**Department of Mathematics & Statistics**
**Concordia University**

# ACTU 386
Actuarial Math Lab II
***Winter 2026***

**Instructor:** Nicolas Gandolfo
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**Class Schedule:** Thursdays, 17:45-20:15.
Note: There will be a mid-term break from March 2 to March 8.

**Text:** There is no required text.

**Course Evaluation:** Assignments 100%. No midterm/final exam.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

**Introduction to Excel (5 weeks) – 35% of the overall score for the course**

| Excel | | | |
|---|---|---|---|
| Introduction to the Basic Concepts Relative to a Pension Plan<br>• Types of pension plans<br>• Normal Cost<br>• Actuarial Liability | Commonly Used functions<br>Lookup functions<br>Move, Copy and Edit methods<br>Window Options<br>Undo function<br>Help functions | Creating a chart<br>Formatting a chart<br>Functions related to dates<br>Find and Replace functions<br>Sort functions<br>Subtotal functions<br>AutoFilter functions<br>Pivot Table functions<br>Protection features | Control objects<br>Functions related to text<br>VBA – User defined functions<br>Iterative functions<br>Comments<br>Data Form functions<br>Audit functions<br>Error messages |
| Excel Environment<br>Others actuarial uses of Excel | | | |

**Introduction to Access (5 weeks) – 35% of the overall score for the course**

| Access | | | |
|---|---|---|---|
| Access Environment<br>Creating a database<br>Editing a table<br>Getting info in and out of a database | Creating Forms<br>Sort and Filter functions<br>Queries<br>SQL queries | Keeping the information accurate<br>Reports<br>Sharing the database<br>Security | Pages and Modules |

## Introduction to Axis (3 weeks) – 30% of the overall score for the course

| Axis | |
|---|---|
| Introduction to the basic concepts relative to life insurance<br><br>o Definition of life insurance<br>o Different types of coverage available<br>▪ term vs Whole life<br>▪ universal vs. traditional<br>▪ lapse supported product<br>▪ | Introduce the concept of modules, datasets<br>Learn how to navigate within AXIS<br>Describe the concepts of Funds, Subfunds and Cells<br>Describe the mechanics of a cell<br>Learn to use certain functionalities: overrides, filters, etc...<br>Work through a case study of how Axis can be used to price a simple life insurance plan. |

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