Math 101: Master Syllabus
Foundations of Algebra and Mathematical Modeling

Course Coordinator: Tammy Nezol, tnezol@uoregon.edu

Introduction

Welcome to Math 101. I look forward to getting to work with you throughout this term. This syllabus is your introduction to the format of the class, the expectations for both you and me, as well as a guide to the resources available here at the University.

At the end of this syllabus, you will find the specific learning objectives and goals for this course. You will also find several campus resources available to you.

Canvas Homepage

I have worked hard to keep this class organized and to help you know what is due as well as the resources available to you. Please check out the canvas home page regularly for important information such as:

- the regularly updating excel schedule (with due dates)
- resources available to you
- how to find tutoring and other help
- class announcements
- and much more!

Course Description

Here in Math 101 you will engage in mathematical modeling. So what is mathematical modeling? Consider it a journey back and forth between the mathematics world and the real world. The real-world context informs the equations we create and the equations help us to better understand the context.

While your previous math classes may have been mostly computational based, Math 101 is strongly rooted in conceptual understanding and application. You will be asked to interpret regularly by providing full sentences with context, units, and values.

We will include critical elements of pre-college Algebra topics such as equation solving; rational, radical, exponential, and polynomial expression evaluation and simplification; lines, linear equations, quadratic equations, and exponential equations. This class will help prepare you for future university math classes.

Class Location and Meetings
I have three different sections of Math 101. They are all in Tykeson 260. Your assigned class time is 8-8:50, 9-9:50 or 11-11:50.

**Attendance**

I have seen term after term how important attendance and active participation is for successful learning. Please come to every class not just because it is mandatory (it is) but because **attendance is crucial to success**.

Please reach out to me with any attendance barriers as soon as they come up so we can problem solve solutions together.

**Attendance is mandatory and 2% of your final grade. This could be the difference between a C+ and a B-, for example.** I will consider attendance and participation when determining final grades that are between two grades.

Attendance grading is as follows:

- Miss class up to 4 times: you will earn 100% in the attendance category
- Miss 5-6 times: you will earn 70% in the attendance category
- Miss 7-8 times: you will earn 50% in the attendance category
- Miss 9+ times: you will earn 0% in the attendance category

Note: I am not permitted to distinguish between excused and unexcused absences for this policy. However, you can make up missed classes by attending office hours and letting me know you are making up a missed class.

**Sick Policy**

If you are sick, please do stay home. Work on what you can on your own and then we can meet on zoom to answer any questions you may have, you can attend tutoring, or we can find other ways to help catch you up with the material. It may also be possible for me to record or live stream lectures when necessary.

Make sure you talk to me to come up with a plan if you miss several classes due to illness.

**Materials**
<table>
<thead>
<tr>
<th>Material</th>
<th>Cost</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Text</td>
<td>$0 - pdf</td>
<td>Useful as reference as well as to read to gain a better understanding of the material. Practice questions are close to what we do in class and good for studying.</td>
</tr>
<tr>
<td></td>
<td>$25.50- physical copy from duckstore</td>
<td></td>
</tr>
<tr>
<td>Scientific Calculator</td>
<td>$19.99, TI-30XIIS recommended</td>
<td>Helps with the more difficult calculations so we can focus on meaning. You will be required to have a scientific calculator with an exponent function. To keep things fair for everyone, no graphing calculators will be allowed on exams.</td>
</tr>
<tr>
<td>ALeKS</td>
<td>$50</td>
<td>This is an online homework program that will focus on the prerequisites needed for the conceptual work we do in class and for future math classes. You must do ALeKS and complete it at an 85% minimum.</td>
</tr>
</tbody>
</table>

**Office Hours**

Students are always welcome in office hours. I promise you that I will not judge you and I will be happy to answer your questions.

Office hours are not classes. You can drop-in any time during the set office hour time and I will answer your questions. It’s a laid-back time to get help. Even if you have no questions, it’s sometimes useful to just go to office hours and work on your homework or just hang out to hear questions others may have.

This term my office hours will likely be as follows, but this is subject to change. The best way to know current office hours is to check the online schedule on canvas where I update the due dates, etc.

<table>
<thead>
<tr>
<th>Office Hour Days:</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>10-10:50 and 4-4:50</td>
<td>Tykeson 333E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OR</td>
</tr>
<tr>
<td>Tuesday</td>
<td>12-12:50</td>
<td>Check open spaces on 3rd floor</td>
</tr>
<tr>
<td>Friday</td>
<td>10-10:50</td>
<td></td>
</tr>
</tbody>
</table>

If you cannot make office hours, it may be possible to make an appointment. Please reach out to me by email: tnezol@uoregon.edu

**Assessments**
assessments aren’t graded but they help you identify your own misunderstandings before taking exams. Other assessments are pass/no pass or graded based on a percentage. Percent based assessments are graded on many factors, not just accuracy. I will look for meaning, method, mastery, quality, sufficiency.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Grading Type</th>
<th>Purpose</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Quizzes</td>
<td>Multiple Attempts %</td>
<td>This allows you to self-assess your understanding. It is low-stakes in that you can re-take it many times. It will help you to identify misunderstandings before you take your exams. Think of these as study materials for exams. Due Wednesday evenings</td>
<td>Quizzes</td>
</tr>
<tr>
<td>Homework Packets</td>
<td>Accuracy, Completion, Engagement %</td>
<td>Every week you will have at least one worksheet due that may be on paper or on Desmos. Some will be homework and some will be done in-person. Most will rely on having done the in-class Desmos or may be done with the in-class Desmos. Please put priority on these assignments as they will help you get ready for the exams and help you to process what we are learning. Due dates are found on the excel updated class schedule on the canvas homepage. Due Monday evenings</td>
<td>Homework</td>
</tr>
<tr>
<td>Encore Quizzes</td>
<td>P/N</td>
<td>These are short quizzes put out by Class Encore that will help you learn to study, communicate, and calculate your grade. Due Friday evenings</td>
<td>Quizzes</td>
</tr>
<tr>
<td>Projects</td>
<td>Essay, Accuracy, Completion, Engagement %</td>
<td>One or two projects will be used to delve deeper into mathematical modeling. These may use spreadsheets. Due dates TBA</td>
<td>Projects</td>
</tr>
<tr>
<td>Aleks</td>
<td>% -MUST GET 85% MINIMUM as 1 of the criteria for</td>
<td>We want to make sure you have the algebra skills you need to succeed in math. Most research shows this is best learned doing as opposed to watching a lecture. Aleks will review the prerequisites with you and help you to be successful not just in this class but your</td>
<td>ALeKS</td>
</tr>
</tbody>
</table>
You will take two midterms. Midterms are important for making sure the main objectives of the class are met and understood. Midterms may include computations, interpretations, graphing, modeling, etc. Expect a large % (around 75%+) be to word problems.

Tentatively Weeks 5 and 8

<table>
<thead>
<tr>
<th>Midterm Exams</th>
<th>%</th>
<th>Students who may not have done well on the midterms sometimes have done better by the end of the class. This is a great time to prove that the material makes sense to you and is understood. This exam is cumulative.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Week 11- combined final schedule, day and time TBA</td>
</tr>
</tbody>
</table>

### Late work Policy:

<table>
<thead>
<tr>
<th>How late is the assignment</th>
<th>Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment is on time</td>
<td>Packets: 5 points of grade</td>
</tr>
<tr>
<td></td>
<td>Other assignments: No bonus or penalty</td>
</tr>
<tr>
<td>Up to 3 days late</td>
<td>10% reduction</td>
</tr>
<tr>
<td>Up to 1 week late</td>
<td>25% reduction</td>
</tr>
<tr>
<td>More than Week late</td>
<td>Not accepted</td>
</tr>
</tbody>
</table>

In addition, I will drop the lowest packet score on the assumption that life happens.

Please note: I am not allowed to differentiate this policies based on illness or other factors. I am required to apply these rules equally to all students regardless of individual circumstance.

### Grading

As you continue your university journey, we want to make sure you are prepared for your future math classes. As such, we have developed the following criteria for earning a passing grade in this course. Each of the following conditions must be met or I will not be able to award a passing grade.

<table>
<thead>
<tr>
<th>Aleks</th>
<th>A least an 85% on Aleks, as determined through finishing three knowledge checks and the center of your pie being at least 105 topics out of 123 topics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>At least a C- average on midterms OR at least a D- on final exam</td>
</tr>
</tbody>
</table>
Final Average | At least a C- Average in class as determined by the instructor

Once the above criteria are met, grading is done on a standard scale. I reserve the right to adjust grades appropriately such as for active participation and engagement:

| 90-100 | A-, A, A+ |
| 80-90  | B-, B, B+ |
| 70-80  | C-, C, C+ |
| Below 60 | D, F (occasional +/- awarded) |

I use a weighted-grade course which means not every assignment is worth the same as another. I may have to adjust this appropriately.

| Homework Packets | 15% |
| Attendance       | 2%  |
| Quizzes          | 2%  |
| Aleks            | 10% (must have 85% minimum to pass class) |
| Projects         | 5%  |
| Midterms, Final  | 76% (weighted equally) |

Note, you are expected to make the given exam times. On the assumption life happens, I will drop the lowest of the three exam scores. This means if you miss an exam due to illness then than will be your dropped exam. This policy is in place because life happens.

If you miss more than 1 exam, please note that I will not be able to drop additional exams for any reason. Makeup exams are not usually as all students must be treated equally regardless of circumstance.

Accessible Education Center

Please let me know within the first two weeks of the term if you need assistance to fully participate in the course. Participation includes access to lectures, web-based information, in-class activities, and exams.

The Accessible Education Center (http://aec.uoregon.edu/) works with students to provide an instructor notification letter that outlines accommodations and adjustments to class design that will enable better access. Contact the Accessible Education Center for assistance with access or disability-related questions or concerns.

The accessible education center is a wonderful resource on campus for those anticipating disability related barriers. It helps facilitate a dialogue between us so that your needs can best be addressed. Sometimes I have students contact me at week 8-9 about having missed work all term. By that late in
the term, there isn’t much I can do. It’s important to set yourself up for success early and work through the framework provided by the AEC.

If you receive accommodations such as extra time on exams, be sure to discuss with me a plan to making sure you receive those accommodations and I understand how best to meet your needs. I usually do not have enough blocks of time in the day to proctor an exam with extra time so you will likely need to schedule with the AEC for their test proctoring. Do not assume I will remember you need extra time if you are scheduling a makeup exam. You should still schedule through the AEC.

Academic Misconduct

“The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor.

Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students’ obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at https://researchguides.uoregon.edu/citing-plagiarism.”

Learning Objectives and Course Outcomes

You will want to look through these, especially right before an exam or assessment. They help you to know what we are looking for, what we are hoping you have learned, and what will be our basis for grading. They are themselves a study guide for an exam. All of your classes will have to list these on the syllabus so you have a study guide even when your professor doesn’t directly give you one.

1. Learning Objectives: A successful student should be able to succeed at an exam which focuses on the major objectives and contains a lesser focus on supporting objectives (in particular, drawing upon these for applied exercises).

   Major Objectives – These objectives are priority targets on each summative exam subsequent to the introduction of that material. They include that a successful student can...

   (1) simplify and evaluate algebraic expressions
   (2) solve and simplify linear equations in one or two variables
   (3) interpret a point on a graph (esp. a line) in the context of a word problem
   (4) interpret constants in the equation of a line in the context of a word problem
   (5) graph linear equations in two variables
(6) determine the intercepts of a given line whether from a graph, table, or equation

(7) solve systems of equations

(8) set up and solve a variety of real-world problems based on exponential equations, linear equations or systems of equations (using substitution)

(9) manipulate exponential expressions

(10) solve quadratic equations of the form $x^2 + bx + c = 0$ and $a(x-h)^2 + k = 0$ exactly

(11) model formulas for functions by finding values of parameters, given data

(12) determine from a table, graph, or equation whether or not a relationship between two variables is linear or exponential

(13) write an equation defining a relationship between variables in a piecewise manner

(14) interpret the result of mathematical processes in a non-mathematical context

(15) express written descriptions between variables as the graph, table, or formula for that relationship.

(16) estimate trend lines for linear and exponential regression. Interpret the residual at a given point.

(17) successfully use technology such as Excel, Google Sheets, Desmos, and/or Wolfram Alpha in application to the objectives

Supporting Objectives – These objectives may be present on individual assessments, but may not be included in all summative exams. They include that a successful student can...

(1) factor quadratic and other polynomial equations using the greatest common factor

(2) identify solutions to systems of equation as either a line, a point, or no intersection (parallel lines)

(3) perform operations involving polynomial and “linear-over-linear” rational expressions

(4) solve equations containing “linear-over-linear” rational expressions.

(5) simplify and perform operations involving radicals and polynomials

(6) solve systems of non-linear equations involving quadratic and linear equations

(7) solve absolute value equations of the form $|ax + b| = c$

(8) apply the rule of functions including accurately applying function notation of the form $f(a) = b$
for given values of a and b (not symbolic manipulation)

(9) Create tables and interpret points from multilinear equations such as \( z = 0.2x + 3y + 4 \)

Prerequisite Objectives – The following learning objectives are prerequisite to the course and will be tested exclusively through adaptive homework or their inclusion as part of another objective listed above. These prerequisite objectives include the ability to...

(1) accurately use the order of operations in order to reduce an expression, including those with absolute values, signed numbers, fractions, and/or decimals.

(2) add, subtract, multiply, and divide fractions and decimals

(3) explain when and why to use common denominators when performing operations on fractions

(4) identify whether a number is a whole number, an integer, or a real number

(5) accurately and efficiently perform calculations with real numbers including fractions, decimals, signed numbers, absolute value, etc.

All students are expected to engage in the Mathematical Practices: Habits of successful math learners including perseverance in problem solving, looking for patterns, structure and repetition, and successfully communicating mathematical ideas and logical arguments.

Campus Resources and other policies

There are many campus resources available to you. There are also policies I need to put in the syllabus to make sure we have plans and contingencies. I have each of these in our course modules but include them here as well.

Emergency Plans

“In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas.

In the event that the instructor of this course has to quarantine, this course may be taught online during that time.”

Covid

Covid rules are ever-changing.
Masking is optional. Everyone is expected to respect one another’s decisions whether it is to wear a mask or not wear a mask.

If you are sick, please do not come to class and send me an email tnezol@uoregon.edu so we can make a plan to help keep you caught up on the material.

Inclement Weather

“It is generally expected that class will meet unless the University is officially closed for inclement weather. If it becomes necessary to cancel class while the University remains open, this will be announced on Canvas and by email. Updates on inclement weather and closure are also communicated in other ways described here: https://hr.uoregon.edu/about-hr/campus-notifications/inclement-weather/inclement-weather-immediate-updates”

Reporting Obligations

I am an assisting employee. For information about my reporting obligations as an employee, please see Employee Reporting Obligations on the Office of Investigations and Civil Rights Compliance (OICRC) website.

Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at investigations.uoregon.edu/how-get-support. I am also a mandatory reporter of child abuse. Please find more information at Mandatory Reporting of Child Abuse and Neglect.

I am NOT a confidential employee

Mental Health and Wellness

"Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you’re facing such challenges, you don’t need to handle them on your own--there’s help and support on campus.

As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.

University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at health.uoregon.edu/ducknest.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu or by calling 541-346-
3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).”

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 Dean of Students Office (346-3216, 164 Oregon Hall) for support.

This UO webpage includes resources for food, housing, healthcare, childcare, transportation, technology, finances, and legal support: https://blogs.uoregon.edu/basicneeds/food/

Accomodations for Religious Observations

The university makes reasonable accommodations, upon request, for students who are unable to attend a class for religious obligations or observance reasons, in accordance with the university discrimination policy which says “Any student who, because of religious beliefs, is unable to attend classes on a particular day shall be excused from attendance requirements and from any examination or other assignment on that day. The student shall make up the examination or other assignment missed because of the absence.” To request accommodations for this course for religious observance, visit the Office of the Registrar's website (https://registrar.uoregon.edu/calendars/religious-observances) and complete and submit to the instructor the “Student Religious Accommodation Request” form prior to the end of the second week of the term.