

Basic Course Information

Semester:	Fall 2017	Instructor Name:	Caroline Bennett
Course Title & #:	Math 240: Discrete Mathematics	Email:	caroline.bennett@imperial.edu
CRN #:	10139	Webpage (optional):	N/A
Classroom:	Building 2700; Room 2725	Office #:	Building 2700; Room 2765
Class Dates:	08/14/17 – 12/8/17	Office Hours:	M W 11:45 – 12:45; T Th 4:30 – 5:30
Class Days:	Mon / Wed	Office Phone #:	(760) 355 – 6124
Class Times:	6:30 pm – 7:55 pm	Emergency Contact:	(760) 355 – 6155
Units:	3.0		or (760) 355 – 6201

Course Description

This course is an introduction to the theory of discrete mathematics and introduces elementary concepts in logic, set theory, graph theory, number theory and combinatorics. This forms a basis for upper division courses in mathematics and computer science, and is intended for the transfer student planning to major in these disciplines. The topics covered in this course include methods of proof, sets and relations, number theory, induction, recursion, counting principles, permutations, combinations, and graph theory. (CSU, UC)

Course Prerequisite(s)

Math 192 with a grade of “C” or better.

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. Use a truth table to test the validity of an argument. (ILO1, ILO2, ILO4)
2. Construct proofs of mathematical statements using standard techniques, including induction. (ILO1, ILO2, ILO4)
3. Apply graph theory to real world situations. (ILO1, ILO2, ILO4)

Course Objectives

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

1. Use recursion to analyze algorithms and programs.
2. Write proofs using symbolic logic and Boolean Algebra.
3. Use sets to solve problems in combinatorics and probability theory.
4. Apply matrices to analyze graphs and trees.
5. Use finite state machines to model computer operations.

Textbooks & Other Resources or Links

a. Option 1: *Discrete Math w/Graph Theory, 3E* by Goodaire & Parmenter, Pearson, 2006
ISBN: 9780131679955 (Available at IVC Bookstore)

b. Option 2: *Discrete Math w/Apps, 4E* by Susanna Epp, Brooks/Cole Publisher, 2010
ISBN: 9780495391326 (**FREE pdf download**)

Course Requirements and Instructional Methods

HOMWORK, as you know by now, should always be taken seriously in a math class, regardless of its point value. Some of the concepts in this course are likely to be very different than the type of math you are accustomed to studying. We will be entering levels of abstraction that may be new to you. Therefore, it is more important than ever that you stay caught up, begin homework as soon as possible after it is assigned, and seek help immediately if you need it. If you are generally somewhat of a “loner” when working on math homework, consider getting together and working with classmates this semester, at least once in a while, and see if it helps.

Here are some general tips for success:

- 1) Form a study group and work through homework problems together with classmates. The back rooms in Math Lab are good places to study and work together with classmates.
- 2) If there is a particular homework problem or concept you would really like to see in class, ask me before or at the beginning of class. I will try to accommodate requests if there is time; if there is not sufficient time, then we can arrange to meet after or outside of class for help.
- 3) Take advantage of the free tutoring resources on campus (see last page for details).

Homework problems may be assigned from the Epp textbook; additionally, homework projects may be assigned in the form of typed handouts posted to Blackboard.

HOMWORK QUIZZES: There will be some quizzes sprinkled throughout the semester; these will be announced in class and on Canvas. They are not listed in the syllabus calendar, as their dates are dependent upon the pace and progress of the class. These are called “homework quizzes” because they come directly from the exercises in the Susanna Epp free online text. Therefore, the best way to prepare for them is to stay caught up with the recommended exercises from that text.

Homework quizzes are open-note. You can use your lecture notes and/or homework scratch work. You may also work in groups of up to 4 students (quizzes only – NOT during exams). All group members from each group receive the same quiz score.

MAKE-UPS: There are no make-up exams. Do not miss a scheduled exam. No exam scores will be “dropped”. However, your lowest regular exam grade may be replaced by your final exam percentage if that improves your overall grade. If you miss an exam (only one exam), then that will count as the lowest score to be replaced by the final exam score.

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. The Western Association of Schools and Colleges (WASC) has adopted a similar requirement. **Since this is a 3 unit class, this means that you should expect and plan for a minimum of 6 hours to be spent working on math *outside of class* each week.**

PACE: This course will move quickly, as all college math courses do. Because we only meet twice per week, we must cover a lot of material during each class period. It is critical that you stay caught up, avoid missing class, avoid falling behind, stay organized, ask questions, and get additional help whenever necessary.

Course Grading Based on Course Objectives

EVALUATION:

Projects	175
Group Quizzes	50
3 exams × 175 points each	525
Final Exam (cumulative)	<u>+ 250</u>
	1000

GRADING SCALE

900 – 1000	A
800 – 899	B
700 – 799	C
600 – 699	D
Below 600	F

The grade that is earned, according to the point scale above, is the grade that will be received. Grades are not subjective. Grades are not negotiable. All students will be treated equally.

NOTE: The final exam in this course is cumulative and mandatory for all students

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.

Any in-class activities or worksheets that are missed due to an absence CANNOT be made up. Furthermore, on quizzes and exams you are responsible for all material covered in class, regardless of whether or not you were here. Therefore, if you do miss class, you should obtain any missed worksheets or other materials from the instructor, and obtain lecture notes from a classmate.

Attendance is crucial to your success in this course. You are expected to attend every class and **remain during the entire class. Leaving class early without prior consent from the instructor counts as an absence, and** costs points. If you cannot commit to being in class during the regularly scheduled time (Monday/Wednesday, 6:30 – 7:55 pm), then you should drop this class and take it during a different semester or at a different school. If you have 4 unexcused absences, I may drop you from the course.

Although you may be dropped for excessive absences, you should never *assume* the instructor has dropped you if you simply stop showing up. It is your responsibility to ensure that you have dropped through WebSTAR by the deadline (November 4, 2017) to receive a “W” instead of a failing grade.

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 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) use of a commercial term paper service.

- The consequences of academic dishonesty are severe and may include the possibility of expulsion. For further information, refer to the Standards of Student Conduct on p. 36 and pp. 43-44 of the 2017-2018 General Catalog.

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](#). [See pp. 43 – 44]
- **Children in the classroom:** Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

School is place to act with respect. Remember that different students have different paces and styles of learning, and that all students have the right to ask questions in class. As a student, you have the right to a safe and comfortable learning environment. **You do not have the right to impinge on other students' learning. Talking or other disruptive classroom behavior WILL affect your grade.**

How to LOSE points during class:

- **5 POINTS: Talking while the teacher is talking,** or being otherwise disruptive during lecture.
- **10 POINTS: Packing up and leaving in the middle of lecture.** Leaving during the break is bad enough, since you miss a lot of information during one section of class, and you cannot make up any in-class worksheets or other activities that you missed. So, you lose points in that regard. But, packing your things and leaving in the middle of lecture is hugely disruptive and rude. You will lose an automatic additional 10 points with each offense.

If you really must leave early due to an urgent situation, then you should notify the teacher before class (if at all possible). This should be a rare occurrence, not a frequent one.

Cell phones and other electronic devices:

- Turn OFF all cell phones and electronic devices before class, and especially during exams.
- Cell phones that are on “vibrate” mode are STILL DISRUPTIVE.
- Leaving the room to answer cell phones that are in “silent” mode is disruptive and unacceptable. Take care of private calls/texting on your own time.
- Students who are texting/playing on their phones during class may be asked to leave, with an unexcused absence given for the day. **If you do not plan to engage in class, then don't bother coming!**
- The use of text messaging or other electronic devices for cheating on tests will be treated with the same seriousness as any other form of cheating (see ACADEMIC HONESTY above). Cell phones may NOT be used as calculators during exams.

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.

- **CANVAS LMS:** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **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 provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College’s success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students’ access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC’s Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

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

(*With the exception of the Final Exam, these dates are tentative and subject to change with advance notice!)

Week	Dates	Weekly Goals
1	8/14, 8/16	Chapter 1
2	8/21, 8/23	Chapter 1
3	8/28, 8/30	Chapter 2
4	9/4, 9/6	9/4 is a holiday (Labor Day); Chapter 3
5	9/11, 9/13	Chapter 3, Chapter 4
6	9/18, 9/20	Chapter 4; Exam 1
7	9/25, 9/27	Chapter 4
8	10/2, 10/4	Chapter 4, Chapter 5
9	10/9, 10/11	Chapter 5
10	10/16, 10/18	Chapter 6
11	10/23, 10/25	Chapter 7, Exam 2
12	10/30, 11/1	Chapter 7
13	11/6, 11/8	Chapter 8
14	11/13, 11/15	Chapter 9, Chapter 10
	11/20, 11/22	THANKSGIVING WEEK – NO CLASSES
15	11/27, 11/29	Chapter 10; Exam 3
16	12/4, 12/6	Review; Final Exam

IMPORTANT DATES AND DEADLINES:

- August 26 Last day to withdraw without owing fees and/or be eligible for a refund
Last day to add a class
- August 27 Last day to withdraw without course appearing on transcripts (without receiving a “W”)
- November 4 Last day to withdraw and receive a “W”
- December 6 Final Exam (comprehensive)

ON-CAMPUS TUTORING RESOURCES:

Math Lab

Building 2500

Mon. – Thurs.: 8 a.m. – 9 p.m.

Friday: 8 a.m. – 5 p.m.

Saturday: 8 a.m. – 1 p.m.

(760) 355 – 6160 (Zhong Hu)

(760) 355 – 6187 (Rosario Marin)

Study Skills Center

Located in the Library

Mon. – Thurs.: 9 a.m. – 7 p.m.

Friday: 9 a.m. – 5 p.m.

Saturday: Closed

(760) 355 – 6384 (Josue Verduzco)

Additional Math/Science Tutoring

Building 2600

Mon. – Thurs.: 9 a.m. – 5 p.m.

Friday: 9 a.m. – 5 p.m.

Saturday: Closed

Phone: (760) 355 – 6392

“Never regard your study as a duty, but as the enviable opportunity to learn to know the liberating influence of beauty in the realm of the spirit for your own personal joy and to the profit of the community to which your later work belongs.” -- Albert Einstein

“Never regard your study as a duty, but as the enviable opportunity to learn to know the liberating influence of beauty in the realm of the spirit for your own personal joy and to the profit of the community to which your later work belongs.”

-- Albert Einstein

