

**Discrete Math (tentative and evolving)**

**MTH 231 Spring 2020 CRNs : 43684**

Zoom Virtual Meeting Times: MTW,F: 9-11 (and by appointment)

**Zoom Meeting ID**: 266-855-221 **Password**: mathrocks

Instructor: Shannon Harbert Email: harbers@linnbenton.edu

**Course Materials:**

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| * Regular access to a computer and the internet. * 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.

**Prerequisite**: MTH 112 or equivalent with a grade of C or better with Math 251, Differential Calculus recommended.

**Outcomes:** *Upon successful completion of this course, students will be able to:*

* Apply the definitions of elementary set theory to finite and infinite sets.
* Construct both negations and contrapositives of compound and qualified statements using propositional calculus.
* Construct both direct proofs (from definitions) and indirect proofs of simple statements.
* Apply the First and Second Principles of Mathematical Induction to construct proofs of appropriate mathematical statements.
* Construct and explain solutions to elementary combinatorics problems.
* Relate concepts of elementary graph theory to problems in computer science.

***Grading****: STILL A WORK IN PROGRESS*

*Homework and ICAs 10%*

*Quizzes (openbook, ask a friend, no other sources) 25%*

*2 Tests 40% (20% 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.

A grade of Incomplete may be assigned at the discretion of the instructor under special circumstances. The student must have completed the majority of the course, been in regular attendance and passing the course prior to the “special circumstance.”

**Weekly class work (“In Class” work):**

These are short assignments or activities, given and completed the same week the material is covered. Typically you will work in small groups, putting what you just learned into immediate practice. If you are unable to attend the Zoom Meetings, you will still be able to download and complete these on your own or with your own zoom group. I am playing this by ear, these are typically in-class worksheets

***Please be prepared to upload your completed work as a pdf file. Please be sure items are numbered and pages are in order. One single combined document for each assignment is preferred. Find an easy to use PDF converter if needed. I know a lot of students like cam scanner.***

**Tests:** TBD!!! As a department we are still talking about how best to do assessments.

* Written Tests will have a 15-hour time limit and must be submitted on the scheduled day. No retakes for these tests.
* The *tentative* test dates are listed on the course calendar. If you have been missing class prior to a test, it is your responsibility to confirm the date of the test as it may change.

#### Expectations:

* I expect that my students will be involved in and working on this class several times a week. This includes asking questions and participating in group discussions, watching videos, etc.
* Spend **at least 9-12 hours per week working on this class.**
* You should log into Zoom meetings prepared (this means you should have your notebook, table/laptop, work, etc. ready).
* I expect you will be respectful of everyone in the class, in word as well as behavior. Discussion board posts should be respectful and supportive of the success of everyone in the class. We will all need extra patience and kindness this term.

# **------What can you do to be successful in this class?-----**

**Attend Class:**

There is a strong link between good attendance and success in math courses. Attending an online class means logging in and making some progress on the course most days, it also means that you participate in the class discussions and activities. Your peers rely on your feedback and input. *Attendance, effort and attitude will be noted by the instructor and may be used to help determine “borderline” grades.*

**Complete your work on time:**

The work in this course has been planned to help you learn. When work is completed late or last minute you miss out on fully engaging in the learning opportunity. Completing the work on time also helps prepare you for the next topic.

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**Get HELP!**

If you have questions, PLEASE ask me! I (will) have scheduled office hours but you’re welcome to drop in at other times too. You can also reach me by email.

**Form a study group:**

Your classmates are important resources for understanding and completing the homework. Often a fellow student can explain things in a different way than your instructor. You gain a deeper understanding of mathematical concepts when you express them in your own words and explain them to someone else. It is strongly recommended that you study together with other students in small groups.

**Use the Learning Center:**

The Math Desk WILL be operating Spring Term to support students working remotely via Zoom, with drop-in help available during their standard hours:

* + 8am - 9pm Mon - Thu; 8am - 5pm Fri; 11am - 4pm Sat
  + The link to connect to the remote Math Desk is <https://linnbenton.zoom.us/j/579890953>

The URL for the Learning Center Remote Resources site is <https://www.linnbenton.edu/current-students/study/learning-center/hours-and-locations/index.php>. This will have all relevant Zoom meeting links, hours, and updated information.

# Class Policies

## Attendance

Your regular attendance and thoughtful participation in class are essential for your success in learning. Your regular online attendance is mandatory. If you do not some how contact me during the first week (TBD), you will be dropped for nonattendance. If there is a week that you will be unable to log in and participate, please let your instructor know. Students are responsible for any material, updates, or other information available in Course Notes and the class calendar.

## Special Circumstances or Accommodations

You should meet with your instructor during the first week of class if:

* You have a documented disability and need accommodations.
* Your instructor needs to know medical information about you.
* You need special arrangements in the event of an emergency.

If you have documented your disability, remember that you must make your request for accommodations through the Center for Accessibility Resources (CFAR) [Online Services webpage](https://cascade.accessiblelearning.com/LBCC/) every term in order to receive accommodations. If you believe you may need accommodations but are not yet registered with CFAR, please visit the [CFAR Website](https://www.linnbenton.edu/cfar) for steps on how to apply for services or call (541) 917-4789.

## Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Roadrunner Resource Center for support at 541-917- 4877, or schedule an appointment on the web at [www.linnbenton.edu/rrc](http://www.linnbenton.edu/rrc) . Our office can help students get connected to resources to help. Furthermore, please notify the instructor if you are comfortable in doing so. This will enable them to provide any resources that they may possess.

## LBCC Comprehensive Statement of Nondiscrimination

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.

## Statement of Inclusion

The LBCC community is enriched by diversity. Each individual has worth and makes contributions to create that diversity at the college. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill.  (related to Board Policy #1015)

## 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.