IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Spring 2025**	Instructor Name:	**Humberto Pena**
Course Title & #:	**Number systems in Elem Math (Math 110)**	Email:	**humberto.pena@imperial.edu**
CRN #:	**20050**	Webpage (optional):	**N/A**
Classroom:	**2722**	Office #:	**N/A**
Class Dates:	**Feb 10 – Jun 6**	Office Hours:	**Fridays via zoom, 1:00 – 2:00 PM**
Class Days:	**Mondays and Wednesdays**	Office Phone #:	**N/A**
Class Times:	**08:00 – 9:25 AM**	Emergency Contact:	**email**
Units:	**3**	Class Format/Modality:	**In person**

Course Description

This course focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including real number systems and subsystems. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. (C-ID: MATH 120) (CSU, UC credit limited. See a counselor.)

Course Prerequisite(s) and/or Corequisite(s)

PREREQUISITES: *- Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.*

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. *Demonstrate knowledge of operations and properties by creating story problems.*
2. *Demonstrate knowledge of operations by modeling the solutions.*
3. *Demonstrate an understanding of place value by counting in bases other than ten.*

Course Objectives

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

1. *Perform calculations with place-value systems*
2. *Evaluate the equivalence of numeric algorithms and explain the advantages and disadvantages of equivalent algorithms in different circumstances.*
3. *Apply algorithms from number theory to determine divisibility in a variety of settings.*
4. *Analyze least common multiples and greatest common divisors and their role in standard algorithms.*
5. *Explain the concept of rational numbers, using both ratio and decimal representations; analyze the arithmetic algorithms for these two representations and justify their equivalence.*
6. *Analyze the structure and properties of whole, rational, and real number systems; define the concept of rational and irrational numbers, including their decimal representation; and illustrate the use of a number line representation.*
7. *Develop and reinforce conceptual understanding of mathematical topics through the use of patterns, problem solving, and communication, connections, modeling, reasoning and representation*
8. *Develop activities implementing curriculum standards*

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Textbooks & Other Resources or Links

Sowder L., Sowder J., Nickerson. S., Whitacre I. 2023. Reconceptualizing Mathematics. 4th W.H. Freeman & Company. ISBN: Printed Text: 9781319303730; E-Text: 9781319483135.

Course Requirements and Instructional Methods

The classroom: Classroom time will consist of lecture and select practice exercises. I highly encourage you to participate in class and ask questions, no matter how trivial it seems. The course will follow a particular pace to make sure we cover everything in class, but I am more than willing to slow down and re-explain or re-do an example if asked to. All three exams and the final will be taken in person and will be graded no later than two weeks after the exam has been completed.

Outside the classroom: You will be expected to complete your homework outside of class time. It is your responsibility to check the due dates for any homework assigned. You will also be expected to study accordingly for your exams. If you feel like you could use some extra help, I invite you to attend my office hours via zoom on Fridays OR go to the tutoring services offered by Imperial Valley College.

Course Grading Based on Course Objectives

The overall course will of a set of homework for each chapter we cover, three exams, and one final exam, which will be weighted as follows:

Homework	**15%**
Participation	**10%**
Exams	**45% (3 exams, 15% each)**
Final Exam	**30%**

Once everything has been graded, the grade distribution will be as follows:

100% - 90%	**A**
89% - 80%	**B**
79% - 70%	**C**
69% - 60%	**D**
59% - 0%	**F**

If for some reason you find yourself unable to complete a homework assignment by the due date, please contact me ASAP so that we may discuss the situation on an individual basis.

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to

do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Course Policies

Attendance: All students are expected to attend every class session. Incidentally, you must attend the first meeting of the course. For those who are enrolled but not present on the first day of class, as per the college's policy, will be dropped from the class. Constant absences are also grounds for dropping you from the course. If you have an emergency, please email me or let me know somehow to take it into consideration. ***Long story short, come to class!***

Academic honesty: You are expected to show your own work in both homework and exams. Cheating is not tolerated by Imperial Valley College under any circumstance. Anyone caught cheating will receive a zero on the assignment/exam and will be reported to the Campus Disciplinary Officer who may file an incident report. Multiple instances of cheating will result in a failing grade (F) 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. ***Another long story short, don't cheat!***

Classroom behavior: You are expected to respect everyone around you, including your professor(s), fellow peers, and the classroom environment. Instances of disruptive behavior will result in me asking you to leave the classroom for the day. Multiple instances will result in filing a report with the Campus Disciplinary Officer.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Week	Topic	Important Dates
Week 1 Feb 10 – 14	Syllabus & Chapter 1	
Week 2 Feb 17 – 21	Chapter 1	No class on 02/17
Week 3 Feb 24 – 28	Chapter 2	
Week 4 Mar 03 – 07	Chapter 2	
Week 5 Mar 10 – 14	Review, Exam 1	Exam on 03/05
Week 6 Mar 17 – 21	Chapter 3	
Week 7 Mar 24 – 28	Chapter 3, 4	

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Week	Topic	Important Dates
Week 8 Mar 31 – Apr 04	Chapter 5	
Week 9 Apr 07 – 11	Chapter 5	
Week 10 Apr 14 – 18	Review, Exam 2	Exam 2 on 04/16
Week 11 Apr 21 – 25	SPRING BREAK (No class)	No class from Apr 21 – 25
Week 12 Apr 28 – May 02	Chapter 6	
Week 13 May 05 – 09	Chapter 7	
Week 14 May 12 – 16	Chapter 11	
Week 15 May 19 – 23	Review, Exam 3	Exam 3 on 05/21
Week 16 May 26 – 30	Cumulative review	
Week 17 June 02 – 06	Final Exam	Final exam on 06/02

*****Subject to change without prior notice*****