Instructor: Joseph Peters  SUR 4136
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Office hours: SUR 4136, Friday 9:30–10:20 or by appointment

TA: Oleksii Omelchenko  oleksii.omelchenko@sfu.ca
Office hours: SUR 4064, Monday 12:30–13:20,
Wednesday 11:30–12:20

Lectures: Monday, Wednesday, Friday 10:30–11:20, SUR 5240

Grading
Homework Problems  20%
Quizzes (3 × 45 minutes)  3 × 10%
Final Exam (3 hours)  50%

Website:  www.cs.sfu.ca/~peters/307/index.html

Course Organization

This course is primarily a course on problem solving - choosing good approaches and recognizing when a solution is a good solution. Data structures and algorithmic paradigms are the source material used in this course to learn about problem solving and analysis of the solutions. Problem solving is not something that can be learned by listening to somebody talk about it or by watching somebody present solutions. It requires active involvement and lots of practice. This course is organized to encourage active participation and practice. Students are encouraged to discuss the course material and concepts with each other if this helps you to learn. However, read the discussion below about collaboration on homework very carefully.

The course will be organized into six units of approximately the same length (except the first unit is longer). Readings for each unit will be announced in advance. I will generally present the material in a conceptual way in lectures and leave the details to the textbook. Students are encouraged to read the material in the textbook before the lectures so that lecture time can be used to provide intuition, clarify difficult material, and answer questions.

Course Outline

The course will be based on Chapters 0–6 and 8 of the course textbook. A few of the topics in these chapters will be omitted and the course will be supplemented with some additional material from other sources. I will always announce readings in advance, so you will have sufficient time to prepare for lectures. I will provide handouts or links for the supplementary material. The six units of the course are the following.
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<td>Divide-and-conquer</td>
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<td>Graphs and graph algorithms</td>
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<td>Dynamic programming</td>
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<tr>
<td>6</td>
<td>8</td>
<td>Introduction to NP-completeness</td>
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**Homework**

Homework problems and sometimes exercises will be assigned for each unit (except only exercises will be assigned for the last unit). The problems involve new problem-solving techniques or new concepts or methods. The exercises are more mechanical and are intended for practice and to reinforce material. The exercises will not be graded.

The homework problems will be collected and graded. You are encouraged to consult with the instructor, the TA, and your classmates to clarify the problems. However, these problems are intended to be individual work and should not be solved in a group setting with your classmates. The solutions that you submit must be entirely your own work; we will not accept solutions copied from the Internet or papers or books or other students. Copied solutions will be considered to be plagiarized which is a serious academic offence. Of course, you may freely use the material in the course textbook and any other supplementary material that is distributed in class. If you are using other material (such as another textbook), please give references to your sources. If you have any questions about this policy, please ask.

The homework problems and exercises and the homework due dates will be posted on the course website. Homework should be submitted in the course assignment box across from SUR 4380 no later than 10:15 AM on the due date. The box will be emptied at 10:15 AM and late homework will not be accepted or graded.

**Quizzes and Final Exam**

There will be three 45-minute in-class quizzes on the following dates:
- Wednesday, October 10, 10:30–11:15
- Friday, November 2, 10:30–11:15
- Monday, November 26, 10:30–11:15

Each quiz will cover approximately one quarter to one third of the course material. The quizzes are no aids (closed book, no calculators or other electronic devices). More details will be posted on the course website.

The Final Examination will be a three hour exam on Thursday December 13, 15:30 to 18:30, and will cover all parts of the course. The final exam will be no aids. The room will be announced later.

**Course Resources**


Errata can be found at [http://cseweb.ucsd.edu/~dasgupta/book/errata.pdf](http://cseweb.ucsd.edu/~dasgupta/book/errata.pdf)

If something in the book doesn’t look right, first check the list of errors.