



**Faculty of Science & Technology
Department of Mathematics**

Course Title:	Discrete Mathematics	Instructor:	I.T. Ivanov
Course Number:	201-SF5-RE	Office:	D 264
Section:	00002	Phone:	514-744-7500 ext. 7737
Semester:	Fall 2024	Email:	ivanovi@vaniercollege.qc.ca
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Course Description: Topics include: set theory, logic, introduction to number theory, principles of counting, recurrence relations, a survey of graph theory, and application of matrices to graphs.

Course Objectives: This course introduces students to the tools and techniques of discrete mathematics and their applications in computer science.

Ponderation: Theory 3 hours per week, Lab 2 hours per week, Homework 3 hours per week

Prerequisites: Secondary V mathematics. 201-SN4-RE Linear Algebra is a corequisite.

Teaching Methods: A lecture/workshop approach to learning the theory and the techniques of discrete mathematics accompanied by weekly assignments will prepare the student for two term tests and a final exam. The concepts and algorithms studied in the course will be illustrated with real-life applications.

Textbook: Mathematical Structures for Computer Science, by Judith L. Gersting, 7th Edition, W.H. Freeman and Company (2014) (Purchase is optional).

Additional Expenses: Scientific calculator.

Office Hours: Thursdays 14.30 - 16.00 or by appointment

Competencies to be achieved: Please consult the course content document for details on the course objectives and expected learning outcomes. It is available for viewing on Omnivox.

Approximate Dates of Evaluations: The first term test will be given during the 5th week of classes. The second term test will be given during the 10th week of classes. The final exam is in the Final Exam Period. The three exams will be written in person. Written assignments will be due every week.

LIA (Learning Integration Assessment): The LIA for this course consists of a cumulative final exam worth 40% of the term mark. If it is to the benefit of the student, the LIA will be reweighted to 80% of the course grade.

Evaluation Procedures and Breakdown of Marks:

Schema 1:

- 15% First Term Test
 - * Week of September, 16th (if missed will be rescheduled in the Final Exam period).
- 25% Second Term Test
 - * Week of October, 28th (if missed will be rescheduled in the Final Exam period).
- 40% Final exam.
 - * To be scheduled in the Final Exam period.
- 20% Problem Solving, Lab work
 - * Weekly assignments, lab exercises and simulation work.
 - * All assignments are to be submitted in person in a short discussion with the teacher.

Schema 2:

- 80% Final exam.
 - * To be scheduled in the Final Exam period.
- 20% Problem Solving, Lab work
 - * Weekly assignments, lab exercises and simulation work.
 - * All assignments are to be submitted in person in a short discussion with the teacher.

Academic Resources:

The Tutoring & Academic Success Centre (TASC) provides free peer tutoring every workday in E 300. See www.vaniercollege.qc.ca/tasc for further details.

Classroom Policies:

1. The student will need to document short-term absences due to illness/medical reasons by declaring their absence to the College by completing this form: <https://bit.ly/medical-absence>. The students must send one MIO to all teachers with whom they have missed classes and include a screenshot of the completed self-declaration form - ideally on the date of the absence (at the very latest, within 48 hours).

2. Attendance is highly recommended. The student has to remain informed about what takes place in class he/she misses. Absence from class does not excuse students from their responsibilities.

3. Active participation in class and Lab activities is very strongly encouraged. Interesting and pertinent observations as well as relevant questions posed without interrupting the classroom flow usually leads to deeper learning and understanding.

4. Students are expected to check the course web page regularly. Course material, announcements, and important dates will be posted there.

Course Policies:

General Academic Policies: It is the student's responsibility to be familiar with and adhere to the Vanier College Academic Policies. These policies can be found online on the Vanier College website, under Policies. Your attention is drawn in particular to the following policies. A summary of each is included.

Student Academic Complaints (Policy number 7210 - 8) The Vanier College Student Academic Complaints Policy and procedures emphasize mediation as the primary means to resolve complaints in the academic area. If you have a problem with a teacher and have been unable to resolve it by talking with him or her, you may wish to enlist the help of the Faculty Mediation Committee. The committee member names and contact information are available in Student Services or through one of the Faculty Dean.

Academic Misconduct (Policy number 7220 - 31) Any form of academic misconduct will result in a grade of zero on the test or assignment and a letter from the teacher will be placed in your file. A repeated offence may lead to even more serious consequences. Please consult the Vanier Student Writing Guide, the Vanier College Catalogue, the Student Handbook, and your teacher for more information on what qualifies as academic misconduct according to the Institutional Policy on the Evaluation of Student Achievement (IPESA).

Student Misconduct in the Classroom (Policy number 7210 - 19) This policy provides guidelines for handling cases of student misbehaviour in the classroom and other instructional settings. Such cases may include conduct that is abusive to the teacher and/or other students, or disruptive to the teaching/learning process. This policy does not limit the teacher's or the College's right to take immediate action in cases of imminent danger to persons or property.

Code of Conduct: The Code of Conduct sets forth principles, guidelines and norms of behaviour expected from all individuals present at Vanier College, including students, faculty, employees, administrators, members of the Board of Directors, contractors, and visitors.

Student Absences for Religious Holy Days see IPESA, Section 2.2.6) Students whose religious obligations require them to be absent from the College on a holy day not formally recognized in the College calendar must inform their teachers, in writing, during the first week of classes, of the particular date(s) and times of the religious holy days on which they must be absent by completing and submitting to their teacher the Religious Holy Days Absence form found on the Registrar's Office page on the Vanier College website <http://www.vaniercollege.qc.ca/registrars/request-forms/religious-holy-days>. Absences approved in this manner are considered to be excused absences. Students are responsible for the material covered in the classes and labs they miss.

Student Proficiency in the Language of Instruction (Policy number 7210-33) The purpose of this policy is to foster student proficiency in English, the formal language of instruction at Vanier College. Emphasis on literacy and communication skills (writing, reading, speaking, and listening) is essential to students' academic and professional success.

Academic Complaints:

Department Coordinator: Stephen Newbigging newbiggs@vaniercollege.qc.ca

Faculty Dean: Haritos Kavallos kavalloh@vaniercollege.qc.ca