

# PREPARING FOR A PROBLEM SOLVING EXAM

Preparing for an exam starts from the beginning of the semester, but here is how you prepare yourself starting about three weeks before the exam:

1. Get the big picture
2. Practice doing problems
3. Connect concepts and procedures
4. Study with others in the class

## 1. Get the big picture

Go over your course outline, chapter topics, and class notes: make a list of the main topics or concepts this course is about

- Review topic by topic; manage your time to make sure that you can cover every topic before the exam
- Prepare summary sheets for each topic: list concept, different procedures based on that concept, procedure steps, exceptions, tricky bits, etc.
- Test yourself on these summary sheets: explain procedures in words, recall formulas, exceptions, etc.

## 2. Practice doing problems under exam conditions

- Do lots and lots of problems without using your notes or text
- Photocopy problems from all the chapters you are responsible for in your text, cut them up and put them in a box; then pull problems to do randomly without notes
- Do old exams, if you can get them, without accessing your notes and with a time limit. If not, ask your classmates to design exam question
- Solve questions that your classmates have designed (and you have not seen) to simulate an exam situation

## 3. Connect concepts and procedures

- Try to make hierarchies, flow charts or other types of visual aids to show how one concept can be used in various ways or to compare similar procedures. Most of us have strong visual memories which can kick in when intuition fails under the pressure of an exam

## 4. Study with others in your course

- Explain to each other how to do difficult problems
- Predict/design exam questions on the most important concepts

# TAKING A PROBLEM SOLVING EXAM

## GETTING STARTED

- Go prepared with all the equipment you will need: calculator with an approved sticker with ENCS, Student ID card, etc.
- Do a "memory dump" as soon as the exam starts: write down anything you're afraid you will forget
- Read directions carefully
- Look through the whole exam quickly: mark questions that you know how to do; while your mind is fresh, write down any formulas or information you will need to do any of the problems
- Budget your time for each question depending on how much it is worth; e.g. spend 10% of your time on a question worth 10% of the marks
- Start with the questions that seem easiest to you

## WORKING PROBLEMS

- Read each question carefully; underline key words
- Write down what you're given and what you have to find (note the unit); draw a table or diagram if possible
- Use lots of space and write big (so you won't miss those negative signs); always show all your work
- Respect your time plan; if you run out of time before you finish a question you know how to do, write in point form what you would do if you did have time to finish
- If you discover a mistake after you have finished a question, don't erase or cross out the problem. Indicate where the error is and leave it. Also, if possible, note how it would change the rest of your solution. You may have time at the end to redo the problem
- Check your answers whenever you can; check units; check that your answer is logically possible

## CONTROLLING YOUR ANXIETY

- Keep your mind focused on positive thoughts: e.g. you can do it, you'll go for part marks on a difficult question, etc.
- Use deep breathing to keep your anxiety in control at the beginning and throughout the exam
- Think about writing exams as a chance to show the professor what you know