

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____
	Department ITOM College Business <i>(To obtain a course number, contact erudolph@fau.edu)</i>		

Prefix ISM	<i>(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)</i> Lab Code	Type of Course	Course Title Supply Chain Analytics
Number 6538		Lecture	

Credits <i>(Review Provost Memorandum)</i> 3	Grading <i>(Select One Option)</i> Regular Sat/UnSat	Course Description <i>(Syllabus must be attached; see Guidelines)</i> Develop skills in modeling and optimization techniques for the analysis of strategic, tactical and operational supply chain problems. Problems range from inventory management, distribution planning, facility location to risk management and global sourcing.
Effective Date <i>(TERM & YEAR)</i> Fall 2021		

Prerequisites Admission to an FAU graduate program and ISM 6404 <i>Prerequisites, Corequisites and Registration Controls are enforced for all sections of course.</i>	Academic Service Learning (ASL) course Academic Service Learning statement must be indicated in syllabus and approval attached to this form.	
	<table border="1"> <tr> <td> Corequisites ISM 6404 </td> <td> Registration Controls <i>(For example, Major, College, Level)</i> </td> </tr> </table>	Corequisites ISM 6404
Corequisites ISM 6404	Registration Controls <i>(For example, Major, College, Level)</i>	

Minimum qualifications needed to teach course: Member of the FAU graduate faculty and has a terminal degree in the subject area (or a closely related field.)	List textbook information in syllabus or here Hillier, F. and Hillier, M.S., 2018. Introduction to Management Science. A Modeling and Case Studies Approach with Spreadsheets, 6th. Edition. New York: McGraw-Hill/Irwin
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Faculty Contact/Email/Phone David Menachof/dmenachof@fau.edu/561-306-0651	List/Attach comments from departments affected by new course
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Approved by Department Chair _____ College Curriculum Chair _____ College Dean _____ UGPC Chair <u>Paul R. Peluso</u> UGC Chair <u>Paul R. Peluso</u> Graduate College Dean _____ UFS President _____ Provost _____	Date <u>2/20/2020</u> <u>3/3/2020</u> <u>3/5/2020</u> 03/27/2020 03/27/2020
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 Date: 2020.03.30 16:33:56 -0400

Email this form and syllabus to UGPC@fau.edu 10 days before the UGPC meeting.



Rev: 8/8/19

**ISM 6538
Supply Chain Analytics
TBA**

Class Time: TBA

Professor Information

Dr. David Menachof
Fleming Hall 213
dmenachof@fau.edu
561-297-6089

Office Hours

Tuesday 5:00 – 6:10 PM
Wednesday 5:00 – 6:10 PM
And by appointment

Required Text and Materials

Hillier, F. and Hillier, M.S., 2018. Introduction to Management Science. A Modeling and Case Studies Approach with Spreadsheets, 6th. Edition. New York: McGraw-Hill/Irwin
Other materials provided on Canvas

All page references throughout the course are based on editions listed above. If you obtain any other edition of the book, it is your responsibility to find the equivalent page numbers and references for all assignments.

Course Description

Develop skills in modeling and optimization techniques for the analysis of strategic, tactical and operational supply chain problems. Problems range from inventory management, distribution planning, facility location to risk management and global sourcing.

Course Prerequisites and Credit Hours

Course Prerequisites: Admission to an FAU graduate program and ISM 6404 or equivalent
Pre- or Co-requisite: ISM 6404 or equivalent

Credit Hours: 3

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Course Learning Objectives

Much of the learning will be practitioner-oriented and directly applicable to the so-called “real-world”. Informative readings on supply chain analytics topics from journals, experiential learning exercises, and a group project complement the text and lectures in shaping the learning experience in this class.

This course will enable students to:

- Analyse and model supply chain networks
- Understand the key drivers and metrics that drive the supply chain
- Enhance supply chain visibility
- Develop data driven rules to manage volatility
- Plan inventory flow of goods and services
- Employ a broad range of business analytic techniques.
- Forecast demand and to predict and monitor supply and replenishment policies; and
- Strengthen communication skills through oral presentations and written papers/reports.

Grading Scale

The grading structure will be based on the following fixed increment grading structure:

A = (93-100) %	B- = (80-82.99) %	D+ = (67-69.99) %
A- = (90-92.99) %	C+ = (77-79.99) %	D = (63-66.99) %
B+ = (87-89.99) %	C = (73-76.99) %	D- = (60-62.99) %
B = (83-86.99) %	C- = (70-72.99) %	F = < 60 %

Course Evaluation Method

Discussion boards/ quizzes/ mini-assignments (4 assignments worth 5% each)	20%
Exam (See CANVAS for date)	20%
Supply Chain Analytics Project (Individual paper)	30%
Presentation on Class Topic	30%
	100%

Additional Course Policies

Overlong Assessments

There is no penalty for submitting an assessment that is under the published word-length; as, by not using the full word-length, you may effectively penalize yourself. If, on the other hand, you do submit an

assignment that is in excess of the published word-length, then the mark you are awarded will incur the following penalties:

Amount over word limit	Marks deducted
Up to 10%	No deduction
10-20%	10 marks
More than 20%	Mark of 0 awarded

Submitting your work

Coursework submission dates are provided on your Canvas site. Deadlines are strictly adhered to. You must submit each assignment on, or before, 10pm on the submission date provided. Please note that a submission will be considered late even if it is only a few seconds after the published deadline.

Missing Exams

Make-up exams will not be given unless the student has a documented serious illness (i.e. hospitalization) or other extreme personal circumstance, or absent due to a University sanctioned event, and must be arranged PRIOR to the scheduled exam period.

Late Assignments

A sliding penalty of 5 points per day late up to 5 business days will be applied to late submissions. Over 5 days late will result in a 0. However, similar to the Missing Exams policy, if you have a documented excuse, exceptions will be made. Please get in touch with me as soon as possible if there are genuine reasons that would cause you to be late on an assignment.

Attendance Policy Statement

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance.

Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Etiquette and/or Netiquette Policy

Anti-plagiarism Software

Written components of any assignment or project may be submitted to anti-plagiarism software to evaluate the originality of the work. Any students found to be submitting work that is not their own will be deemed in violation of the University's honor code discussed above.

Course Outline

Week	Date	Topic	Readings	Location	Critical Items
1		Course Introduction / Syllabus / Policies	Hillier, Ch 1		Welcome Quiz
2		Intro to SCM: Understanding Drivers and Metrics			
3		Transportation, Assignment and Transshipment Problems	Hillier, Ch 15		
4		Shortest Path, Maximum Flow, Minimum Cost Flow Problems	Hillier, Ch 2, 3 & 6		
5		Retail Analytics Aggregate Planning, Sales & Operations Planning	Hillier, Ch 10		
6		Inventory Management Problems	Hillier, Ch 18		
7		Exam 1			
8		Spring Break		NO CLASS SESSION	
9		Supply Chain Design: Location and Sourcing			
10		Descriptive Modelling with Simulation	Hillier, Ch 12		
11		Monte Carlo Simulation	Hillier, Ch 13		
12		Queueing Models/Discrete Event Simulation	Hillier, Ch 11		SIMUL8
13		Analytics in Global Supply Chains I			
14		Analytics in Global Supply Chains II			

Selected University and College Policies
Code of Academic Integrity Policy Statement

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Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty.

For more information, please see FAU Regulation 4.001 at: [FAU Regulation 4.001](#).

Disability Policy Statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however, disability services are available for students on all campuses. For more information, please visit the SAS website at <http://fau.edu/sas/>

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Religious Accommodation Policy Statement

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices, observances, and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments.

For further information, please see FAU Regulation 2.007 at: [FAU Regulation 2.007](#).

University Approved Absence Policy Statement

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete

("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Withdrawals

Any student who decides to drop is responsible for completing the proper process required to withdraw from the course.

Grade Appeal Process

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

- There was a computational or recording error in the grading.
- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system.

The procedures for a grade appeal may be found in [FAU Regulation 4.002](#).

Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as "... activities which interfere with the educational mission within classroom." Students who behave in the classroom such that the educational experiences of other students and/or the instructor's course objectives are disrupted are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

Faculty Rights and Responsibilities

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class
- To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct.

Additional References:

Hillier and Lieberman (2015) Introduction to Operations Research, 10th Edition, , McGraw Hill Education.
Winston (2003) Operations Research: Applications and Algorithms, 4th Edition, , Cengage Learning, 2003.
Chopra and Meindl (2015) Supply Chain Management: Strategy, Planning, and Operation, 6th Edition, , Prentice Hall.
Simchi-Levi, Kaminsky and Simchi-Levi, (2007) Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies, 3rd Edition, McGraw Hill Education.
Fisher M. and Raman A. (2008). The new Science of Retailing: How analytics are transforming the supply chain and improving performance, Harvard Business Press, Boston, Massachusetts, USA.
Feigin G. (2011). Supply Chain Planning and Analytics: The right product to the right place at the right time, Business Expert Press, New York, USA.
Stephen G. Powell and Kenneth R. Baker (2017), Business Analytics: *The Art of Modeling with Spreadsheets*, 5th Edition, John Wiley and Sons