OTTERBEIN UNIVERSITY

Course Number/Section and Title:	MATH 1230-01: Discrete Mathematics		
Semester and Year:	Fall 2019		
Course Meeting:	MWF	9:10-10:05am	Towers 117
	Days	Time	Location
Credit Hours:	3	3	0
	Total Credit Hours	Lecture Credit Hours	Lab Credit Hours (if applicable)

Is this a Travel Course: ☐ Yes ☒ No

Instructor:	Mr. Matthew McMullen	mmcmullen@otterbein.edu	
		Email Address	
	Towers 138	(614) 823-1279	faculty.otterbein.edu/mmcmullen
	Office Location/Room #	Office Phone Number	Course webpage (for homework problems)
	MW 1:40-2:40pm		
	TR 12-1pm		
	Set Office Hours and Tutoring Hours (also available by appointment).		

Course Catalog Description

Material from areas such as set theory, logic, number theory, induction and recursion, and combinatorics. An essential aspect of the course is developing an ability to create and understand mathematically rigorous arguments and/or proofs.

Prerequisites: MATH 0900 with a C- or better, or ACT Math score of 24 or above; or SAT Math score of 560 or above, or qualification through Otterbein's Mathematics Placement Exam.

Course Objectives (learning outcome goals or student learning outcomes for the course)

By the end of this course you should be able to
- Manipulate symbolic logic
- Write mathematical proofs
- Think recursively
- Engage in rigorous formal reasoning, including analysis and synthesis
- Model problems with abstract structures

Program Learning Goals or Outcomes

Goal 1: To assist all students in understanding the value and purpose of the study of mathematics.
Outcomes:
- Students engage in topics and activities that will help them to acquire mathematical habits of mind.
- Students gain awareness of the connections of mathematics to other disciplines, thereby enhancing their perceptions of the vitality and importance of mathematics in the modern world.

Goal 2: To help students progress in developing analytical, critical reasoning, and problem-solving skills.
Outcomes:
- Students strengthen mathematical and/or quantitative abilities that will be useful in the study of other disciplines, required in the workplace, and/or needed for informed citizenship.
- Students gain experience formulating problems, considering multiple approaches, reasoning logically to conclusions, and interpreting results intelligently.

Required Texts and/or Ancillary Materials
The textbook we will be using is *Discrete Mathematics and Its Applications*, 8th edition, by Kenneth Rosen.

Attendance and Participation Policy
You are expected to be present at all classes. If you have a conflict with any exam, you must see me in advance. No make-ups will be given for unexcused absences.

Method for determining course grade
Group work/attendance counts towards 5% of your final grade, homework towards 10%, short exams towards 60%, and the final towards 25%. It is anticipated (but subject to change) that the letter grade assignments will be made on the following scale: A 93%, A− 90%, B+ 87%, B 83%, B− 80%, C+ 77%, C 73%, C− 70%, D+ 67%, D 60%, F below 60%.

Assignments/Tests and expectations for out-of-class work
We will have group activities, ten homework sets, eight short exams (the two lowest scores will be dropped), and a final.

Final Exam Date and Time
Wednesday, December 11, 8-10am

Academic Honesty
All academic work should be your own. Academic dishonesty (plagiarism and cheating) may result in automatic failure of the assignment or the course itself, and you will be referred to the Academic Affairs Office for suspension or expulsion proceedings. You are plagiarizing when you:
1. Copy material from a source without using quotation marks and proper citation.
2. Follow the movement of the source, substituting words and sentences but keeping its meaning, without citing it.
3. Lift phrases or terms from a source and embed them in your own prose without using quotation marks and proper citation.
4. Borrow ideas (that are not common knowledge) from a source without proper citation.
5. Turn in a paper wholly or partially written by someone else.

The complete statement on Plagiarism, Cheating and Dishonesty can be found in the *Campus Life Handbook*, page 33, at the following web link: http://www.otterbein.edu/public/CampusLife/HealthAndSafety/StudentConduct.aspx.

Learning Differences
If you have a documented learning difference please contact Kera McClain Manley, the Disability Services Coordinator, to arrange for whatever assistance you need. The Disability Services is located in Room #13 on the second floor of the Library in the Academic Support Center. You are welcome to consult with me privately to discuss your specific needs. For more information, contact Kera at kmanley@otterbein.edu, 614-823-1618 or visit the Disability Services at the following web link: http://www.otterbein.edu/public/Academics/AcademicAffairsDivision/AcademicSupportCenter/DisabilityServices.aspx.

Statement on Credit Hour Definition/Expectation for Student Work
For each credit hour of classroom or direct faculty instruction, students are expected to engage in two hours of out-of-class work (readings, homework, studying, project preparation, etc.). A three semester credit hour course requires six hours per week of out-of-class work.

Schedule (subject to change!)

	Monday	Tuesday	Wednesday	Thursday	Friday
	Aug. 26	**Aug. 27**	**Aug. 28**	**Aug. 29**	**Aug. 30**
Week 1	*Classes start* Intro to course		1.1		1.1/1.2
	Sept. 2	**Sept. 3**	**Sept. 4**	**Sept. 5**	**Sept. 6**
Week 2	**Labor Day**	*Last day to add*	1.3		Activity day
	Sept. 9	**Sept. 10**	**Sept. 11**	**Sept. 12**	**Sept. 13**
Week 3	**Exam #1** HW #1 due		1.4		1.5
	Sept. 16	**Sept. 17**	**Sept. 18**	**Sept. 19**	**Sept. 20**
Week 4	1.6		Activity day		**Exam #2** HW #2 due
	Sept. 23	**Sept. 24**	**Sept. 25**	**Sept. 26**	**Sept. 27**
Week 5	1.7		1.8		*Last drop day w/o "W"* Activity day
	Sept. 30	**Oct. 1**	**Oct. 2**	**Oct. 3**	**Oct. 4**
Week 6	**Exam #3** HW #3 due		2.1		2.2
	Oct. 7	**Oct. 8**	**Oct. 9**	**Oct. 10**	**Oct. 11**
Week 7	Activity day		**Exam #4** HW #4 due		2.3
	Oct. 14	**Oct. 15**	**Oct. 16**	**Oct. 17**	**Oct. 18**
Week 8	**Fall Break**		**No Class!**		2.4
	Oct. 21	**Oct. 22**	**Oct. 23**	**Oct. 24**	**Oct. 25**
Week 9	2.5 and 2.6 HW #5 due		Activity day		4.1 HW #6 due
	Oct. 28	**Oct. 29**	**Oct. 30**	**Oct. 31**	**Nov. 1**
Week 10	*Last day to drop* 4.2 **Exam #5 due**		4.3		Activity day
	Nov. 4	**Nov. 5**	**Nov. 6**	**Nov. 7**	**Nov. 8**
Week 11	**Exam #6** HW #7 due		6.1 and 6.2		6.3 HW #8 due
	Nov. 11	**Nov. 12**	**Nov. 13**	**Nov. 14**	**Nov. 15**
Week 12	6.4		6.5		Activity day
	Nov. 18	**Nov. 19**	**Nov. 20**	**Nov. 21**	**Nov. 22**
Week 13	**Exam #7** HW #9 due		8.2		8.5 and 8.6
	Nov. 25	**Nov. 26**	**Nov. 27**	**Nov. 28**	**Nov. 29**
Week 14	Activity day		**Thanksgiving break**		**Thanksgiving Break**
	Dec. 2	**Dec. 3**	**Dec. 4**	**Dec. 5**	**Dec. 6**
Week 15	**Exam #8** HW #10 due		Review		*Last day of classes* Review
	Dec. 9	**Dec. 10**	**Dec. 11**	**Dec. 12**	**Dec. 13**
Finals Week			**Final Exam 8-10am**		