

### Basic Course Information

Semester:	<b>Fall 2016</b>	Instructor Name:	<b>Jill Nelipovich</b>
Course Title & #:	<b>Linear Algebra</b>	Email:	<b>jill.nelipovich@imperial.edu</b>
CRN #:	<b>10138</b>	Webpage (optional):	Canvas
Classroom:	<b>2725</b>	Office #:	<b>2768</b>
Class Dates:	<b>8/15/15 – 12/9/15</b>	Office Hours:	<b>M/W: 10:15 – 11:45 W: 9:45 – 10:15 p.m. Th: 7:30 – 8:00 a.m. F: 10:30 - 11:00 a.m.</b>
Class Days:	<b>MW</b>	Office Phone #:	<b>760-355-6297</b>
Class Times:	<b>2:00 – 3:25 p.m.</b>	Emergency Contact:	<b>Math Office: 760-355-6155</b>
Units:	<b>3</b>		

### Course Description

A first course in linear algebra intended for students majoring in mathematics, the physical sciences, engineering or business. This course develops the techniques and theory needed to solve and classify systems of linear equations. Solution techniques include row operations, Gaussian elimination, and matrix algebra. Investigates the properties of vectors in two and three dimensions, leading to the notion of an abstract vector space. Vector space and matrix theory are presented including topics such as inner products, norms, orthogonality, eigenvalues, eigenspaces, and linear transformations. Selected applications of linear algebra are included. (CSU, UC)

### Course Objectives

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

1. Find solutions of systems of equations using various methods appropriate to lower division linear algebra.
2. Use bases and orthonormal bases to solve problems in linear algebra.
3. Find the dimension of spaces such as those associated with matrices and linear transformations.
4. Find eigenvalues and eigenvectors and use them in applications.
5. Prove basic results in linear algebra using appropriate proof-writing techniques such as linear independence of vectors; properties of subspaces; linearity, injectivity and surjectivity of functions; and properties of eigenvectors and eigenvalues.

### 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. Perform matrix operations, and compute determinants, eigenvalues,/vectors, and inverses. (ILO2)
2. Understand and apply the relationship between linear transformations, matrices and systems of equations. (ILO2)
3. Analyze, synthesize, and evaluate theorems in Linear Algebra. (ILO2)

### Textbooks & Other Resources or Links

- Lay, David 2011. *Linear Algebra and Its Applications* 4th. Addison Wesley ISBN: 978-0321385178.
- Scientific Calculator

### Course Requirements and Instructional Methods

- Homework will be posted in [Canvas](#) and collected on the day of the exam.
- 8 Take-home quizzes.
- Project
- Exams – 5 exams
- Final Exam - cumulative

**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.

### Course Grading Based on Course Objectives

Exams – 4	60%	A: $90\% \leq x \leq 100\%$
Homework	5%	B: $80\% \leq x < 90\%$
Take-home quizzes	5%	C: $70\% \leq x < 80\%$
Project	5%	D: $60\% \leq x < 70\%$
Final Exam	25%	F: $0\% \leq x < 60\%$

### Attendance

- 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.

- [Math Lab](#) – Room 2500 (next to the gym)  
The Math Lab offers walk-in tutoring. The lab is not set up for individualized appointments. There are several computers to utilize to assist in completing online homework.
- [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.

### **Military & Veteran Success Center – BLDG 600 Room 604**

- [Military & Veteran Success Center](#) website
- Contact Information: 760-355-6141; Email [mvscenter@imperial.edu](mailto:mvscenter@imperial.edu)
- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, disabilities) are welcome and encouraged to communicate these, in advance if possible, to the instructor (Veteran Affairs, 2014).
- Dependents of Veterans - Please feel welcome to use the services as well

### **Foster Youth**

- If you are a foster youth, there are services available for you to use. Please make an appointment with an EOPS counselor and he or she will assist you in navigating the resources necessary for the successful completion of your goals.
- EOPS office 760-355-6407
- [Foster Youth](#) website

### **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.

Imperial Valley College Course Syllabus – Linear Algebra – Math 230

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Week 1	Assignments	Week 5	Assignments	Week 9	Assignments	Week 13	
8/15	1) Introduction 2) 1.1	9/12	1) 2.1	10/10	1) Due: THQ - #4 2) 4.5, 4.6	11/07	1) Due:THQ#7 2) 6.3 3) 6.4
8/17	1) 1.2 2) <b>THQ - #1</b> (THQ – Take home quiz)	9/14	1) 2.2, 2.3 2) <b>THQ - #3</b>	10/12	1) 4.8, 4.9 2) <b>THQ - #5</b>	11/09	1) 7.1 2) <b>THQ - #8</b>
Week 2		Week 6		Week		Week 14	
8/22	1) Due: THQ-#1 2) 1.3, 1.4	9/19	1) Due: THQ #3 2) 3.1	10/17	1) Due: THQ - #5 2) 5.1/Review	11/14	1) Due: THQ#8 2) Review
8/24	1) 1.4, 1.5 2) <b>THQ-#2</b>	9/21	1) 3.2, 3.3 2) THQ #3	10/19	<b>Exam 3</b> <b>Chapters 4.1-4.3,</b> <b>4.5-4.6, 4.8 – 4.9</b>	11/16	<b>Exam 4</b> <b>Chapters</b> <b>5.1 -5.4, 5.6,</b> <b>5.7, 6.1 – 6.4</b>
Week 3		Week 7		Week 11		Week 15**	11/19-11/23 holiday
8/29	1) Due: THQ - #2 2) 1.6,1.7	9/26	1) 4.1/Review	10/24	1) 5.2 2) 5.3	11/28	1) Review
8/31	1) 1.8, 1.9	9/28	<b>Exam 2</b> <b>Chapters</b> <b>2.1 – 2.3, 3.1 – 3.3</b>	10/26	1) 5.3 2) 5.4 3) <b>THQ - #6</b>	11/30	1) Review
Week 4		Week 8		Week 12		Week 16	
9/05	<b>Holiday</b>	10/3	1)4.2	10/31	1) Due: THQ #6 2) 5.6, 5.7	12/05	1) Review 2) Project Due
9/07	<b>Exam 1</b> <b>Chapters</b> <b>1.1 – 1.9</b>	10/5	1)4.3, 4.5 2) <b>THQ - #4</b>	11/02	1) 6.1 2) 6.2 3) <b>THQ - #7</b>	12/07	<b>Final Exam</b>