Course Information for Math 348

Meeting Time:	MWF 9:30–10:20 a.m. Blusson Hall 10021 (Burnaby campus)
Instructor:	Tamon Stephen
E-mail:	tamon at sfu ca
Office Phone:	778–782–7429 (Surrey)
Office:	2886 Podium 2 (Surrey). Office hour in SCK 10516 (tentative).
Office Hours:	Mondays, 11:30 a.m.–12:20 p.m. (tentative)
Teaching Assistant:	Tom Pender, thomas_pender at sfu ca
Tutorial:	Tuesday 1:30–2:20 p.m. AQ 5016
Web page:	Canvas + `http://www.math.sfu.ca/~tstephen/Teaching/1237_Math348/`
Text:	*Simulation*, 6th ed., by Sheldon M. Ross
Grading:	15% Homework, 20% Midterm 1, 20% Midterm 2, 45% Final Exam

1. **Syllabus.** Review of the basics of probability, including sample space, random variables, expectation and conditioning. Applications of Markov chains, the exponential distribution and the Poisson process from science and industry. Applications may include inventory theory, queuing, forecasting, scheduling and simulation.

2. **Course Requirements.** There will be about 5 assignments. The marker will grade all or some of the questions in each assignment. There may be unannounced pop-quizzes that assess how carefully you have prepared for the course material. Assignments will be submitted via `Crowdmark`. There will also be two midterms and a final exam.

3. **Tests.** Books, notes and calculators cannot be used on these tests. Students **must** plan to take the tests at their scheduled times. The midterms are tentatively scheduled for **Wednesday, October 11th** and **Wednesday, November 15th** in class.
   The final exam will take place during the exam period as scheduled by SFU.

4. **Assignments.** The assignments in this class will require detailed, well written solutions. Some questions may be open-ended. There may be team assignments.
   Assignments will be posted in `Canvas` and submitted on-line via `Crowdmark`.

5. **Academic Integrity.** Please review the SFU Academic Integrity information page. In particular, note that there is now a section on the use of generative AI. For this course, the expectation is that you should **not** use generative AI to solve the problems.
   If it appears that this is happening, for instance due to answers on different papers coinciding, then penalties will be applied, including zero grades for assignments.
   You are encouraged to discuss problems with your classmates, but you must write up your own solutions. Please credit all sources of assistance. Note the SFU Library has a Tutorial on Plagiarism that discusses what should be cited and how.

6. **Feeling unwell?** Please stay home. Absences will be handled as fairly as possible on a case-by-case basis. If the instructor feels unwell, there is some possibility of classes being moved to `Zoom`. In that case, announcements will be made by e-mail to the class list.

7. **In person.** Further to the above, this is primarily an in-person course. Lectures are not recorded, and only a limited portion of class notes will be posted.

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

9. **Environment.** As your instructor, I strive to create a learning environment that supports a diversity of thoughts, experiences and identities, including gender identity, race, religion, age, national origin, sexual orientation, neurodiversity, and ability. I value your participation in the course. Please let me know if there is any way that I can better support your learning needs. As a student, I expect you to review and adhere to the SFU Student Conduct Policy.

   The Department of Mathematics Equity, Diversity, and Inclusion Advisory Group is a committee that works towards ensuring that the department is a safe, respectful, and inclusive working and learning environment. We encourage you to reach out to the EDI Advisory Group with any equity, diversity, and inclusion concerns and/or ideas.

   Resources: `https://www.sfu.ca/edi/support/students.html`.

   Math EDI Advisory Group: `http://www.sfu.ca/math/edi.html`.

10. **Textbook(s).** The course textbook is *Simulation* (6th edition) by Sheldon M. Ross. It's a respected book that covers the topics planned for this course. It has many exercises. And it is quite dense. Our focus will be on Chapters 1 through 5, and 7.

    For (much) more detail on mathematical probability, you can consult for instance *Probability Models* (12th edition) by the same author. This was previously the textbook for this course. There are many other textbooks that offer introductions to probability that may suit some people well. Some of these are available freely on-line, such as this one `https://open.umn.edu/opentextbooks/textbooks/introduction-to-probability`.

    To learn more about modelling, you can consult the books associated to the `AnyLogic` software, available at `https://www.anylogic.com/resources/books/`, in particular, try the *Big Book of Simulation Modeling*, whose key chapters are available for free download. (Other chapters apparently have yet to be written.)

    Note that both Ross books are available on-line to SFU students via the SFU library:
    Simulation.
    Probability Models.
    When you are on campus, access should happen seamlessly. When you are off-campus, it requires user-id and password.

11. **Computing.** In this course we will try to implement computer simulations of some of the models we are studying using the `AnyLogic` software package. You should read the `AnyLogic` Getting Started page and download a copy of `AnyLogic PLE` for your personal desktop or laptop machine.

12. **Tutorials, Office Hours and Support.** Tutorials begin in the second week of class on September 12th. They will also be an opportunity for you to discuss the material with the Teaching Assistant. You are encouraged to bring questions.

13. **Bonus Tuesday.** Note that the class will meet once outside the usual pattern on Tuesday, October 10th. There will be no tutorial that week.

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

Have a great term!