**OPRE315.101: Business Application of Decision Science:**

Making Good Strategic Decisions

**Course Information: Fall 2014**

**BC Room 205**

http://home.ubalt.edu/ntsbarsh/ECON/course315.htm

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| Instructor: | Dr. Hossein Arsham |
| Email: | [harsham@ubalt.edu](mailto:harsham@ubalt.edu) |

**Office Hours:** Before and after class, and by appointment, please send me an email. Thank you.

**Course Description:** A study of managerial decision-making processes using a decision-sciences approach. Topics include linear and integer models and decision analysis and their application in investment problems, media selection, market research, product mix, production planning, personnel scheduling and transportation design, among others. Special emphasis is on understanding the concepts and computer implementation and interpreting the results to write management reports. Prerequisite: MATH 111

**Required Textbook:** [Introduction to Management Science](http://wps.prenhall.com/bp_taylor_introms_11/220/56508/14466191.cw/index.html) by Bernard Taylor III, Pearson Publisher, 11th edition, 2013. ISBN-13: 978-0132751919 ISBN-10: 0132751917

**A copy of this edition is available at Langsdale Reserved Shelf: Taylor B-305**

**Much Cheaper: You may buy**

[**Introduction to Management Science**](http://wps.prenhall.com/bp_taylor_introms_11/220/56508/14466191.cw/index.html) by Bernard Taylor III, Pearson Publisher, 10th edition, 2009. ISBN-13: 978-0136064367 ISBN-10: 0136064361 **(from e.g., Amazon.Com**)

**Grading Information:**

**Course Requirements & Grading Criteria**

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| --- | --- |
| Readings & homework | 10% |
| First examination | 30% |
| Final examination | 60% |

**Course Grading System**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 90 - 100 | 80 - 89 | 70 - 79 | 65 - 69 | 60 - 64 | Otherwise |
| A | B+ | B | C+ | C | F |

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**Course Structure:** Your course materials are divided into the following ordered topics:

1. **Foundation of Decision-Making Process**

**2.** **Deterministic Models: What You Expect Is What You Get.**

3. **More Applications: Linear Program and Network Models**

4. **Probabilistic Models: What You Expect You May Not Get.**

**Homework:** For the chapters to be read and HW assignment visit weekly the Course Information site. You do not have to type your homework assignments; you may save some times in spending more on learning than typing. In this case please, please hand-in your eligible homework on time.

Your homework assignments (worth 100 points each) will be collected (randomly) and graded. Your homework assignment consists of two parts:

1. Reading the lecture notes, and Reading and problem solving (80 points).
2. Compute implementation and commentaries using Excel, LINDO, and the instructor JavaScript (E-labs), etc., since without a computer one cannot perform any realistic decision making techniques (20 points).

Access to LINDO software within Campus:

<https://citrix.ubalt.edu/Citrix/XenApp/auth/login.aspx>

Needs UB Email Password

**Course Ingredients:** The Course Ingredient Components Include:

1. A Set of Technical Keywords and Phrases,

2. A Collection of Problem-Solving Methodologies, and

3. Managerial Interpretations and Solutions Implications.

**Learning Objects:** There are varieties of sources in helping you to understand the foundation of decision-making. Each of the following items provides you with different perspective on our weekly topics.

1. Textbook: Your textbook is the main source reading and the exercise before your each class meeting.

2. Lecture Notes: Lecture notes are not your textbook substitute. They are designed to meet your needs, as I perceive while lecturing.

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3. External Web Sites: The external weekly Web sites are directly relevant to the topics of the week. These reviews serve you as specialized "invited experts".

4. Computer Assisted Learning: My teaching style deprecates the “plug the numbers into the software and let the magic box work it out” approach. The computer-assisted learning is an effective tool for experimentation in serving your needed “hand on experience” for understanding the managerial implication of the concepts for yourself.

**Course Objective:** The general objective of the course is to assist you in understanding and applying the general process of structural decision-making and its components.

Upon completing this course, you should be able to:

1. Explain an analytical model for structuring and analysis of business decision problem,
2. Discuss the complimentary nature of the rational and behavioral approaches to decision-making.
3. Discuss the usefulness and the limitations of Management Science.
4. Use sensitivity analysis to gain insights of the optimal decision making in response to the changes in the decision-maker's environment.
5. Understand and apply the general process of structural decision-making and its components to solve their business problem.
6. Apply Management Science to case studies to find solutions to real life business problems including those in global environment.
7. Communicate effectively the analysis and results of a business decision problem to the decision-maker.
8. Discuss the ethical dimensions by addressing integrity issues in data collection and consideration of the human-side of modeling process.
9. Learn the concepts and techniques of Management Science by doing weekly homework assignments and learning from my feedback.

10. Learn and apply new technologies, including commercial software packages, to aid business decision-making and planning, and to obtain timely solutions to decision problems.

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#### Tutorial Help for This Course: You may have to seek tutorial help to improve your algebraic computational and Problem Solving skills from the Achievement and Learning Center (ALC):

http://www.ubalt.edu/academics/academic-support/achievement-and-learning-center/index.cfm

at Room AC113 or by calling at (410) 837-5385. Professor [Yoosef Kkhadem](mailto:ykhadem@ubalt.edu" \t "new) (ykhadem@ubalt.edu) is the Coordinator of Stat Service at ALC. He is knowledgeable, and has both experienced and patient. We are fortunate to have the following tutors being assigned for this course.

**Academic Dishonesty/Plagiarism Policy** – The Academic Integrity Policy for the Yale Gordon College of Arts and Sciences, College of Public Affairs and Merrick School of Business can be found at <http://www.ubalt.edu/campus-life/student-handbook.cfm#Academic_Integrity>

**How to Access the Lecture Notes and Course Information Web Sites?** The Links to both the lecture notes and course information is available on the first page of my Home Page. To access my home page, use any search engine and **type Arsham in the search-box**, and then click on **Dr. Arsham Home Page**.

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