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	BULLER 527
Lab Times & Days of Week	4:30 pm – 5:20 pm W
Location for labs	B01: BULLER 315, B02: BULLER 306
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	2:00 pm – 3:00 pm W
Office Phone Number	204-474-6647
Cell Phone Number	431-334-9330
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 Required material

The course is designed based on customized course notes that will be available electronically. I recommend that students have *a* numerical analysis textbook. An order has been placed so that the book

K. Atkinson and W. Han, *Elementary Numerical Analysis*, third edition, John Wiley & Sons Inc., 2004.

is available in the University of Manitoba library (basement of University Centre). However, other books to consider in your collection include

W. Gautschi, *Numerical Analysis*, second edition, Birkhäuser, 2012.

J. Stoer and R. Bulirsch, *Introduction to Numerical Analysis*, third edition, Springer-Verlag, 2002.

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 assignments, lab quizzes, a midterm, and a final examination.

Date	**Assessment Tool**	**Value of Final Grade**
By chapter	Assignments	10%
Weekly	Lab quizzes	10%
Thursday, October 27, 2016	In-class midterm examination	30%
TBA	Final examination	50%

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 Assignment Grading Times

Normally, students can expect assignments 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 are required for the justification of the grade.

9 Schedule of tests and quizzes and assignments

The quizzes will be held in the labs weekly; the assignments for each chapter of the course notes are tentatively due as follows.

Assignment	Date
Chapter 1	5:00 pm, Friday, September 23, 2016
Chapter 2	5:00 pm, Friday, October 14, 2016
Chapter 3	5:00 pm, Friday, November 25, 2016
Chapter 4	5:00 pm, Friday, December 9, 2016
Chapter 5	5:00 pm, Thursday, December 22, 2016
Chapter 6	5:00 pm, Friday, January 6, 2017

10 Policy on missed or late assignments, quizzes, test

No late assignments will be accepted; no missed quizzes will be accepted. However, the lowest quiz and the lowest assignment 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 may use the UM Learn technology. However, e-mail communication will be the primary technology and transmission of information.

12 Recording Class Lectures

Richard Mikaël Slevinsky and the University of Manitoba hold 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) If a portion of a student's assignment is completed in collaboration with another student registered in MATH 2160, then the student must report this on the assignment using a clear sentence such as:

"Questions 1 & 2 were completed in collaboration with Jane Doe, Student ID #."

Students should be able to complete more than 65% of any given assignment independently.