MTH 245—Math for Biology, Management, Social Science
Winter2020 CRN 33104

Instructor: Marlon Flores
Class meets: Tuesday, Thursday 11:00 am – 12:50 pm
Albany Office: WHO 129, Tuesday 10:00 am – 10:50 am
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Materials: USB drive for saving personal work, regular access to a computer and the Internet, Microsoft Excel, Calculator

Course Description: A survey course of discrete mathematics for non-physical science majors. Topics include systems of inequalities, linear programming and the simplex method, probability and probability distributions, and an introduction to descriptive statistics.
Prerequisite: a grade of C or higher in MTH 111 College Algebra

Course Outcomes:
1. Identify and solve linear programming problems
2. Analyze models for business and other applications
3. Collaborate to solve real world problems.
4. Use probability distributions to solve business and biological applications.

Grading Policy: Grades in this class are based on the following:
Homework/ICA/Projects: 50%
Midterm Exam: 25%
Final Exam: 25%

Grades will be assigned as outlined in the scale below:
A: 90% - 100%
B: 80% - 89%
C: 70% - 79%
D: 60% - 69%
F: 0% - 59%
Grades of Y and WP are not given in this course. A grade of In, Incomplete, may be assigned at the discretion of the instructor under unusual and verifiable circumstances. In the case of an In, the student must have completed the majority of the course, been in regular attendance and passing the course prior to the unusual circumstance.

Your best seven scores for Homework and best ten scores for In Class Assignments "count" for a possible 170 points, the Project is worth 30 points and the two Tests are 100 points each.

Material covered:
Unit 1 Percent, Excel Basics, Linear Functions

Unit 2 More Linear Functions, Linear Programming
Unit 3 Probability, Modeling Randomness, Probability Distributions
Unit 4 Descriptive Statistics, Expected Value, Binomial and Normal Distributions

Course Materials: Instructional materials and assignments are in Moodle, LBCC's learning management system. You are not required to visit your Moodle shell before our first class, but please make sure that you are able to log in to https://identity.linnbenton.edu/.

Before logging in for the first time, you will have to claim your account, also at https://identity.linnbenton.edu/. If you have any problems logging into Moodle, please let the Student Help Desk know (541-917-4630, student.helpdesk@linnbenton.edu).

Computer Lab: Because this course is designed with Microsoft Excel in mind we will meet in a computer lab. You are expected to follow the rules of the lab, in addition to any rules lined out in this syllabus. I expect that during class time you will use the computers in the lab for class work only. It is **not** an opportunity to check email, surf the web or work on assignments for other classes.

Expectations: I expect that my students will be involved in class. This includes being present, asking questions and participating in discussions. You should come to class prepared (this means you should bring your notebook, USB device, paper and pencil, a calculator, and anything else you might need). I expect you to be respectful of everyone in the class, in word as well as behavior. Along these lines, I ask that you turn off your cell phone during class and put it away so as to avoid causing a distraction.

Homework/In Class Assignments/Projects: Any computer files or paperwork submitted for this class must be in a specific format to receive full credit. Guidelines will be given to follow for submitted work. You will be graded on your presentation of the problem(s) as well as correctness of work and solutions.

Homework assignments will be announced in class. They will be due weekly. Some will be traditional paper and pencil but a large amount of the homework will be done using Microsoft Excel. The homework is to be done individually. You may discuss homework with other students but each must write up and submit their own homework. Do not copy a file, which is cheating.

For each hour in class expect to spend 2 hours outside of class studying and doing homework. Do not wait to start assignments the night before they are due. Late assignments may not be graded.

In Class Assignments (ICAs) will be given periodically throughout the quarter. You must be in class in order to receive points for an ICA—no make ups.   Most of the in class assignments will be done with a partner. Each pair of students will turn in one joint file.

There will be a project during the quarter. The Project will be announced in class. It will require you to work with another classmate and will take out-of-class time. You will have several days to complete the project.

Tests: There will be two tests; one during the middle of the quarter and a final exam during the scheduled final time*.* The tests will have two parts, on paper and using Excel. The date of the first test will be announced in class ahead of time. If you miss a test you will receive a score of zero for that test. Testing at an alternate time will only be allowed in unusual and verifiable cases**.**

Help: If you have questions, PLEASE come see me. I have scheduled office hours but you're welcome to come in at other times, too. At the very least, talk to me before or after class about questions you may have. Additionally, the Learning Annex provides a Math Help Desk—a place you can drop in and receive assistance with your math questions.

Academic Honesty: It is understandable that you will discuss your homework with your classmates but you are expected to write up your own results, be it on paper on in Excel. I assume that you are ethical and honest. However, if there is an incident of academic dishonesty (cheating), which includes sharing computer files, you will receive a score of zero for that assignment/test 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.

Other: LBCC maintains a policy of nondiscrimination and equal opportunity in employment and admissions, without regard to race, color, sex, marital and/or parental status, religion, national origin, age, mental or physical disability, Vietnam era, or veteran status.

Students who may need accommodations due to documented disabilities, who have medical information which the instructor should know, or who need special arrangements in an emergency should speak with their instructor during the first week of class. If you believe you may need accommodations but are not yet registered with the Center for Accessibility Resources (CFAR), please visit the **CFAR Website** for steps on how to apply for services or call (541) 917-4789.

To promote academic excellence and learning environments that encourage multiple perspectives and the free exchange of ideas, all courses at LBCC will provide students the opportunity to interact with values, opinions, and/or beliefs different than their own in safe, positive and nurturing learning environments. LBCC is committed to producing culturally literate individuals capable of interacting, collaborating and problem-solving in an ever-changing community and diverse workforce.

Linn-Benton COMMUNITY COLLEGE

Math for Bio, Mgmt, and Social Sciences - MTH245

Winter 2020 Term Calendar (Draft)

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	1/6	1/7 Algebra Basics & Percents, Thinking About Percents	1/8	1/9 Excel Basics ICA1: Formatting in Excel Activity	1/10
Week 2	1/13	1/14 Tables in Excel ICA2: Table Activity Due: HW1 percents, Moodle Quiz	1/15	1/16 Excel as a Graphing Calculator & Goal Seek ICA3: Graphing & Goal Seek Activity	1/17
Week 3	1/20 Holiday	1/21 Linear Functions: R, C & P ICA4: Profit, Revenue & Cost ICA Due: HW2 Credit, Excel File	1/22	1/23 Graphing Piecewise Functions U2M1 Reading ICA5: Piecewise Activity Due: HW3A Graph Calc & Goalseek, Excel	1/24
Week 4	1/27	1/28 U2M2 Regression Catch up ICA6: Regression Activity Due: HW3B, Linear Func, Moodle Quiz	1/29	1/30 U2M3 Linear Families & Systems ICA7: Solving System Activity (Paper) Due: HW4 Piecewise & Regrssn, Excel	1/31
Week 5	2/3	2/4 Linear Programming ICA8: U2M4 Activity Due: HW5: Systems, paper	2/5	2/6 Linear Programming ICA9: U2M5 Activity	2/7
Week 6	2/10	2/11 Review (Intro Sample Space) Due: HW6: Solver, Excel	2/12	2/13 **Midterm (Units 1 & 2)**	2/14
Week 7	2/17 Holiday	2/18 Probability ICA 10: Probability Activity Paper & Excel	2/19	2/20 Modeling Randomness ICA11: Probability Simulations Activity	2/21
Week 8	2/24	2/25 Probability Distributions ICA 12: Prob. Distributions Activity Due: HW7: Prob & Modeling, Moodle Quiz	2/26	2/27 Descriptive Statistics & Expected Value ICA13: Expected Value Activity (Paper)	2/28
Week 9	3/3	3/4 Binomial Distribution ICA 14: Binomial Activity Due: HW8: Modeling Rand, Dist Tables, Exce	3/5	3/6 Normal Distribution ICA15: Normal Dist Activity (Paper) Due; HW9 Descrip Stats & Ex Value, Excel	3/7
Week 10	3/10	3/11 Catch Up Project e: HW10A, 10B: Binom & Norm, Excel & Moo	3/12	3/13 Review	3/14
Week 11	3/17	3/18 **Final Exam (Units 3 & 4)**	3/19	3/20	3/21