How to Create and Use Practice Exams

**INTRODUCTION**

Preparing for a STEM exam can be a daunting task. Creating and using a practice exam can make exam preparation more manageable. Utilized effectively, a practice exam is not only an excellent study tool, but can also reduce test anxiety. Practice exams help you review material in an organized, comprehensive manner and can lead to greater success on exams.

**STEPS**

1. **Gather materials for the course:** graded and non-graded homework; quizzes; in-class notes, handouts, or worksheets; textbook(s)
2. **Find or create questions that cover all of the topics.** Try to go beyond just using a homework problem you have already done or “just” switching the numbers. Taking the time to create your own test questions allows you to think more deeply about the course content. Make sure to include conceptual questions, and try combining two to three concepts into a single problem.
3. **Find at least one other study partner you can work with in creating, taking and grading each other's practice exams.** Consider this to be a three to four hour process. Follow these steps to get the most out of this exercise. Each step creates a deeper learning experience for students.
   - Create your own practice exam. Find similar textbooks or go online to find example exam questions. Stress learning the material to retrieve an answer, rather than using a solution manual for solutions.
   - Keep in mind the allotted time you will have for the exam.
   - Take and grade your own practice exam.
   - Exchange practice exams with another student and complete the exams.
   - Grade each other’s practice exam.
   - Discuss each step and what you learned about concepts in the exams. Examples of things to discuss include: why did you choose certain topics or problems for your exam? Discuss why you graded the way you graded, etc.
4. **Note topics where you may need to go back and review, learn, and/or master.** The key is to identify your content weaknesses and focus your study time on those topics (80/20 rule).

**BEST PRACTICES**

- Review the syllabus, ask your professor, and/or use course review sheets handed out by your instructor to understand what content is covered on each exam. Get a good understanding of whether or not content is cumulative from exam to exam. In most STEM courses, content builds from previous material and courses build upon previous courses. Talk to your professor, advisor, or other STEM professionals to understand this.
- Talk to your professor to see if he/she provides practice exams or exam reviews. This could include a list of content they think is important, common questions, standard examples, or perhaps solutions to some of the work. Not all professors do this, but it is a question that is acceptable to ask.
- Ask your professor to describe the exam format. You should not expect the professor to tell you exactly what is on the exam, but you might hear: the number of problems, point allocations of problems, number of pages, types of problems (multiple choice, word problems, etc.), a general sense of the exam break down.
- Talk to other students who have taken the professor for the same course. Be sure to connect with students who have a similar learning style to yours and who are committed to learning. Ask them about their experiences with the exams written by your professor and get a sense for the types of problems on the exams.
Create a one-sided, one page document that contains the most important concepts for the new test material. The important concepts should include definitions, examples related to those definitions, graphs, formulas, etc. The most effective technique is to start this document as early as possible and use it as you complete assignments. At the end of the course these can be combined to prepare for the final exam.

When making the document, consider using a bulleted list. How do you know what content to include in the document? Ask yourself these questions:

- How much did the professor cover this topic? Was this topic on homework, practice problems, or quizzes? How much time was spent covering each topic? Was a large amount of emphasis placed on certain topics (i.e. homework points, number of homework problems on a particular topic, time in class, professor mentioned it many times, etc.)?

- Construct a practice exam as soon as possible as this will optimize your studying time when the exam date is near. You do not want to spend more time formulating a practice exam, rather than studying for the exam itself.

- Make sure your notes are accurate as they will influence what is placed on your practice exam!

- Try your best! Review the material regularly and consistently rather than in one crammed study session. Complete homework, even if it is ungraded, and attend class regularly.

SOURCES

Reference sheets can be found on the STEM Study Skills website, www.uwplatt.edu/ems-success/stem-study-skills.

NOTES

“There is no elevator to success. You have to take the stairs.” – author unknown

“There are far, far better things ahead than any we leave behind.” – C.S. Lewis

The College of EMS Study Skills project and its activities are supported by grant funding from the National Science Foundation STEM Talent Expansion Program Grant #1161180.