

California State University Dominguez Hills

Computer Science Department

Course Syllabus, Spring 2023 Syllabus

CSC 281 Discrete Structures, 3 units

General Information

Class Time: Tu- Th 1:00-2:15 pm

Class Location: VIL 330

Professor: Dr. Sahar Hooshmand

Email: hooshmand@csudh.edu

Office Hours: Tu- Th 8:00-9:00 am via Zoom : <https://csudh.zoom.us/j/85694767621>

In some sessions, if it's necessary, we switch to online modality and we will have our sessions over Zoom. These sessions will be recorded and you can have access to them during the semester. You need to use this link for online sessions:

<https://csudh.zoom.us/j/81822446624>

Recommended Text Book

Discrete Mathematics and its Applications 7th Edition by Kenneth H. Rosen (ISBN: 0-07-338309-0, UCF Custom Version ISBN: 0-07-775885-4)

The course notes and accompanying files, along with online materials should suffice to learn the course material. Any collegiate-level text on Discrete Mathematics that covers the eight topics listed in the course description will be adequate for reference purposes.

Course Description

This course provides an introduction to discrete mathematics that is relevant to future computer science courses. Eight major topic areas will be covered: logic, sets, number theory, induction, counting, probability, functions, and relations.

Course Objectives

Solidify students' understanding of major aspects of Discrete math and enhance students' problem-solving ability

Student Learning Outcomes

- Have students learn all of the relevant definitions, symbols, proof techniques and other mathematical tools that are necessary to understand proofs and related material in upper level Computer Science courses
- Have students recognize the beauty and creativity in mathematics and to provide a basis for understanding the "method behind the madness" in proofs that seemingly come from nowhere.
- Have students realize that competency in mathematics is mostly based on hard work and practice, not innate talent.
- Have students realize that although there are many truly creative steps in mathematical proofs, the general structure of direct proof, proof by cases, and proof by contradiction are NOT creative and can be reliably set up once a student understands the abstract general structure of these proof techniques.

Score Distribution and Course Requirements

Quizzes: 25%, Assignments: 25%, Midterm Exams: 25%, Final exam: 25%

- **4 Quizzes**
- **6 Assignments**
- **Midterm Exam**
- **Final Exam:** The final exam is cumulative and will be held according to the university final exam schedule.

Assignments

- All assignments are to be done on the Blackboard site. No exceptions. To use the site with a Windows PC, you must be on a Windows 7 or higher computer running Google Chrome or Mozilla Firefox.
- **Deadlines:** All assignments for the course are to be completed and submitted on time in order to receive consideration for full credit of the assignment. No late submission will be accepted after the last day of the course.
- **Make-up Work:** Late work is not permitted for any assignment in this course. No make-ups are available for any homework, or examination in this course.

Late Work

You are expected to submit assignments by the deadlines. Late work will not be accepted unless you experience a documentable and unforeseeable emergency. You are also expected to log into the course websites to submit assignments.

**NOTE: If you are no longer participating in the class it is your responsibility to drop or withdraw yourself from the course. It is not the instructor's responsibility to drop students who are no longer participating in the class.

Tentative Grading Scale

Score Range	Grade	Score Range	Grade	Score Range	Grade
≥ 94	A	[90, 94)	A-	[86, 90)	B+
[82, 86)	B	[78, 82)	B-	[74, 78)	C+
[70, 74)	C	[64, 70)	C-	[60, 64)	D+
[56, 64)	D	[0, 56)	F		

Course letter grades:

For all assignments, their numerical grading equivalent, and course grade, the grading criteria is described as follows:

A – Outstanding Work: In addition to the criteria for a “B”, superior knowledge regarding details, assumptions, implications, history; superior thinking with information relevant to application, critique, and relationship to other information. An outstanding mastery of the subject with excellence evident in preparation for and attendance in class sessions, curious and retentive mind, unusual ability to analyze and synthesize material, with a positive attitude making productive contributions to the learning community in the classroom.

B – Above Average Work: In addition to the criteria for a “C”, more than adequate knowledge regarding technical terms, distinctions, and possesses an ability to use information. Above average student in terms of attendance, preparation, time management, mostly consistent in test taking, and attitude.

C – Average Work: Basic knowledge needed to function and carry on learning regarding major principles, central terms, major figures, also possesses an awareness of field or discipline. Average or typical student in terms of attendance, preparation, time management, inconsistent test taking, and attitude.

D – Below Average Work: Serious gaps in knowledge, confusion of concepts and categories, inability to recall basic information. Below average or atypical student in terms of attendance, preparation, time management, inconsistent test taking, and attitude--minimally passing in performance.

F – Not Acceptable Work: Absence of knowledge, incapable of carrying on a conversation about the subject, misunderstands most concepts, confuses all categories-- Inadequate/insufficient performance. Repeat course.

**Students need to receive at least “C” to pass the course.

Required Computer Software/Hardware Capabilities

A computer with various software installed, such as Chrome, PowerPoint reader, Word reader and PDF reader, will be required. Students could use the computers in the lecture room or other computer labs on campus, and all required software has been successfully installed. Students could also choose to use their own computers and install required software. If students have any problem with installing software, please contact university IT department (<https://www.csudh.edu/it/>).

Technology Requirements

- **Computer:** You must have access to a reliable computer for this course. If you are on campus, and do not have a laptop, you can check out a laptop from the IT User Services Help Desk via Technology Checkout Program. In addition, the CSUDH Toro Lab offers on campus access to workstations with a wide variety of commonly used software. Visit the CSUDH Academic Technology Online Courses Technical Requirements page for more information on technology requirements.
- **Email, Internet and Campus Wireless Network:** All email communications from this course will go through your Toromail. Toromail is the CSUDH student email system. Internet and Campus Wireless Network: You must have Internet access to participate in this course. If you are on campus, connect your laptop and mobile device to the internet using the eduroam campus wireless network.
- **Office 365:** Course work will require you to submit work in Word format (.docx files). Active CSUDH students have access to Office 365 (Word, Excel, PowerPoint) for personal desktop and laptop computers at no cost.
- **Zoom:** Make sure Zoom is installed on your device and you can log into it using your CSUDH ID.
- **Technical Help and Any Other Questions:** If you have any other questions or need technical help, please visit Division of Information Technology page.

Computer Literacy Skills Expectations

It is expected that students will

- Have regular access to computers and internet access for the term of this course;
- Be familiar with using email as a communication tool and check your campus email account at least every other day;
- Be able to access online course materials, and open the materials and finish the required problems using applications, such as online tools, PowerPoint reader, Word reader and PDF reader;
- Do research on their own to solve problems in and after the lecture classes.

Academic Integrity

Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. **All work turned in by a student for a grade must be the students' own work.**

Plagiarism and **cheating** (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course. Plagiarism is a

serious offense and has far-reaching negative impacts on yourself, your class, and the institution. Any suspicion of plagiarism will be reported and investigated, and anyone that has been proven to commit acts of plagiarism will fail my class.

Electronics Device Usage: During exams/quizzes using any kind of electronic devices will result in automatic failure for the course (this includes checking messages on the phone from your friend); if there is an emergency inform the instructor. CSUDH Academic Integrity policies are listed in the Catalog. Students are supposed to know what they are, including definitions of cheating, plagiarism, and dishonesty. The following link can be referred for additional information: <http://www4.csudh.edu/student-rights/academic-integrity/>.

Student Academic Appeal Process:

Authority and responsibility for assigning grades to students rest with the faculty. A grade appeal is permitted when a student can show clear evidence that a grade was contrary to procedures as specified in the course syllabus, was based on prejudice, was capricious, or was the result of computational or clerical error. The presumption is that the grades assigned are correct until there is a clear demonstration otherwise. The burden of proof is heavy, and it rests with the student who is appealing.

CSUDH Standards of Student Conduct

All students must conform to the [Standards of Student Conduct](#), which have been established by students and college staff and have been approved by the Board of Trustees. The Standards of Student Conduct are listed in the

Academic Policies section of the university Catalog.

Knowing Your Responsibilities

CSUDH provides you with a wide variety of academic assistance and personal support, but it is up to you to know when you need help and to seek it out. It is your responsibility to keep informed and to obey the rules, regulations and policies which control your academic standing and your life as a CSUDH student. Meeting deadlines, completing prerequisites and satisfying the degree and certificates requirements, as found in the curriculum guides in this catalog, are all part of your duties as a student. Consult this catalog, the college and school announcements and the schedule of classes for the information you need. Watch for official announcements.

Academic Honesty

Lack of honesty in the classroom is considered a very serious offense. Any form of cheating on tests, turning in work which is not one's own (plagiarism), talking during tests, furnishing false information to instructors or knowingly misrepresenting one-self to the college is grounds for disciplinary action. The consequences of cheating are severe and may include the possibility of expulsion. Visit the [CSUDH Academic Integrity page](#) for more information.

Instructor's Rights

An instructor has the right to remove a student from class at any time he/she considers a student's actions to be interfering with a proper collegiate environment. The instructor may also refer the incident to the Director of Student Discipline & Student Life for disciplinary action as warranted.

Incompletes: The grade of I is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I will not consider giving a student a grade of I unless the following three conditions have been met.

1. It is within two weeks of the end of the semester.
2. The student has a grade of C or better in the class.
3. The reason that the student cannot complete the class is properly documented and compelling.

Americans with Disabilities Act

CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Student Disability Resource Center (SdRC) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the SdRC. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or go to: <https://www.csudh.edu/sdrc/>

Resources for Students in Need

Students occasionally have financial difficulties. There are several resources on campus that may be available to you if you find yourself in need of food, shelter, or other help. Food pantries are in LSU 121 and SCC 148. You can find these and other resources through Toro Food Pantry on ToroLink and here: <https://torolink.csudh.edu/organization/torofoodpantry>.

Behavioral Standards:

Disruptions of class will not be permitted. Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

Examples of disruptive behavior include:

- Allowing a cell phone or pager to repeatedly beep audibly
- Playing music or computer games during class in such a way that they are visible or audible to other class members
- Exhibiting erratic or irrational behavior
- Behavior that distracts the class from the subject matter or discussion
- Making physical or verbal threats to a faculty member, teaching assistant, or class member
- Refusal to comply with faculty direction
- Performing a distracting repetitive act such as talking to others
- Email harassment
- Sleeping or reading a newspaper and/or magazine

The contents of course material provided by the instructor, the links contained therein directly and indirectly, and the contents of the said links, are copyrighted. They are provided exclusively for non-profit educational use by the students currently enrolled in this course and for the duration of this semester. No other use or any use by others is allowed without authorization of the instructor in this course and copyright holder(s). No videotaping or recording without instructors' prior permission is allowed in class.

Zoom

In case the class is online over Zoom: This course will use Zoom web conferencing software for online meetings/office hours/online lectures. Go to the [Zoom download page](#) to download and install the Zoom Client for Meetings on your desktop or laptop. Zoom is also available for mobile and tablet devices on the [App Store](#) (iOS) and [Google Play](#) (Android). Visit the [CSUDH Academic Technology Tutorials page](#) for information on using Zoom.

Important Dates.

For more information on campus holidays, visit the [CSUDH Academic Calendar page](#).

Quiz1: February/23

Quiz2:March/09

Midterm: March/16

Quiz3:April/27

Quiz4: May/9

Final: May/16

Blackboard Learn

You may access the course through Blackboard Learn <https://toro.csudh.edu>. You have the flexibility in an online course to study and participate according to your work and personal schedule within each week of study. However, you must still complete assignments by their required due dates.

Your challenge is to dedicate the required time for study within your personal schedule. This syllabus, including the schedule and due dates, should support you in managing time effectively. Marking your study and your online discussion time in your personal calendar also will help.

As part of your personal schedule, make sure you check the Announcements and my Online Office several times a week so that you can see if I have posted any new information about the course.

Need Help with Using Blackboard?

If you are new to Blackboard or unfamiliar with a specific feature of Blackboard, [CSUDH Academic Technology](#) offers a series of PDF and video-based tutorials. Visit the [CSUDH Academic Technology Tutorials page](#) for more information.

Student / Instructor Communication

- I will generally respond to messages sent to me within 24 hours.
- Do not use blackboard mailing system.
- Just use my email address: hooshmand@csudh.edu

Tentative Course Outline and Schedule

The dates in the table are tentative, the actual topics covered on certain dates and the actual quiz/assignment/Midterm Exam dates might be different, and will be depending on the class progress.

Note that for all topics, several examples and questions must be provided by the instructor

days	Coverage
Jan 24, Jan26	Intro, logic
Jan 31 , Feb 2	logic
Feb 7, Feb 9	Sets, practice session
Feb 14, Feb 16	number theory
Feb 21, Feb 23	practice sessions, quiz 1
Feb 28, Mar 2	Induction
Mar 7, Mar 9	practice sessions, quiz2
Mar14, Mar16	Midterm exam review, midterm exam
Mar 21, Mar 23	Counting
Mar 27, Mar30	Spring Break- no class

Apr 4, Apr 6	Counting, probability
Apr 11, Apr13	probability
Apr 18, Apr 20	practice sessions
Apr 25, Apr 27	Practice sessions, quiz3
May2, May4	Relations and functions
May9, May 11	Final exam review, quiz4
May 16	Final exam