ORIGINAL COURSE IMPLEMENTATION DATE: November 1994
REVISED COURSE IMPLEMENTATION DATE: September 2018
COURSE TO BE REVIEWED (six years after UEC approval)**:** February 2024
Course outline form version: 10/27/2017

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BUS 404	**Number of Credits:** 3 Course credit policy (105)
Course Full Title: Management Science **Course Short Title:**	
Faculty: Faculty of Professional Studies	**Department (or program if no department):** School of Business

Calendar Description:

Management science covers the application of basic mathematics and statistics to aid managerial decision making in order to help solve a wide variety of problems in the business environment. This course applies theory through the extensive use of spreadsheets to provide solutions to a variety of business problems.

Prerequisites (or NONE):	60 university-level credits including STAT 106.
Corequisites (if applicable, or NONE):	
Pre/corequisites (if applicable, or NONE):	

Antirequisite Courses *(Cannot be taken for additional credit.)*
Former course code/number:
Cross-listed with:
Dual-listed with:
Equivalent course(s):
(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar hours	45
Tutorials/workshops	
Supervised laboratory hours	
Experiential (field experience, practicum, internship, etc.)	
Supervised online activities	
Other contact hours:	
Total hours	**45**

Labs to be scheduled independent of lecture hours: ☒ No ☐ Yes

Special Topics
This course is offered with different topics:
☒ No ☐ Yes *(Double-click on box to select it as checked.)*
If yes, different lettered courses may be taken for credit:
☐ No ☐ Yes, repeat(s) ☐ Yes, no limit
(The specific topic will be recorded when offered.)

Transfer Credit
Transfer credit already exists: *(See bctransferguide.ca.)*
☐ No ☒ Yes
Submit revised outline for rearticulation:
☒ No ☐ Yes *(If yes, fill in transfer credit form.)*

Grading System
☒ Letter Grades ☐ Credit/No Credit

Expected Frequency of Course Offerings:
Fall and Winter
(Every semester, Fall only, annually, every other Fall, etc.)

Department / Program Head or Director: Dr. Frank Ulbrich	**Date approved:**	January 2018
Faculty Council approval:	**Date approved:**	January 12, 2018
Dean/Associate VP: Dr Tracy Ryder Glass	**Date approved:**	January 12, 2018
Campus-Wide Consultation (CWC)	**Date of posting:**	n/a
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	February 23, 2018

Learning Outcomes:

Upon successful completion of this course, students will be able to:

LO1. Apply structure to problems to facilitate finding solutions.
LO2. Analyze probabilistic problems to make selections when faced with multiple choices.
LO3. Construct simulation models to better assess business situations in production and services.
LO4. Explain inventory control systems.
LO5. Develop linear programs to solve a variety of problems.
LO6. Interpret the linear programming outputs.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.)*

In a computer lab for lectures and exercises.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials *(If more space is required, download Supplemental Texts and Resource Materials form.)*

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Andersen, D.R., Sweeney, D.J., Williams, T.A.,, et al	An Introduction to Management Science	☒	Nelson	
2.			☐		
3.			☐		
4.			☐		
5.			☐		

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

Microsoft Excel

Typical Evaluation Methods and Weighting

Final exam:	50 or 60%	Assignments:	10%	Field experience:	%	Portfolio:	%
Midterm exam:	30 or 40%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	%	Lab work:	%	Shop work:	%	Total:	100%

Details (if necessary):

If the student does better on the midterm than on the final, the midterm will be worth 40% and the final will be worth 50%. If the student does better on the final than on the midterm, the midterm will be worth 30% and the final will be worth 60%.

Typical Course Content and Topics

Module 1
- Introduction to Excel
- Decision Analysis — Assignment #1 (LO1, LO2)
- Simulation
- Inventory — Assignment #2 (LO1, LO2, LO4)
- Waiting Lines — Assignment #3 (LO1, LO3)

Mid-term exam (LO1 – LO4)

Module 2 – Linear programming (LP)
- LP Graphical Techniques — Assignment #4 (LO1, LO5, LO6)
- LP Sensitivity Analysis
- LP Models — Assignment #5 (LO1, LO5, LO6)
- LP Integer Programming — Assignment #6 (LO1, LO5, LO6)

Final exam (LO1, LO5, LO6)