

## MGMT 430: Management Science

<b>Location:</b>	Evening
<b>Address:</b>	1001 Rogers Street Columbia, MO 65216
<b>Section:</b>	19FALL2/MGMT/430/AEV
<b>Semester Credit Hours:</b>	3
<b>Class Day(s) and Time(s):</b>	Wednesday 5:30 PM - 9:30 PM from October 21, 2019 to December 14, 2019

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### 📘 Course Information

#### Catalog Description

Management Science is a discipline that integrates mathematical modeling and quantitative analysis into the managerial decision-making process. The goal of the course is to provide students with a background in mathematical modeling to augment their problem-solving skills.

**Prerequisites:** MATH 150 or MATH 170; MATH 250 or PSYC 324.

#### Additional Notes

No class will be held on Wednesday, November 27 due to the Thanksgiving Day holiday. A mandatory makeup class will be held on Friday, November 22 at the regular scheduled time.

### 📖 Textbooks

As part of Truition<sup>SM</sup>, students will receive their course materials automatically as described below.

📖 Hillier. (2019). *Introduction to Management Science* (6th). Mc Graw-Hill. eText

#### Bookstore Information

Visit <https://www.ccis.edu/bookstore.aspx> for details.

#### eText Information

If a course uses an eText, (see textbook information above) the book will be available directly in Desire2Learn (D2L) seven days before the session begins, if registered for courses prior to that date. Upon first login to VitalSource, students should

use their CougarMail email address; alternate email addresses cannot be used. More information about how to use the VitalSource platform, including offline access to eTexts, can be found in D2L.

#### Physical Course Materials Information

Students enrolled in courses that require physical materials will receive these materials automatically at the shipping address on file with Columbia College. Delivery date of physical materials is dependent on registration date and shipping location. Please refer to confirmation emails sent from Columbia College for more details on shipping status.

**Returns:** Students who drop a class are responsible for returning any physical course materials that were shipped. To initiate a return, visit [Ingram Returns](#) to generate a pre-paid return label. Materials from dropped courses must be returned within 30-days of receipt. **Failure to return physical items from a dropped course will result in a charge to the student account for all unreturned items.**

**Note:** Students who opt-out of having their books provided as part of [Tuition<sup>SM</sup>](#) are responsible for purchasing their own course materials.

#### Technology Requirements

**THIS IS A TECHNOLOGY-ENRICHED COURSE WHICH COMBINES IN-SEAT INSTRUCTION WITH ONLINE LEARNING.**

Participation in this course will require the basic technology for all classes at Columbia College:

- A computer with reliable internet access
- A web browser
- Acrobat Reader
- Microsoft Office or another word processor such as Open Office

For more information, see [technical requirements](#).

#### Course Learning Outcomes

1. Demonstrate an understanding of the theory and math behind several data-driven quantitative approaches currently in use by real-world managers to make better and/or timelier decisions and predictions.
2. Create valid data-driven predictive business models.
3. Implement these models using current analytical tools such as Excel and Analytic Solver Platform.
4. Evaluate the performance and usefulness of these models in business management terms.

#### Grading

Grading Scale		
Grade	Points	Percent
A	900 - 1000	90-100%
B	800 - 899	80-89%
C	700 - 799	70-79%
D	600 - 699	60-69%
F	0 - 599	0-59%

  

Grade Weights		
Assignment Category	Points	Percent
Exams	400	40%
Lab Assignments	500	50%
Business Analytics Paper	100	10%
<b>Total</b>	<b>1000</b>	<b>100%</b>

#### Schedule of Due Dates

## Week 1

Assignment	Points	Due
Chapter 1 Assignment	40	10/30/2019
Business Analytics	100	10/30/2019

## Week 2

Assignment	Points	Due
Linear Programming	40	11/6/2019
Advanced Linear Programming	40	11/6/2019

## Week 3

Assignment	Points	Due
Spreadsheet Analysis	40	11/13/2019
What If Analysis	40	11/13/2019

## Week 4

Assignment	Points	Due
Exam I	200	11/13/2019
Integer Linear Programming (ILP) & Binary Programming	55	11/20/2019

## Week 5

Assignment	Points	Due
Non-Linear Programming	55	11/27/2019
Transportation Network Diagram	55	11/27/2019

## Week 6

Assignment	Points	Due
Inventory	40	12/5/2019
Resource Management	55	12/5/2019

## Week 7

Assignment	Points	Due
Simulation	40	12/11/2019
Review for Exam II	--	12/4/2019

## Week 8

Assignment	Points	Due
Exam II	200	12/11/2019

**Total Points: 1000**

## Course Outline

Click on each week to view details about the activities scheduled for that week.

### Week 1:

#### Chapter 1 Assignment

Chapter 1 Assignment

#### Business Analytics

## Week 2:

### Linear Programming

Chapter 2

### Advanced Linear Programming

Chapter 3

## Week 3: Spread Sheet Analysis & What-If Forecasting

### Spreadsheet Analysis

Chapter 3

### What If Analysis

Chapter 5

## Week 4: Exam I & Integer Linear Programming (ILP)

### Exam I

Chapters 1-5

### Integer Linear Programming (ILP) & Binary Programming

## Week 5: Non-Linear Programming (NLP) & Transportation Networks.

### Non-Linear Programming

### Transportation Network Diagram

## Week 6:

### Inventory

Chapter 10

### Resource Management

Pert Charts

Critical Path

## Week 7: Simulation

### Simulation

### Review for Exam II

## Week 8: Exam II

### Exam II

Chapter 6,7,8,9,10,12

## + Additional Resources

Online databases are available at [library.ccis.edu](http://library.ccis.edu). You may access them using your CougarTrack login and password when prompted.

### Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Technology Solutions Center, or the D2L Helpdesk for assistance. If you have technical problems with the VitalSource eText reader, please contact VitalSource. Contact information is also available within the online course environment.

- Columbia College Technology Solutions Center: [CCHelpDesk@ccis.edu](mailto:CCHelpDesk@ccis.edu), 800-231-2391 ex. 4357
- D2L Helpdesk: [helpdesk@d2l.com](mailto:helpdesk@d2l.com), 877-325-7778
- VitalSource: [support@vitalsource.com](mailto:support@vitalsource.com), 1-855-200-4146

### Online Tutoring

Smarthinking is a free online tutoring service available to all Columbia College students. Smarthinking provides real-time online tutoring and homework help for Math, English, and Writing. Smarthinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a connection to the Internet. I encourage you to take advantage of this free service provided by the college.

Access Smarthinking through CougarTrack at [Students -> Academics -> Resources](#).

## ! Columbia College Policies and Procedures

The policies set forth in the [Policy Library](#) are the current official versions of College policies and supersede and replace any other existing or conflicting policies covering the same subject matter. For more information on policies applicable to students, see [Student Policies](#). For more information on policies applicable to the entire Columbia College community, see [College-Wide Policies](#).

Students are expected to read and abide by the College policies. Policies of particular interest to students include, but not limited to the following:

- Graduate Grading Policy
- Undergraduate Grading Policy
- Registration Policy and Procedures
- Withdrawal Policy
- Alcohol and Other Drugs Policy
- Family Educational Rights and Privacy Act (FERPA)

### Additional Policies:

#### Academic Integrity and Plagiarism

Academic integrity is a cumulative process that begins with the first college learning opportunity. Students are responsible for knowing and abiding by the [Academic Integrity Policy and Procedures](#) and may not use ignorance of either as an excuse for academic misconduct. Additionally, all required papers may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers may be included in the Turnitin.com reference database for the purpose of detecting plagiarism. This service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

#### Disability Resources

If you have a disability that requires an accommodation, please speak with the instructor and consult the [Student Accessibility Resources](#) office. Student Accessibility Resources staff will determine appropriate accommodations and will work with your instructor to make sure these are available to you. To find additional information, see our [ADA and Section 504 Policy for Students](#).

#### Notice of Non-Discrimination and Equal Opportunity:

The College has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of discrimination, harassment, or retaliation on the basis of protected status, can report their experiences to a College

official. For more information, see our [Non-Discrimination and Equal Opportunity Policy and Complaint Resolution Procedure](#).

## Title IX and Sexual Misconduct

The College is committed to addressing the issues of discrimination, harassment and sexual misconduct in the educational and workplace landscape and will continue to modify policies, procedures and prevention efforts as needed. For more information, see the College's [Title IX and Sexual Misconduct Policy](#).

### Course Policies and Procedures:

#### Attendance Policy

Columbia College students are expected to attend all classes and laboratory periods for which they are enrolled.

For classes with an online component, attendance for a week includes submitting any assigned online activity. Assigned activities are scheduled prior to the course commencing. Assigned activity due dates are subject to change based on actual course progression and will be adjusted as necessary. Attendance for the week is based upon the date work is submitted. A class week is defined as the period of time between Monday and Sunday (except for week 8, when the work and the course will end at 11:59 PM Central Time on Saturday.) The course and system deadlines are based on the Central Time Zone.

Students are directly responsible to instructors for class attendance and work missed during an absence for any cause. If absences jeopardize progress in a course, the College reserves the right to drop or withdraw students from classes. For additional information, see the Administrative Withdrawal for Non-Attendance heading in the [Withdrawal Policy](#).

#### CougarMail

All students are provided a CougarMail account when they enroll in classes at Columbia College. You are responsible for monitoring email from that account for important messages from the College and from your instructor.

Students should use email for private messages to the instructor and other students. The class discussions are for public messages so the class members can each see what others have to say about any given topic and respond.

#### Late Assignment Policy

All classes rely on participation and a commitment to your instructor and your classmates to regularly engage in the reading, discussion and writing assignments. You must keep up with the schedule of reading and writing to successfully complete the class.

No late assignments will be accepted without the prior approval of the instructor.

Acceptance of a late assignment is at the discretion of the instructor.

Make-up examinations may be authorized for students who miss regularly-scheduled examinations due to circumstances beyond their control. Make-up examinations must be administered as soon as possible after the regularly scheduled examination period and must be administered in a controlled environment.

#### Student Conduct

All Columbia College students, whether enrolled in a land-based or online course, are responsible for behaving in a manner consistent with Columbia College's [Student Conduct Code](#) and [Acceptable Computing Use Policy](#). Students violating these policies or any other College policy will be referred to the office of Student Affairs and/or the office of Academic Affairs for possible disciplinary action. The Student Code of Conduct, the [Student Behavioral Misconduct Policy and Procedures](#), and the Acceptable Computing Use Policy can be found in the Policy Library at [ccis.edu/policies](http://ccis.edu/policies). The adjunct faculty member maintains the right to manage a positive learning environment all students must adhere to the conventions of online etiquette when enrolled in a course with an online component.