Minor Program Adjustment Template

Faculty: Business and Information Technology	**Date**: January 3, 2017
Program: Finance Minor for Applied and Industrial Mathematics students	
Undergraduate: ☒	**Graduate**: ☐

Motion: That CPRC approve the creation of a minor in Finance that will be made available to eligible students in the Bachelor of Science in Applied and Industrial Mathematics (or Mathematics) program at UOIT.

Proposal Brief

Summary of the proposed change

In consultation and collaboration with the Faculty of Science and the Applied and Industrial Mathematics program, the Faculty of Business and Information Technology has created a finance minor to be offered to students enrolled in the Bachelor of Science in Applied and Industrial Mathematics program. This minor is a modification of the finance minor offered to BComm students. Eligible students will be required to take 18 credit hours in finance courses including four required courses (BUSI 2050 or ECON 2020, BUSI 3405, BUSI 2410. BUSI 3420) and two elective courses.   The Applied and Industrial Mathematics program contains 10 elective choices for students, leaving them with ample opportunity to minor.

Description of the ways in which the proposed change will enhance the academic opportunities

Mathematics is a fundamental component within every aspect of scientific endeavour and underlies much of our daily activities. Mathematics is a key component of problem solving, from the modelling of atmospheric physics to the complexities of managing risk in financial markets. For instance, computational finance focused on the measurement, management and analysis of financial risk, and provides detailed insight into numerical and computational techniques in the pricing, hedging and risk management of financial instruments. Furthermore, it is well understood and noticed that modern finance is becoming increasingly technical, requiring the use of sophisticated mathematical tools in both research and practice. Thus, the Faculty of Business and Information Technology (FBIT) offers students in the Applied and Industrial Mathematics (or Mathematics) program the opportunity to take a minor in Finance.

Process of consultation with other units if the change(s) involves students, staff and faculty from other programs or courses

The Faculty of Business and Information Technology has collaborated with the Faculty of Science and the Applied and Industrial Mathematics faculty members in the development of this minor.

Transition Plan

Will be offered beginning Fall 2017.

Analysis of the financial and enrolment implications
FBIT will see a slight increase in enrollment in the required finance courses, which will be taken into account when scheduling and allocating space for these courses.

Proposed Implementation Date
Fall 2017

Calendar Copy and/or Program Maps (highlight revisions to existing curriculum)

Finance Minor for Applied and Industrial Mathematics Students
A minor in Finance is available to students in the Applied and Industrial Mathematics program at UOIT. Mathematics is a key component of problem solving, from the modelling of atmospheric physics to the complexities of managing risk in financial markets. For instance, computational finance focused on the measurement, management and analysis of financial risk, and provides detailed insight into numerical and computational techniques in the pricing, hedging and risk management of financial instruments. Furthermore, it is well understood and noticed that modern finance is becoming increasingly technical, requiring the use of sophisticated mathematical tools in both research and practice.

Admission requirements
Students can apply to have a finance minor added to their program in the winter semester of their second year in the program. Admission is competitive and based on performance in the program as well as previous business courses. Students must have a minimum 2.3 GPA (C+ average on a 4.3 scale) to be considered as well as at least a C+ grade in each BUSI 2050U Managerial Economics or ECON 2020U Macroeconomics AND BUSI 2410U Managerial Finance to be considered.

Finance Minor Core Courses
BUSI 2410U – Managerial Finance
BUSI 2050U – Managerial Economics or ECON 2020U -Macroeconmics
BUSI 3405U – Equity Asset Analysis
BUSI 3420U – Derivative Securities

Finance Minor Electives (choose two)
BUSI 3440U – Financial Modelling
BUSI 3480U – International Finance
BUSI 4405U – Portfolio and Investment Strategies
BUSI 4440U – Financial Econometrics
BUSI 4490U – Special Topics in Finance

Applied and Industrial Mathematics Program Map incorporating Finance Minor
Year 3
Semester 1 (15 credit hours)
- Applied and Industrial Mathematics elective**
- **BUSI 3405U Equity Asset Analysis or Finance Minor Elective**
- **BUSI 2050U Managerial Economics or ECON 2020U Macroeconomics**
- MATH 3020U – Real Analysis
- MATH 3050U – Mathematical Modelling

Semester 2 (15 credit hours)

- Applied and Industrial Mathematics elective**
- **Finance Minor Elective or BUSI 3405U Equity Asset Analysis**
- MATH 3060U – Complex Analysis
- MATH 4020U – Computational Science II
- PHY 3040U – Mathematical Physics

Year 4

Semester 1 (15 credit hours)

- Applied and Industrial Mathematics elective**
- **BUSI3420U Derivative Securities or Finance Minor elective**
- MATH 4010U – Dynamical Systems and Chaos
- MATH 4050U – Partial Differential Equations
- One of:
  MATH 4410U – Mathematics Thesis Project I *** **or** Senior Science elective **

Semester 2 (15 credit hours)

- Applied and Industrial Mathematics elective**
- **Finance Minor Elective or BUSI3420U Derivative Securities**
- **BUSI 2410 Managerial Finance**
- MATH 4060U – Industrial Mathematics
- One of:
  MATH 4420U – Mathematics Thesis Project II *** **or** Senior Science elective **

APPROVAL DATES

Date of submission	January 2017
Curriculum Committee approval	January 10, 2017
Faculty Council approval	January 12, 2017