

CALCULUS AND ANALYTICAL GEOMETRY II

ASSESSMENT

Spring 2021

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Math 112

§A. What assignments will be there?

LEARNING TARGETS

There are 24 *Learning Targets* in the course, which together form an outline of all the important concepts in Calculus II. Sixteen (16) of these are designated as **Core** learning targets because they are the most essential topics in the class. **Your main goal in the course is to provide evidence of skill on as many targets as possible.** You will do so through **Checkpoints** which are take-home exams.

PRACTICE AND ENGAGEMENT (PE)

Staying involved with others in the course and building your skill by practicing with the basics are both crucial pieces to success in Math 120. To keep you on track, you'll earn Practice and Engagement (PE) Credits by completing tasks related to this goal throughout the semester.

The first source of PE credits is completing **Edfinity Homework** Sets, each worth **1 PE credit**. These are online homework assignments to help build your computational skills. There will be at least one Homework set per learning target.

The second source is by completing five **Application/Extension Problems** posted throughout the semester, each worth **4 PE credits**. AEPs are extended problem sets where you will either apply basic content to real-life problems or explore extensions of those concepts beyond what's in the textbooks.

There will be bonus opportunities to earn PE credit, for example through class engagement, or by doing bonus problems.

FINAL EXAM

There will be a final exam for the course which will focus on big-picture questions and reflections on your experiences in the course. **The final exam is optional**, it will have opportunities for you to earn 'S' in learning targets and earn PE credits.

§B. How are individual assignments scored?

MASTERY BASED GRADING

Our course is graded by a methodology called **Mastery-Based Grading (MBG)** system, also called standards-based grading, in which most graded work **does not have a point value or percentage**. Instead, you earn your grade by **demonstrating evidence of skill on the main concepts** in the course and by showing **appropriate engagement** with the course.

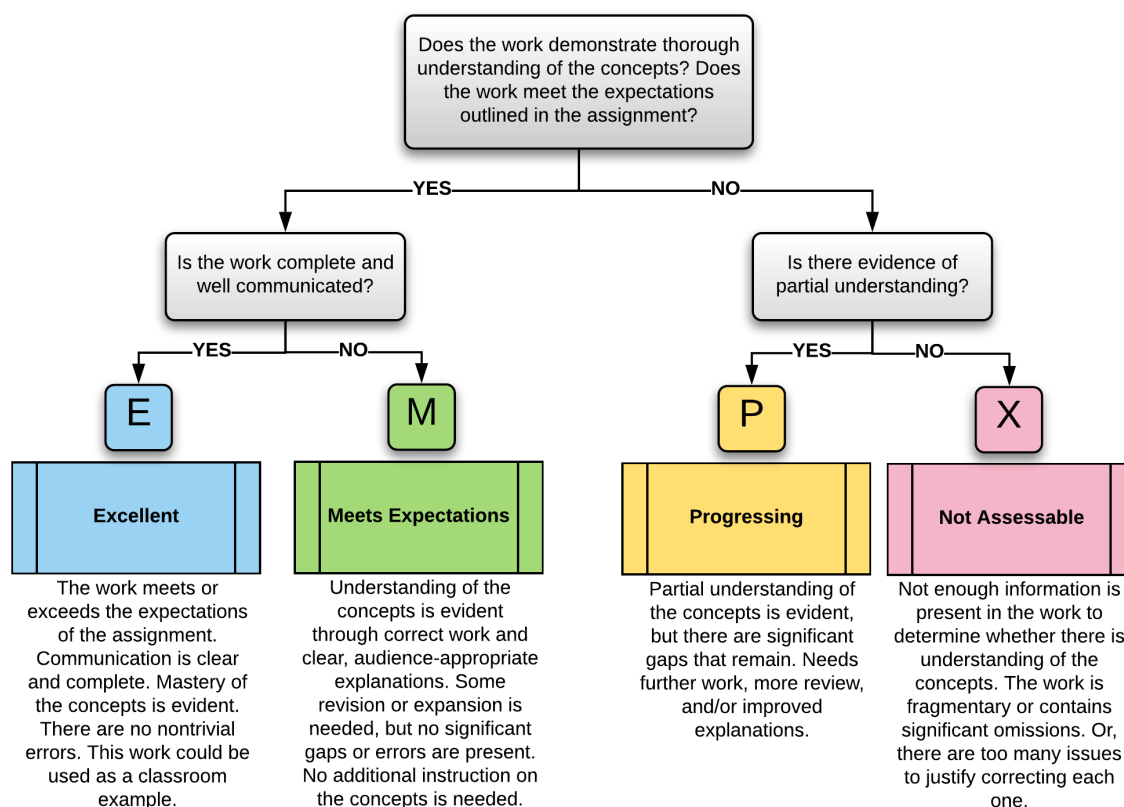
When you submit most work, I will evaluate it relative to quality standards made clear on each assignment. If your work meets the standard, then you will receive full credit for it. Otherwise, you will get helpful

feedback and, on most items, the chance to reflect on the feedback, revise your work, and then reassess your understanding.

This feedback loop represents and supports the way that people learn: By trying things, making mistakes, reflecting on those mistakes, and then trying again. **You can make mistakes without penalty** as long as you *eventually* demonstrate evidence of skill.

HOW PE CREDIT IS GRADED

- **Edfinity Homework.** Each Edfinity homework problem can be **reattempted as many times as needed** until the deadline for the problem set. These are graded 1 or 0 PE credit based on *completion*. I expect that everyone will get full score on this part.
- **Application/Extension Problems.** These will be graded according to the following rubric (courtesy of Prof. Robert Talbert).



EMPX rubric based on the EMRF rubric, due to Rodney Stutzman and Kimberly Race: <http://eric.ed.gov/?id=EJ717675>
EMRN rubric adaptation by Robert Talbert is licensed under CC BY-SA 4.0



Here **E=4**, **M=3**, **P=1**, and **X=0 PE credits**. You will be given generous deadlines and are welcome to ask me questions in office hours before you submit your project. You will be given **one** chance to reflect on the feedback you receive (with a stricter deadline), make corrections and resubmit your work if it is graded **P** or **X**, and can improve your grade up to **M**.

HOW LEARNING TARGETS (LT) ARE GRADED

An important goal for you in the course is to demonstrate proficiency, and eventually mastery, of all the Core targets and as many of the Supplemental targets as you can. The two ratings of **Proficiency** and **Mastery** are assessed on Checkpoints, which are take-home exams offered roughly every week (a schedule is at the end of this document). Checkpoints contain one problem (often with multiple parts) per Learning Target. Each problem is graded separately on a S/NC scale and has its own criteria for what is “acceptable” work.

Your score is not averaged since they are not numerical. Instead, your grade will be computed in a way that rewards growth and continued mastery of the material. There are two levels of achievement on each of the Learning Targets: **Proficiency** and **Mastery**. Earning one **S** on a Learning Target puts you at the **Proficiency** level on that Target. Earning two (or more) **S** puts you at the **Mastery** level. Once you have ‘mastered’ a learning target, you do not ever have to attempt a problem on that particular LT again.

A detailed rundown of each Learning Target’s criteria for “acceptable” work, the items covered on each Checkpoint problem, and a schedule for Checkpoints can be found in the document [Information on Learning Targets and Checkpoints on Moodle](#).

Note: One important thing to keep in mind during this class is that you should not be discouraged if you don’t earn mastery on a LT the first time (or even the first few times). That’s normal. I’m only interested in what you can show me you can do by the end of the semester. While a lot of people view it in a bad way, failure is an important part of learning. The way to really learn a subject is to make mistakes, learn from them, and do better the next time. So, it’s important that you be open to making mistakes and asking questions and not feel embarrassed about it.

HOW DO I REVISE AND RESUBMIT MY WORK?

Instead of earning partial credit, most of your work **can be revised and reassessed to allow you to improve on earlier attempts and raise your grades**. This can happen in a couple of different ways.

- **Checkpoints.** Each Checkpoint is (partially) cumulative, so for example Checkpoint 2 will cover some new material plus material from Checkpoint 1, and so on. **Each Learning Target will appear on three (3) consecutive checkpoints**; for example, a problem for Learning Target IT1 first appears on Checkpoint 1 and new versions of that problem will appear on Checkpoints 2 and 3. In this way, if your work on a problem in a Checkpoint doesn’t meet the standard, you can just try it again at a later Checkpoint. However: **After three Checkpoints, the Learning Target is “retired”** and may only appear in some form on the final exam (or by LT Retake in Office hour, explained below), so you do need to tackle Learning Targets early and fix any misconceptions you have on them reasonably quickly in order to earn a Mastery rating (which is earned by completing two Checkpoint problems successfully).
- **Retakes in Office Hours.** You can “unlock” the ability to retake a test on a particular LT (with a similar but new problem). To do this, first, you must have completed the Edfinity homework for that LT. Second, you must schedule a ‘LT Retake’ during my office hours. I want to make sure you have put in the time to study and prepare before allowing a retake.
- **Use your work on an Applied Project**, that, in your view, shows evidence that you know how to perform the task on a Learning Target. In this option, you’ll schedule a regular office hour with me and make the case for your work, and I’ll listen and then ask some followup questions that you’ll need to address.

Two Important Restrictions.

- To earn 'Mastery' level on a Learning Target, **at most** one of your two 'S' ratings may be earned using your work on an Applied Project.
- **LT Retakes will be limited to once a week per student** (and depending on how the semester progress, we may need to limit this more - I will inform you if this is the case!). A 'week' for this course is defined as the period of time starting at 12:01am EST on Monday and ending at 11:59pm EST the following Sunday.

§C. How is my Semester Grade Determined?

Your grade for the semester is not based on points because most items in the course don't carry point values. Instead, your grade will be based on the quantity and quality of evidence you can provide of across-the-board mastery of Math 112 - the basic skills found in the Learning Targets, the applications found in AEPs, and your daily work and engagement.

DETERMINE YOUR BASE GRADE

To determine your course **base grade** (the letter A/B/C/D/F without plus/minus modifications), use the following table. To earn a grade, you must complete **all** the requirements in the column for that grade; your base grade is the **highest grade level for which all the requirements have been met or exceeded**.

Category:	D	C	B	A
Core LTs (16)	Proficient 8	Master 8, Proficient 8	Master 12, Proficient 4	Master 16
Supplemental LTs (8)	Proficient 4	Master 2, Proficient 3	Master 3, Proficient 3	Master 4, Proficient 3
PE	50%	70%	80%	90%

Note: Again, **all of the requirements in a grade column must be met or exceeded in order to earn that grade**. Otherwise your grade is the highest grade for which all the requirements are met or are exceeded. For example, if you only earn 75% PE credits during the semester, you are not eligible for a grade of B or A in the course. A grade of F is given if not all the requirements for a D are met.

DETERMINING PLUS/MINUS MODIFIERS

- A '**plus**' is added to the base grade if all requirements for a base grade are satisfied, and your final exam score is at least 75%.
- A '**minus**' is added to the base grade based on the proximity to the nearest full letter grade (e.g. if all requirements for the base grade are satisfied except one, and that one is well above the requirement for the previous base grade).

Note that you can only get the following letter grades: A, A-, B+, B, B-, C+, C, C-, D, or F.

§D. Collaboration and Academic Honesty

I highly encourage you to collaborate with your classmates whenever collaboration is allowed. However, *realize that collaboration is not always allowed* and in all cases, there are limitations on how you can collaborate. In particular:

- On **Checkpoints**, your work must represent *your own understanding in your own words* and you may not use solutions, directly or indirectly, from other students or unapproved resources. However, there is a list of approved resources that you may use on Checkpoints, including [WolframAlpha](#), [Desmos](#), your textbook, and other items posted to Moodle. That list is included in the document titled [Information on Learning Targets and Checkpoints](#) found on Moodle in the Course Documents area. Items not on the approved list may be used only with prior permission from me.
- On **AEPs**, your work must represent *your own understanding in your own words*. You may not use solutions, directly or indirectly, from any sources - including other students, past students, online sources, or other textbooks.
- On **all other assignments**, including Edfinity and classwork, you may collaborate with others, but you must contribute significantly to the assignment.

The College's understanding and expectations in regard to issues of academic honesty are fully articulated in the Code of Academic Integrity as published in [The Scot's Key](#) and form an essential part of the implicit contract between the student and the College. The Code provides framework at Wooster to help students develop and exhibit honesty in their academic work. You are expected to know and abide by these rules.

Violations will result, at minimum, in a mark of "X" or "No Credit" on the assignment. Serious or repeat violations of this policy will result in increasingly horrible consequences, including being barred from further submissions of the assignment or Learning Target, or even failure of the class.