



Welcome to Elements of Discrete Mathematics!

Course: Math 231
Quarter: Winter 2019
Classroom: WOH 126

CRN: 30280
Class Times: M,T,W,F 9-9:50
Credits: 4

Instructor: Shannon Harbert
Phone: 541.917.4634
Email: harbers@linnbenton.edu

Office: WOH132
Office Hours: M, W: 11-12 and R: 1-2

Prerequisites:
MATH 112 Trigonometry or equivalent
MATH 251 Differential Calculus recommended

Required Materials:

Mathematical Structures for Computer Science by Judith Gersting, 7th edition

Course Description:

MATH 231 is the first course in discrete mathematics for mathematics and computer science majors. Topics include elementary logic, mathematical induction, functions and sequences, finite and infinite sets, counting techniques, basic matrix algebra, relations, graphs and trees.

Tips for Success:

Come to class prepared.
Do your homework in a timely fashion.
Find help if you are confused.
Talk to me – office hours, email, phone.
Form a study group with other students.

Homework & Quizzes:

There will be a quiz based on your homework every Monday (Tuesday if Monday is a holiday). You may use your homework on the quiz. You may not use anyone else's homework or a photographed copy of anyone else's homework. You may not use your book. After the quiz, homework will be collected. Your score will be a combination of the homework and the quiz. No late quizzes will be given, I will drop your lowest quiz score. Late homework for a section will be accepted up until the test over that section has been given. It will be marked down 20%.

ICAs:

There will be various, unannounced in class assignments throughout the term.

Tests:

There will be 2 tests during the term and a cumulative final exam.

Please speak to me **BEFOREHAND** if you have to miss a test.

Grading:

| | |
|----------------------|----------------|
| Homework/Quizzes/ICA | 30% |
| 3 Tests | 45% (15% each) |
| Final Exam | 25% |

Scale:

| | |
|-----------|---|
| 90-100% | A |
| 80-89% | B |
| 70-79% | C |
| 60-69% | D |
| Under 60% | F |

No Y or WP grades will be given in this class.

Tentative Calendar for Winter Term:

| Week | Topics |
|------|------------------|
| 1 | Class Intro, 1.1 |
| 2 | 1.1, 2.1, |
| 3 | 2.2, 3.1 |
| 4 | Test 1, 4.2 |
| 5 | 4.2, 4.3 |
| 6 | 4.4, 5.1 |
| 7 | 5.4, 5.5 |
| 8 | Test 2 , 6.1 |
| 9 | 6.2, 7.2 |
| 10 | 7.3, Review |

Upon completion of the course, the student will be able to

1. Apply the definitions of elementary set theory to finite and infinite sets.
2. Construct both negations and contrapositives of compound and qualified statements using propositional calculus.
3. Construct both direct proofs (from definitions) and indirect proofs of simple statements.
4. Apply the First and Second Principles of Mathematical Induction to construct proofs of appropriate mathematical statements.
5. Construct and explain solutions to elementary combinatorics problems.

6. Relate concepts of elementary graph theory to problems in computer science.

Academic Honesty:

I assume that you are ethical and honest. However, if there is an incident of academic dishonesty (cheating), you will receive a score of zero for that test/assignment and the incident will be reported to the college administration for possible further disciplinary action. If there is a second offense, you will receive a grade of F for the course and the incident will be reported to the college administration with a recommendation for disciplinary action.

Special Circumstances:

Students who have any emergency medical information the instructor should know of, who need special arrangements in the event of evacuation, or students with documented disabilities who may need accommodations, should **make an appointment with the instructor as early as possible, no later than the first week of the term.**

Request for Special Needs or Accommodations

Direct questions about or requests for special needs or accommodations to the LBCC Disability Coordinator, RCH-105, 6500 Pacific Blvd. SW, Albany, Oregon 97321, Phone [541-917-4789](tel:541-917-4789) or via Oregon Telecommunications Relay TTD at [1-800-735-2900](tel:1-800-735-2900) or [1-800-735-1232](tel:1-800-735-1232). Make sign language interpreting or real-time transcribing requests 2-4 weeks in advance. Make all other requests at least 72 hours prior to the event. LBCC will make every effort to honor requests. LBCC is an equal opportunity educator and employer.

LBCC Comprehensive Statement of Nondiscrimination

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 in our [Board Policies and Administrative Rules](#). Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon. To report: linnbenton-advocate.symplicity.com/public_report

The instructor reserves the right to make changes to the syllabus/calendar at any time.