American Public University System
The Ultimate Advantage is an Educated Mind

School: School of Business
Course Number: BUSN312
Course Name: Operations Research
Credit Hours: 3
Length of Course: 8 Weeks
Prerequisite: None

Please see the Lessons area in the classroom for additional course specific information

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Course Description (Catalog)

This course introduces Operations Management and includes the application of operations research and management science techniques to management decision problems. Operations research and management techniques and methods can be applied to problems in virtually all-functional areas of business including accounting, finance, marketing, production and human resources. Examples from each of these areas will be covered during the course. A feature of the course is that Microsoft Excel is used to implement some of the techniques covered. This means that you will need to use Microsoft Excel, the most widely used electronic spreadsheet in business today.

Course Scope

BUSN312 is an interactive course designed to help students achieve a greater understanding of the methods and models of operations management science. The skills, tools, and methodologies needed to model, analyze, and optimize systems and to make decisions are provided. State of the art analytical tools and quantitative methods, including computer-based solutions, are discussed. Topics covered include problem formulation, modeling, decision analysis, linear programming, queuing, and project management. The course is designed for students majoring in a business administration or management course of study. The emphasis
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of the course will be on the proper use of operations research techniques and their implementation, rather than on mathematical proofs. However, some mathematics is necessary in order to understand the proper application of the techniques and thus, you should be familiar with basic mathematics as covered in MATH110 or an equivalent course.

**Course Materials**

**Required Course Textbooks:**

Operations Management, Twelfth Edition  
By William J. Stevenson

The VitalSource e-book is provided via the APUS Bookstore  
Please visit [http://apus.libguides.com/bookstore](http://apus.libguides.com/bookstore) for more information

**Course Objectives**

After successfully completing this course, you will be able to:

**CO1.** Identify business problems that can be characterized as mathematical programming problems.

**CO2.** Use operations research and management science techniques to solve a variety of business problems.

**CO3.** Analyze management problems.

**CO4.** Evaluate the role of decision making models and tools in resolving problems.

**CO5.** Apply decision making techniques, concepts, and methods.

**Course Outline**

<table>
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<tr>
<th>Week</th>
<th>Topic</th>
<th>Course Objectives</th>
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</table>
| 1    | Introduction to Operations Management | CO1. Identify business problems that can be characterized as mathematical programming problems.  
|      |                                    | CO3. Analyze management problems.  
|      |                                    | CO4. Evaluate the role of decision making models and tools in resolving these problems |
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| 2    | Managing Products & Services         | CO2. Use operations research and management science techniques to solve a variety of business problems.  
                                             CO3. Analyze management problems.  
                                             CO4. Evaluate the role of decision making models and tools in resolving these problems  
                                             CO5. Apply decision making techniques, concepts and methods. |
| 3    | Process Selection and Work Design    | CO1. Identify business problems that can be characterized as mathematical programming problems.  
                                             CO3. Analyze management problems.  
                                             CO4. Evaluate the role of decision making models and tools in resolving these problems  
                                             CO5. Apply decision making techniques, concepts and methods. |
| 4    | Location Planning & Analysis         | CO1. Identify business problems that can be characterized as mathematical programming problems.  
                                             CO2. Use operations research and management science techniques to solve a variety of business problems.  
                                             CO3. Analyze management problems.  
                                             CO4. Evaluate the role of decision making models and tools in resolving these problems  
                                             CO5. Apply decision making techniques, concepts and methods. |
| 5    | Management of Quality                | CO1. Identify business problems that can be characterized as mathematical programming problems.  
                                             CO2. Use operations research and management science techniques to solve a variety of business problems.  
                                             CO3. Analyze management problems.  
                                             CO4. Evaluate the role of decision making models and tools in resolving these problems  
                                             CO5. Apply decision making techniques, concepts and methods. |
| 6    | Aggregate and Resource Planning & Inventory Management | CO1. Identify business problems that can be characterized as mathematical programming problems.  
                                             CO2. Use operations research and management science techniques to solve a variety of business problems. |
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<td>CO3. Analyze management problems.</td>
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<td></td>
<td></td>
<td>CO4. Evaluate the role of decision making models and tools in resolving these problems</td>
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<tr>
<td></td>
<td></td>
<td>CO5. Apply decision making techniques, concepts and methods.</td>
</tr>
<tr>
<td>7</td>
<td>Scheduling &amp; Project Management</td>
<td>CO1. Identify business problems that can be characterized as mathematical programming problems.</td>
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<tr>
<td></td>
<td></td>
<td>CO2. Use operations research and management science techniques to solve a variety of business problems.</td>
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<tr>
<td></td>
<td></td>
<td>CO3. Analyze management problems.</td>
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<td>CO5. Apply decision making techniques, concepts and methods.</td>
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<tr>
<td>8</td>
<td>Exam Week</td>
<td>CO1. Identify business problems that can be characterized as mathematical programming problems.</td>
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Course Delivery Method

This course delivered via distance learning will enable students to complete academic work in a flexible manner, completely online. Course materials and access to an online learning management system will be made available to each student. Online assignments are due by Sunday evening of the week as noted and include Forum questions (accomplished in groups through a threaded forum), examination, and individual assignments submitted for review by the Faculty Member). Assigned faculty will support the students throughout this eight-week course.

Policies
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Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.

Drop/Withdrawal Policy
Plagiarism Policy
Extension Process and Policy
Disability Accommodations

Grading Scale
Please see the Student Handbook to reference the University’s grading scale.

Citation and Reference Style
Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Late Assignments
Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment. As adults, students, and working professionals, I understand you must manage competing demands on your time. We all know that “life happens” but it is important to adhere as closely to the deadlines in the class as possible.

Should you need additional time to complete an assignment, please contact me before the due date so we can discuss the situation and determine an acceptable resolution. If arrangements are not made in advance, a late penalty of 10% will be assessed for any assignment submitted 1-7 days past the due date. Assignments will not be accepted after the 7th day. No work will be accepted past the final day of class.

Netiquette
Online universities promote the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Forums on the Internet, however, can occasionally degenerate into needless insults and “flaming.” Such activity and the loss of good manners are not acceptable in a university setting – basic academic rules of good behavior and proper “Netiquette” must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the Forum of others.
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- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Sakai classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and especially satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add “emoticons” to help alert your readers: ;-), : ), 😊

**Disclaimer Statement**
Course content may vary from the outline to meet the needs of this particular group.

**Academic Services**

The Online Library is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and generally not available through search engines on the open Web. In addition, the Online Library provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to librarian@apus.edu.

- **Charles Town Library and Inter Library Loan:** The University maintains a special library with a limited number of supporting volumes, collection of our professors’ publication, and services to search and borrow research books and articles from other libraries.
- **Electronic Books:** You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.
- **Electronic Journals:** The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- **Tutor.com:** AMU and APU Civilian & Coast Guard students are eligible for 10 free hours of tutoring provided by APUS. Tutor.com connects you with a professional tutor online 24/7 to provide help with assignments, studying, test prep, resume writing, and more. Tutor.com is tutoring the way it was meant to be. You get expert tutoring whenever you need help, and you work one-to-one with your tutor in your online classroom on your specific problem until it is done.
- **Disability Accommodations:** Students are encouraged email dsa@apus.edu to discuss potential academic accommodations and begin the review process.

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The AMU/APU Library Guides provide access to collections of trusted sites on the Open Web and licensed resources on the Deep Web. The following are specially tailored for academic research at APUS:

- Program Portals contain topical and methodological resources to help launch general research in the degree program. To locate, search by department name, or navigate by school.
- Course Lib-Guides narrow the focus to relevant resources for the corresponding course. To locate, search by class code (e.g., SOCI111), or class name.

If a guide you need is not available yet, please email the APUS Library: librarian@apus.edu.

**Turnitin.com**

Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.