Creo)

You may install the student version of the software on your **Windows** laptop for free. For Mac users, please install virtual windows and then install Creo there.

FINAL PROJECT:

PTC Creo is also available in CADLAB (Engineering Building, room 112) if you need to work in groups for the 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.

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 course work, 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 course work, 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 is 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](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.