

Portfolio guidelines—MATH 4090

As the semester goes by you will do readings and homework and you'll have time to reflect on issues of teaching and learning mathematics in response to the course. You will also have had the chance to do various activities, write them up, and get feedback on your writing. You will be asked to put together a portfolio with samples of your (revised) homework, syntheses of your readings, and written reflections, descriptions, or critiques. You may consider this assignment as an early version of a teacher's portfolio that you will need when you start applying for jobs. We will assemble electronic portfolios, which you will be able to print out in case you need a hard copy. Our course website will contain some resources you may use in building your electronic portfolio, but you are welcome to invent or find others. On some of the portfolio's content you will have been graded separately, and you should include here the corrected content for the completeness of the portfolio. Other objectives for the portfolio are:

- See an overview of what was learned this semester.
- Have examples to use when teaching.
- Reflect on the material covered in the course.
- Have a model of a good assessment tool

PORTFOLIO REQUIREMENTS:

- Title page
- Table of contents (preferably with links to the sections)
- CV
- I. Introduction
- II. Reports on readings
- Reflection on a section of State Core
- Unit plan
- Lesson plans
- III. Work reports
- Assessment items you have prepared
- IV. 15 solved problems from the list of problems.
- V. Final reflection on the portfolio as a means of assessment

Contents of the portfolio

The portfolio that you will **turn in last day of class** is one of the basis for a summative assessment of your course performance. An introduction and a conclusion will be places where you provide reflections on how you have improved in your knowledge and capacity to think like a teacher. The other four sections are expected to show competent performance. Rather than showing in these sections a history of your development, these sections of the portfolio should **show what you think is the best you can do** for each category at the time you turn

it in. The portfolio must be **submitted electronically** via WebCT. The portfolio should be ONE document (as opposed to multiple documents) or a web page and should be organized in the following sections

- I. An **introduction** to the portfolio, indicating the rationale that guides how materials were selected and organized, identifying which documents correspond to which categories (II, III, IV, and V) and why they have been selected. Your introduction should show that your choice of assignments has been deliberate.
- II. Two **reports of readings from the list of articles** (i.e., professional articles) that you have done for the class. In the introduction (I) you should indicate why you have chosen those readings as opposed to others. Each report should be no longer than one page single spaced (or two pages double spaced) and it should clearly address the following two prompts
 - i. What does the author contend and how do they argue for that point?
 - ii. In what specific way does the article help **you** think about mathematics teaching differently than you used to?
- III. Four **work reports** that you have done in class or at home. In the introduction (I) you should indicate why you have chosen those pieces of work and not others that were assigned to you. It is expected that you will use the instructors' feedback to improve your work and that the work you turn in reflect your best way of responding to the homework prompt **at the time the portfolio is prepared**. Work reports may include Homework assignments or In Class Assignments.
- IV. 15 mathematics problems from the list of mathematics problems. Once again, your introduction should show that you have chosen those problems for specific reasons tied to your learning to teach mathematics. For example they might have helped you refresh topics taught at your practicum placement, find elementary ways of handling a topic for which you'd normally use calculus, etc. Please use Equation Editor (Insert→Object→Microsoft Equation) to enter mathematics symbols in the word processor; or LaTeX.
- V. A concluding section (~2 pages) where you briefly account for your own assessment of the portfolio contents by contrasting the work you are displaying in the portfolio with what you would have been able to do before taking the course. Honest self-assessment of your own learning to teach mathematics and open reflection are encouraged and rewarded. (We will not grade you according to how you grade yourself. Rather, we will grade you according to how deeply you reflect on the whole process of learning to teach mathematics.)

Rubric

Quality →	Poor work	Acceptable work	Excellent work
Section ↓			
I	A table of contents or less than that	A general overview of the contents is provided and some overall rationale without a brief discussion of how each document fits into the picture	Documents named, organization of portfolio made explicit, and rationale stated for choosing each piece of work in relation to "learning to teach mathematics"
II	Review responds to only one prompt. Concentrates on a marginal point or indulges in	Review responds to both prompts but is unbalanced. In reporting the main points might emphasize marginal	Review responds to both prompts in a balanced and relevant way. Isolates main point of each article and elaborates on it

	polemic without purpose. Response to second prompt is too brief, cursory, or unrelated to the specific content of the article.	details as well as main points but be lean on argument. Response to second prompt might err being too general, too personal, or little reflective.	without going off into minor details of the article. Response to second prompt describes a specific aspect in which the article helps and signals to how the writer has thought of applying it.
III	Work is unresponsive to the prompt or contains conceptual mathematical errors.	Work is responsive to the prompt and mathematically complete and correct though is conceptually “in progress” on pedagogical issues	Work goes beyond responding to prompt and shows originality and interest, is conceptually clear in mathematical and pedagogical issues
IV	Some problems are solved incorrectly or demonstrate lack of knowledge of mathematical method (e.g., justifying a general property by way of a particular example). There are no explanations.	Three problems are solved correctly and completely in like manner as assignments turned in for a mathematics class. Explanations are brief and some difficulties writing mathematically are present.	Three different problems chosen are solved correctly, showing dexterity in mathematical writing, with complete explanations that address the issue in general and demonstrate the theoretical basis for the solutions achieved. The record for each problem demonstrates “added value:” The writer has gone above and beyond the question asked to formulate and tackle additional questions related to the question asked.
V	The document closes with a too succinct commentary that does not address the prompt	The author is clear on some aspects of his progress but ignores reporting on progress in aspects targeted by the course, or abounds in generalities.	The author candidly accounts for his or her progress, explicitly listing what her or his learning trajectory has been
Overall	Most sections poor, little work is acceptable	Most sections are acceptable though a piece may be poor and another excellent	Most work is excellent with some pieces of acceptable quality. No poor work.