# MATH 301 Discrete Mathematics Winter 2018 Instructor: Kyle Riggs

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Office Hours: 11 AM – 12 PM MTWRF. I am also available most days from 9:30-10 AM and 1 - 2 PM.

Canvas: canvas.ewu.edu

Course Description: The topics covered in this course include symbolic logic, set theory, mathematical proofs, induction, recursion, combinatorics, algorithms, matrix applications, and graph theory. Math 301 is a college-level course for which students earn 5 credits, and students must earn a 2.0 (73%) or better in this course to meet the prerequisite for MATH 331 or any relevant CSCD courses.

Textbook: Discrete Mathematics and Its Applications, 7th edition by Kenneth H. Rosen

I will assign homework problems primarily out of this textbook, and it is a great resource for practice problems. You can choose between buying an electronic copy or a physical copy (new or used, just make sure it’s the right edition). Homework will be turned in on paper (not electronically), so you do not need an access code.

Homework:

* There will be two homework assignments posted on Canvas each week (possibly only one on the week of an exam). Assignments are due on Fridays and Tuesdays at the beginning of class.
* You may lose points if your homework is illegible or hard to follow
* You must remove any frills from notebook paper, and if your homework is more than one page long, the pages must be stapled.
* Homework may be submitted up to one day late for a 20% penalty, and up to two days late for a 50% penalty.
* Homework may be submitted 24 hours early for a 10% bonus (all problems must be attempted).

Course Assessment: Grades will be posted on Canvas. Each of the following categories is worth 25% of your overall grade. Midterms will be taken in class.

* Homework: As described above

## Midterm 1: during Week 4 (end of January), covering logic, number theory, and proofs

## Midterm 2: during Week 7 (after President’s Day), covering induction, recursion, and algorithms

## Final Exam: Wednesday March 21 from 10:30 AM to 12:30 PM covering set theory, combinatorics, and matrices

# Grading Scale:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Percentage | Grade | Percentage | Grade | Percentage | Grade |
| 93-100 | 4.0 | 81 | 2.8 | 69 | 1.6 |
| 92 | 3.9 | 80 | 2.7 | 68 | 1.5 |
| 91 | 3.8 | 79 | 2.6 | 67 | 1.4 |
| 90 | 3.7 | 78 | 2.5 | 66 | 1.3 |
| 89 | 3.6 | 77 | 2.4 | 65 | 1.2 |
| 88 | 3.5 | 76 | 2.3 | 64 | 1.1 |
| 87 | 3.4 | 75 | 2.2 | 63 | 1.0 |
| 86 | 3.3 | 74 | 2.1 | 62 | 0.9 |
| 85 | 3.2 | 73 | 2.0 | 61 | 0.8 |
| 84 | 3.1 | 72 | 1.9 | 60 | 0.7 |
| 83 | 3.0 | 71 | 1.8 | 0-59 | 0.0 |
| 82 | 2.9 | 70 | 1.7 |  |  |

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Tentative Schedule for first two weeks:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Jan 8  1.1  Propositional Logic | Jan 9  1.3  Propositional Equivalences | Jan 10  1.4  Predicates and Quantifiers | Jan 11  1.5  Nested Quantifiers | Jan 12  1.6  Rules of Inference |
| **Jan 15**  **Holiday** | Jan 16  1.7  Introduction to Proofs | Jan 17  1.7  Types of Proofs | Jan 18  4.1  Divisibility | Jan 19  4.1  Modular Arithmetic |

Disability Support and ADA:Eastern Washington University is committed to providing support for students with disabilities. If you are a student with physical, learning, emotional, or psychological disabilities needing an accommodation, you are encouraged to stop by Disability Support Services (DSS), TAW 121 and speak with Kevin Hills, the Manager of DSS, or call 509-359-6871.

Misconduct: Conduct in the classroom must not detract from the learning experience for students in class nor disrupt the ability of the teacher to teach. Disruptive behavior will be reported to the Office of Student Rights and Responsibilities. Any form of academic dishonesty will be documented and reported to the Vice Provost for Undergraduate Affairs. Any incidence of cheating on a test (including looking at other students' exams and/or having a cell phone in a visible location) will result in a grade penalty, and possibly a grade of XF for the quarter. (XF on a transcript indicates that a student received a 0.0 because he or she cheated.)

Repeat Policy: Undergraduates are allowed to repeat any single course twice for a total of three enrollments per course.