Standards for Student Work in MTH 302

About this document

This document explains **what constitutes "successful" work on each of the different kinds of assignments** in this class. You should read this document thoroughly at the start of the semester (it will be included in the Startup Activity) and then **refer back to it before submitting work**, so you can self-assess your work before turning it in.

Standards for Practice Sets on WeBWorK

Each exercise in a practice set is worth 1 point. The point is awarded if the answer is correct; otherwise the score is a 0. Your work is auto-graded by the WeBWorK system. Partial credit is not awarded unless the exercise has more than one part. If it's a multi-part exercise, you'll get partial credit for the correct parts. Please note, the work you do to get the answer is not entered into WeBWorK and is therefore not graded.

Standards for Class Prep

Class Prep submissions consist of answers to questions that are submitted via an internet form. Your work on Class Prep is graded either *Complete* or *Incomplete* using the following criteria:

Mark	Criteria
Success	Every item on the form that is not marked "Optional" has a complete and good-faith response; and the form is submitted prior to the deadline.
Incomplete	**Either** there is a question whose response is left blank (and is not marked "Optional"), **or** the form is submitted late.

Please note, **correct answers are not required on Class Prep, only a complete good faith effort to answer all the required items**. In fact, one of the reasons we do Class Prep is to surface any misconceptions or errors in thinking that you might be having at the beginning of a new topic, so we can work on those in class. So feel free to make as many honest mistakes as you want.

Also please note, **omitting even one required question from a Class Prep results in an Incomplete on the assignment**, even if the omission was by accident. Make sure to double-check your form entries before submitting to make sure you answered everything.

Standards for Application/Analysis

Application/Analyis work is submitted on Blackboard and is graded *Success*, *Retry*, or *Incomplete*:

Mark	Criteria
Success	All parts of the assignment have a good-faith effort at a complete and correct response, and the work is mostly correct with no more than a few errors (and no major errors).

Mark	Criteria
Retry	All parts of the assignment have a good-faith effort at a complete and correct response, but either there are numerous minor errors to correct or at least one major error.
Incomplete	At least one part of the assignment has no work for it; or there is work but it is not a serious attempt at a correct response; or there are major errors throughout the work; or the work is not legible.

Work that is marked *Retry* will get feedback on the issues that are present, and then the work can be revised once. Work that is marked *Incomplete* may be revised once but feedback on the work will be minimal.

Standards for Skill Quizzes

Skill Quizzes are started in class and then submitted on Blackboard. Each Skill has its own set of **Success Criteria** that will appear on the quiz itself. For example, on the quiz for Skill LA.4 (*"I can add, subtract, and multiply matrices"*) you might be given several different matrices along with some addition, subtraction, and multiplication problems to perform. The success criteria would say something like:

> **Success criteria:** All but one of operations have correct answers, and all intermediate work is shown.

(The actual success criteria may be different than this, but it will always be explicitly stated.)

Your work on a Skill Quiz will be marked *Success* if the work meets the success criteria. Otherwise it will be marked *Retry* and you'll receive feedback on your work. Skills appear on three consecutive quizzes, so you have three chances to Succeed on each.

Standards for Miniprojects

Miniprojects both involve writing and communication in addition to mathematical and computer work. Like Application/Analysis, Miniprojects are marked *Success*, *Retry*, or *Incomplete*:

Mark	Criteria
Success	The work on the problem is complete, correct, clearly communicated, and professionally presented.
Retry	The work on the problem shows a good-faith effort to be complete, correct, clearly communicated, and professionally presented, but there is at least one significant issue with these attributes that would benefit from a revision.
Incomplete	The work on the problem is not a good-faith effort at being complete, correct, clearly communicated, and professionally presented. (See below for details)

Please note: **A right answer is important in Miniprojects but not the primary criteria for evaluation.** Rather, it's your **solution** and **how you communicate it** that is of primary importance.

Note the four attributes of a successful miniproject: *Completeness*, *correctness*, *clear communication*, and *professional presentation*. Here is what we mean by each of those:

- **Completeness** means that all required parts of the solution are fully present and explained, with no major gaps left for the reader to fill in. A complete solution is self-contained: A reader who has the math background of a student in the course should be able to follow the solution completely from start to finish without doing any extra work. Issues with completeness usually arise from gaps in the solution or reasoning. Ask yourself: **If Prof. Talbert gave this solution to me as lecture notes, would I have to do a lot of extra work to understand it?** If the answer is "yes" then you should try to add more detail to your solution.
- **Correctness** means the work is free from major errors. There are four main kinds of errors that can affect correctness:

1. *Computational error*. This is when you simply make a mistake in computing something, like adding $5+3$ and getting 9.
2. *Logical error*. This is when you draw incorrect conclusions from data. For example, if you are told that the statement "All math professors are over 40 years old" is false but conclude that *no* math professors are over 40, that's a logical error. (You can only conclude that *there exists* a math professor who isn't over 40.)
3. *Factual error*. This results from misstating definitions, theorems, or steps of an algorithm. For example, stating that the derivative of a function tells you the area under its graph is a factual error. (The definite integral does that, not the derivative.)
4. *Semantic error*. This happens when you make a statement that is grammatically correct, but the statement itself has no meaning. The statement "Colorless green ideas sleep furiously"[1] is an example. So is the statement "The function of the graph is 2." (What does this statement even mean?) Semantic errors often happen when applying a concept to the wrong kind of object (like using the word "function" to describe a graph; there is no such thing as "the function of a graph").

- **Clear communication** means you are not just dumping math onto a page, but using regular English to explain what is happening and why you are making the choices you make in a solution. Your textbook is a good example of clear communication. Notice it's not 100% math and not 100% English but a mix of both, and mathematical jargon and notation is used sparingly, only when English won't get the job done. When writing, use simple language and plain English, and use math only when necessary. Issues with clear communication usually happen when there's a lot of math with no English narrative to explain it, or a lot of English trying to do the work of math, or if the English is being used incorrectly in terms of spelling, syntax, and grammar.

- **Professional presentation** means your work looks good. One special case of this is that **work on Miniprojects must be typed up on a computer, not handwritten**. Handwritten work will be marked *Incomplete* without further comment. Most Miniprojects will be done in Jupyter notebooks, which we will learn about in class. Even when done in electronic format, the work must be neat and well-organized --- something you would be comfortable including in a portfolio of your work to a potential employer.

Things that result in *Incomplete* on Miniprojects

Finally, please note that **when you submit work on a Miniproject, you're expected to give a good-faith effort at a complete and correct solution.** If there are issues, you can always revise and resubmit. But **a submission will be marked *Incomplete* and returned to you without further comment if any of the following are found:**

- Significant portions of the solution that are not submitted, or which are not good-faith efforts at a correct or complete solution. This includes partial work with questions about how to get started or how to finish; please do not submit these, but rather come to drop-in hours with questions. Also:
- Pervasive errors in communication, including incorrect English usage;
- Handwritten work;
- Work that is poorly formatted or confusingly organized; or
- In computer code, if any of the code throws a syntax error when evaluated. (You're expected to debug syntax errors prior to submission; just run the code and squash any bugs you find.)

The list above is not all-inclusive. But, before turning in work, use it as a checklist --- if your work has any of those attributes, don't turn it in yet!