

### Basic Course Information

Semester:	<b>Fall</b>	Instructor Name:	<b>Paul Rodriguez, P.E.</b>
Course Title & #:	<b>ENGR-210 STATICS</b>	Email:	<b>Paul.rodriquez@imperial.edu</b>
CRN #:	<b>10068</b>	Webpage (optional):	<b>None</b>
Classroom:	<b>304B</b>	Office #:	<b>None</b>
Class Dates:	<b>August 18 to December 10, 2015</b>	Office Hours:	<b>None</b>
Class Days:	<b>Tuesdays and Thursdays</b>	Office Phone #:	<b>None</b>
Class Times:	<b>11:20 AM - 12:45 PM</b>	Emergency Contact:	<b>760-996-2151</b>
Units:	<b>3</b>		

### Course Description

Force systems, equilibrium, structures, distributed forces, friction, virtual work, moments of inertia, vector algebra. This is a CSU and UC transferable course.

### Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

- 1) Solve problems involving statics of particles.
- 2) Understand and perform calculations using vector algebra.
- 3) Solve problems involving moments of inertia.

### Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Solve introductory problems.
2. Solve problems involving statics of particles.
3. Solve problems involving equivalent systems of forces in rigid bodies.
4. Solve problems involving equilibrium of rigid bodies.
5. Solve problems involving centroids and centers of gravity.
6. Solve problems involving analysis of structures.
7. Solve problems involving forces in beams and cables.
8. Solve problems involving friction
9. Solve problems involving moments of inertia
10. Solve problems involving the method of virtual work.

### Textbooks & Other Resources or Links

**Text Book: Engineering Mechanics: Statics (13th Edition)**

- **ISBN-10:** 0132915545
- **ISBN-13:** 978-0132915540

PDF version may possibly available.

### Course Requirements and Instructional Methods

**Out of Class Assignments:** The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement. Students will have to become familiar with text book and text book type problems, nomenclature and symbols.

**Recommend:** *Scientific or Graphing Calculator, Ruler, Graphing or Engineering paper.*

### Course Grading Based on Course Objectives

<b>Homework</b>	<b>10%</b>
<b>Exams (Three Exams)</b>	<b>60%</b>
<b>Comprehensive Final</b>	<b>30%</b>

**Grading Scale:**

<b>90-100%</b>	<b>A</b>	<b>80-89%</b>	<b>B</b>	<b>70-79%</b>	<b>C</b>	<b>60-69%</b>	<b>D</b>	<b>0-59%</b>	<b>F</b>
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Homework will be handed out at the beginning of each chapter and collected at the beginning of the class on the specified dates below.

### Attendance

**IVC Attendance Policy:**

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

### Classroom Etiquette

- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- **Food and Drink** are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- **Disruptive Students:** Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).

- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

### Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

### Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- [Blackboard Support Site](#). The Blackboard Support Site provides a variety of support channels available to students 24 hours per day.
- [Learning Services](#). There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- [Library Services](#). There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

### Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

### Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- [Student Health Center](#). A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District and El Centro Regional Center provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6310 in Room 2109 for more information.
- [Mental Health Counseling Services](#). Short-term individual, couples, family, and group therapy are provided to currently enrolled students. Contact the IVC [Mental Health Counseling Services](#) at 760-355-6196 in Room 2109 for more information.

### Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

### Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

### Anticipated Class Schedule/Calendar

\*\*\*Tentative, subject to change without prior notice\*\*\*

Date or Week **Homework due date	Activity	Topics
<b>Week 1</b> 8/18/15 8/20/15	Syllabus & Introduction Chapter 1, <i>General Principles</i> Chapter 2, <i>Force Vectors</i>	Quantities, Newton's Law of Motion, SI System of Units, Summation of Forces, Vectors in Cartesian Plain
<b>Week 2</b> 8/25/15 8/27/15	Chapter 2, Continued Chapter 3, <i>Equilibrium of a Particle</i>	Dot Product, Projection of Vectors. Particle Free body Diagram, Equilibrium problems and equations.
<b>Week 3</b> 9/01/15** 9/03/15	Chapter 3, Continued Chapter 3, Continued	Particle Equilibrium, Two Dimensional and Three dimensional problems.
<b>Week 4</b>		Moment of Force Scalar/vector. Moment about an

<b>Date or Week **Homework due date</b>	<b>Activity</b>	<b>Topics</b>
9/08/15** 9/10/15	Chapter 4, <i>Force System Resultants</i> Chapter 4, Continued	Axis, Couple Moment, Simplification of Force and couple system. Coplanar loading.
<b>Week 5</b> 9/15/15** 9/17/15	<b>EXAM I(Chapters 1-4)</b> Chapter 5, <i>Equilibrium of a Rigid Body</i>	Equilibrium for two dimensional and three dimensional analyses.
<b>Week 6</b> 9/22/15 9/24/15	Chapter 5, Continued Chapter 5, Continued	Cartesian vector Analysis, Determinacy and stability.
<b>Week 7</b> 9/29/15** 10/01/15	Chapter 6, <i>Structural Analysis</i> Chapter 6, Continued	Simple Truss, Method of joints, Method of Sections, Space Truss, Frames and Mechanics.
<b>Week 8</b> 10/06/15 10/08/15**	Chapter 6, Continued Chapter 7, <i>Internal Forces</i>	Internal Loading, Shear and Moment Diagrams.
<b>Week 9</b> 10/13/15 10/15/15	Chapter 7, Continued Chapter7, Continued	Relations between shear and moment, characteristics of cables.
<b>Week 10</b> 10/20/15** 10/22/15	Chapter 8, <i>Friction</i> Chapter 8, Continued	Dry Friction, Wedges, Screws, Flat Belts, Collar Bearings and Disk,
<b>Week 11</b> 10/27/15 10/29/15**	Chapter 8, Continued <b>EXAM II(Chapters 5-8)</b>	Journal Bearings, Rolling Resistance.
<b>Week 12</b> 11/03/15 11/05/15	Chapter 9, <i>Center of Gravity and Centroid</i> Chapter 9, Continued	Center of Gravity and Centroid, Composite Body, Theorems, Distribution Loading, Fluid Pressure,
<b>Week 13</b> 11/10/15 11/12/15**	Chapter 9, Continued Chapter 10, <i>Moments of Inertia</i>	Area Moment of Inertia, Parallel-Axis Theorem, Composite Area.
<b>Week 14</b> 11/17/15 11/19/15	Chapter 10, Continued Chapter 10, Continued	Product/Principal moment of Inertia, Mass Moment of Inertia.
<b>Week 15</b> 12/01/15 12/03/15**	Chapter 11, <i>Virtual Work</i> <b>EXAM III (Chapters 9-11)</b>	Principles of Virtual Work.
<b>Week 16</b> 12/08/15 12/10/15	REVIEW for exam. <b>FINAL EXAM</b> (Date to be confirmed)	Review and Final