Course Information for Math 402W

Meeting Time:	TuTh 10:30–12:20 in SUR 3290
Instructor:	Tamon Stephen
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Office Phone:	778–782–7429
E-mail:	tamon@sfu.ca
Web page:	`http://www.math.sfu.ca/~tstephen/Teaching/1161_Math402W/`
Office Hours:	Following class and by appointment.
Text:	None.
Grading:	10% Warm-up Project, 10% Article Review, 80% Final Project.

1. **Syllabus.** This course is centred around a group project. The objective is to model and analyze real-world problems that require substantial mathematical (Operations Research) techniques. Students will select the problems and present their analyzes in written reports and oral presentations.

2. **Course Requirements.** The main requirement for the course will be the successful completion of the main group project, worth 80% of the final grade. There will also be a warm-up group project, worth 10%, and an article review, which will be done individually.

   Note that class does not follow a lecture format. Students are required to attend, and will meet in their groups and with the instructor during the class meeting times.

3. **Timeline.** We will begin the warm-up projects immediately, with papers and presentations due in class on Tuesday, January 19th. We should choose the articles for the article review by Thursday, January 14th, with the reviews due on Thursday, January 28th.

   The main group projects will begin in earnest on Thursday, January 21st. Topics should be established by Tuesday, February 2nd. Note that reading week is February 9th to 14th. Detailed proposals are due Thursday, February 18th. There will be a progress report on Thursday, March 10th, and the final reports will be due, along with in-class presentations on the final day of classes, that is, Thursday, April 7th.

4. **CORS Student Paper Competition.** Since the first full offering of the course, students have been submitting high-quality projects to the CORS (Canadian Operational Research Society) undergraduate student paper competition. Remarkably, from 2012 to 2014, SFU students won both the first prize and the honourable mention. The 2013 winning entry featured in an SFU media release.

   If the projects look promising, we may be able to submit the projects from this course to the 2016 competition. Note that to do this, as described in the application procedure, you must indicate your intent to participate by **Monday, February 15th** and send the competition version of the paper to CORS by **Thursday, March 31st**.

   This year's CORS conference is in Banff, **May 30th** to **June 1st**.

5. **Exams.** There are no tests or exams in this class.

6. **Participation.** Since this class is based on group work, attendance and punctuality in class are critical, as well as active participation in group activities. These will be considered when assigning grades.

7. **Religious Accommodations.** Students requesting religious accommodation must tell the instructor by the end of the first week of term.

8. **Resources.** There is a copy of Hillier and Lieberman's *Introduction to Operations Research* on reserve at the Surrey library. This provides a useful introduction to Operations Research modelling, and many of you are likely familiar with it from Math 348.

   The Operations Research Student Union published a booklet containing journal versions of the three 2012 Operations Research Clinic projects. A copy of this booklet is on reserve at the Surrey library. This can help you get an idea of what these projects should look like. The first two papers in this booklet were entered in the 2012 CORS (Canadian Operational Research Society) undergraduate student paper competition. They won honourable mention and first prize, respectively. The 2013 and 2014 projects have now also been published. I have a copies available which you can borrow.

   Some non-technical presentations of very large scale Operations Research projects are available at the Edelman Awards Presentations of INFORMS (Institute for Operations Research and Management Science).

   For papers that present Operations Research cases along with substantial technical details, see Operations Research, an INFORMS journal. One of these papers will the be the subject of your article review. Note that if you are off-campus, you will need to access the journal through the SFU library using student Internet credentials. Another good source of general less technical presentations of successful operations research projects is another INFORMS journal, Interfaces.

9. **Software.** Your optimization models will not be easy to solve, so you will need to access to current mathematical software. This will be arranged with the instructor, using educational software licences.

10. **Questions.** Questions are encouraged in class and out.

Have a great term!