University of Manitoba
Faculty of Science
Department of Mathematics

1 Course Details

Course Title & Number	MATH 2160 A01: Numerical Analysis 1
Number of Credit Hours	3
Lecture Times & Days of Week	8:30 am – 9:45 am TR
Location for lectures	ARMES 201
Lab Times & Days of Week	3:30 pm – 4:20 pm W
Location for labs	B01: BULLER 306, B02: UNIVERSITY COLLEGE 244
Pre-Requisites	[MATH 1232 (C) or MATH 1690 (C) or MATH 1700 (B) or MATH 1701 (B) or MATH 1710 (B)] and [MATH 1220 (C) or MATH 1300 (B) or MATH 1301 (B)]
Not to be held with	MATH 2120 (Eng)

2 Instructor Contact Information

Instructor(s) Name	Richard Mikaël Slevinsky
Office Location	421 Machray Hall
Office Hours or Availability	1:00 – 2:00 pm TWF or by appointment or walk-in.
Office Phone Number	204-474-6647
Cell Phone Number	431-334-9330 (mathematical emergencies)
E-mail	Richard.Slevinsky@umanitoba.ca All e-mail communication must conform to the Communicating with Students university policy. E-mail inquiries will be answered as soon as possible.

3 Course material

The course is entirely based on course notes that are available through the bookstore and electronically on UM Learn. However, for a second opinion, it is recommended that you have a numerical analysis textbook; the following has been ordered through the bookstore

K. Atkinson and W. Han, *Elementary Numerical Analysis*, third edition, 2003.

A copy of JULIA-1.0 or JULIA-0.7, available from https://julialang.org/downloads/.

4 Course Outline

Elementary techniques of numerical solution of mathematical problems: solution of equations, linear systems of equations, nonlinear equations; finite and divided differences, interpolation; numerical differentiation and integration.

5 Attendance Policy

Attendance in the lectures and labs is mandatory.

6 Course Evaluation Methods

Students will be assessed using lab quizzes, a midterm, and a final examination.

Date	**Assessment Tool**	**Value of Final Grade**
Bi-weekly	Lab quizzes	10%
Tuesday, October 30, 2018	Midterm examination	30%
TBA	Final examination	60%

7 Grading

We will use the following scheme, subject to adjustments due to overall class performance.

Letter Grade	Minimum percentage to guarantee	Final Grade Point
A+	95	4.5
A	86	4.0
B+	80	3.5
B	72	3.0
C+	65	2.5
C	60	2.0
D	50	1.0

8 Grading Expectations

Normally, students can expect tests and quizzes graded and returned within one week. Feedback will include a numerical grade and any comments that may be helpful for the students and/or that may be helpful for the justification of the grade.

9 Schedule of quizzes and assignments

The quizzes will be held in the labs bi-weekly. At the end of every chapter, there is a list of suggested problems. They are **optional** and not for marks, although it is strongly recommended that you try to solve the problems. A tentative schedule for yourself would be as follows. I am happy to review your work, if you wish.

Assignment	Date
Chapter 1	5:00 pm, Friday, September 28, 2018
Chapter 2	5:00 pm, Friday, October 19, 2018
Chapter 3	5:00 pm, Friday, November 2, 2018
Chapter 4	5:00 pm, Friday, November 16, 2018
Chapter 5	5:00 pm, Friday, November 30, 2018
Chapter 6	5:00 pm, Friday, December 7, 2018

10 Policy on missed quizzes and tests

No missed quizzes will be accepted; however, the lowest quiz grades will not be counted.

A student missing the midterm who contacts the instructor within two days of the scheduled midterm with supporting documentation may be provided with the procedure for a make-up midterm.

11 Course Technology

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Student Accessibility Services. Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline "gaming" during scheduled class time.

We will use UM Learn and e-mail communication as the primary technologies and transmission of information.

12 Recording Class Lectures

Richard Mikaël Slevinsky holds copyright over the course material, presentations, and lectures which form part of this course. Audio or video recording of lectures, labs, and/or presentations is allowed in any format, openly or surreptitiously, in whole or in part so long as they are only used for the participant's private study and research.

13 Student Accessibility Services

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services http://umanitoba.ca/student/saa/accessibility/
520 University Centre

204-474-7423
Student_accessibility@umanitoba.ca

14 Academic Integrity

This section provides additional information to the general information about academic integrity and student discipline described in Schedule A Policies and Resources.

(i) Exams and quizzes are to be completed independently.

(ii) Students are encouraged to complete **optional** assignments in collaboration with other students registered in MATH 2160. Students should be able to complete more than $2/3$ of any given assignment independently.