



## College of Business

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### Inter-Office Memorandum

**TO:** Undergraduate Curriculum Committee

**THRU:** Barbara Pierce, Assoc. Dean, College of Business *Pierce*

**FROM:** David Hott *David Hott*

**DATE:** September 14, 2005

**SUBJECT:** Adding a new course

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Please see the attached form and supportive documentation for adding BUS 3700: Intro to Linear Programming, to the curriculum. The course is proposed by Dr. David Hott.

Linear Programming (LP) is one of three major topics necessary for a student entering the MBA program. College of Business students cover LP during the first 1/3 of BUS 3704 Quantitative Methods, which is a required course for all our degree programs. However, students applying to the MBA degree program, both Florida Tech and other universities, often have the other two topics but do not have any coverage of LP. This one credit course will run concurrently with the evening section of BUS 3704 for the first 1/3 of the course while the LP topic is covered. Students taking BUS 3700 will receive 1 credit after completing and passing exams covering LP.

This course will be listed in the catalog, but will not be open to business students.

This course is available for student registration only after the approval process has been completed.

Subject BUS Course No. 3700 Credit Hours 1 Term to be added to the file SP06/SU06  
Alpha Prefix (e.g., CSE) Number Choice (e.g., 1301) (e.g., Fall 2005)

Class Hours 3/week/for 5 weeks Lecture Hours 3 Lab Hours \_\_\_\_\_ Contact Hours (CEU only) \_\_\_\_\_

Department College of Business Schedule Type Lecture  
(e.g., Computer Sciences) (e.g., lecture, lab or special project)

College/School  
(Please check appropriate box)

<input type="checkbox"/> College of Aeronautics-23	<input type="checkbox"/> College of Psychology and Liberal Arts-25
<input checked="" type="checkbox"/> College of Business-24	<input type="checkbox"/> College of Science-26
<input type="checkbox"/> College of Engineering-01	<input type="checkbox"/> University College/SEGS-90

Computer Title (restricted to 25 spaces, including blanks) Intro Linear Programming

Catalog Title Introduction to Linear Programming

Catalog Description of Course (limited to 350 characters, including spaces)

Introduces the formulation, solution and interpretation of linear programming models used to solve business problems. Noncredit for College of Business majors.

In addition, you may attach a course syllabus and/or more detailed description.

Restrictions

<input checked="" type="checkbox"/> Prerequisite <u>BUS 2703 or</u> <small>(course number)</small>	<input type="checkbox"/> Corequisite _____ <small>(course number)</small>	Grades to be issued <input checked="" type="checkbox"/> A, B, C, D, F <input type="checkbox"/> S, U <input type="checkbox"/> P, F <input type="checkbox"/> Other _____
<i>OR</i> <input checked="" type="checkbox"/> Prerequisite <u>MTH 2401</u> <small>(course number)</small>	<input type="checkbox"/> Corequisite _____ <small>(course number)</small>	
<input type="checkbox"/> Prerequisite _____ <small>(course number)</small>	<input type="checkbox"/> Corequisite _____ <small>(course number)</small>	

Additional Restriction Noncredit for College of Business majors  
(e.g., major, class level, department head approval)

If this course replaces a course currently offered in BANNER, please indicate old course information

Subject Alpha Prefix (e.g., CSE) \_\_\_\_\_ Course No. (e.g., 1301) \_\_\_\_\_

### APPROVALS

Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Coordinator.

[Signature] 10/12/05  
Originator Date Chair, Graduate Council Date

*OR*

[Signature] 10/7/05  
Department Head/Program Chair Date Chair, Undergraduate Curriculum Committee Date

### CATALOG COORDINATOR

\_\_\_\_\_  
Catalog Coordinator Date

### REGISTRAR'S USE ONLY

SCACRSE \_\_\_\_\_ SCADETL \_\_\_\_\_ SCAPREQ \_\_\_\_\_ SCABASE \_\_\_\_\_  
 SCARRES \_\_\_\_\_ Operator Init \_\_\_\_\_ Date \_\_\_\_\_

#### DISTRIBUTION:

Original - Registrar  
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Florida Institute of Technology - Office of the Registrar

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RG-134-3051

**BUS 3700 INTRODUCTION TO LINEAR PROGRAMMING** (1 credits) Introduces the formulation, solution and interpretation of linear programming models used to solve business problems. Noncredit for College of Business majors.

**FLORIDA INSTITUTE OF TECHNOLOGY  
COLLEGE OF BUSINESS**

Course Syllabus

BUS 3700 Intro to Linear programming  
Spring 2006  
Class Days/ Time: MW 9:30-10:45 AM  
Room Number: Q16  
College of Business Room 112

Instructor: Dr. David Hott  
Telephone: (O) 674-7391 (H) 724-8263  
E-mail: dhott@fit.edu  
Office Hours: MW 11:00 – 1:00 PM  
Other Times by Appointment

**COLLEGE OF BUSINESS OFFICE HOURS POLICY**

Faculty in the College of Business are available a minimum of nine hours each week for consultation with students outside of classroom time. At least four of these are regularly scheduled office hours. The remaining time may be requested for: E-mail correspondence, appointments for times other than office hours, and group problem/discussion sessions.

**COURSE DESCRIPTION:** Introduction to the formulation, solution and interpretation of linear programming models used to solve business problems.

**TEXT BOOK:** An Introduction to Management Science Quantitative Approaches to Decision Making, Eleventh Edition, by Anderson, Sweeny and Williams

**COURSE OBJECTIVE:** By the end of the course, the student should be familiarized with formulating and solving linear programming models of business problems, including post optimality sensitivity analysis. These models include, but are not limited to, production mix, portfolio management, production scheduling, manufacture versus outsourcing, transportation models, and assignment models. Solution techniques include graphical, standard simplex and PC based software.

## **CLASS POLICIES:**

**Email address:** Each student must have a FIT email address to receive announcements and assignments. You have the option to automatically forward messages from your FIT account to another address of your choice. Forward your FIT email address to me at [dhott@fit.edu](mailto:dhott@fit.edu). Read the new Florida Tech policy using the following link.

<https://www.fit.edu/acs/userservices/faqs.htm>

**Blackboard Account:** Each student must have a Blackboard account. You are responsible for creating an account on <http://fit.blackboard.com/> for the BUS 2xxx Intro to Linear Programming course. Announcements, additional homework assignments, and other information will be disseminated via e-mail and Blackboard.

**Attendance:** Students are expected to attend every class. Roll will be taken. The student is responsible for signing the attendance sheet. The student is responsible for all materials, assignments and possible schedule changes announced in missed class sessions.

**Student Preparation:** Students are to have read the entire assigned chapter(s) for the week prior to the Tuesday class meeting and be ready to pose questions, answer questions and participate in general class discussion.

**Homework:** Suggested homework problems will be assigned from each chapter (listed at the end of this syllabus). Homework will not be collected or evaluated for grade. It is strongly recommended that you complete the assignments as the exam questions will be similar. A solutions manual is available in the library. Students may ask questions regarding homework problems in class, in the instructor's office during office hours, and via e-mail.

**Quizzes** In an effort to encourage the student to stay current in the chapter readings and homework assignments, unannounced quizzes will be given. Quiz grades will contribute 50 points toward the 250 total for the student's final grade (see Grading below). A missed quiz will be scored and recorded as a zero. The three lowest quiz grades will be dropped from the cumulative quiz grade. Students may choose not to have quizzes count toward their final grade. Students choosing not to count quiz grades must notify the professor via e-mail by noon Wednesday, January 18, 2006. The default will be to count the quiz grades.

**Academic Honesty Policy:** In cases of cheating or plagiarizing, Florida Tech's policy will be strictly enforced.

**Grading :** There will be two exams during the semester valued at 100 points each. Quizzes (if chosen) will contribute an additional 50 points toward your final grade. Exam dates are shown on the attached class schedule. **Make -up exams will not be given. A missed exam will be recorded as a zero.**

Your final letter grade will be assigned as follows:

**Count Quiz Grades**  
**(250 total points)**

%	Grade	Points
90-100%	A	225-250
80-89%	B	200-224
70-79%	C	175-199
60-69%	D	150-174
0-59%	F	0-149

**Do Not Count Quiz Grades**  
**(200 total points)**

%	Grade	Points
90-100%	A	180-200
80-89%	B	160-179
70-79%	C	140-159
60-69%	D	120-139
0-59%	F	0-119

**Posting/Communicating Grades**

The public posting of grades either by student name, institutional student number or social security number without the student's written permission is a violation of the Federal Family Educational Rights and Privacy Act. Further, student grades may not be forwarded via e-mail (even in response to the student's request).

## CLASS SCHEDULE

<u>WEEK</u>	<u>TOPIC</u>
January 9, 11	Gauss-Jordan Method Ch. 1 <u>Introduction to Management Science (MS)</u>
January 16, 18	Ch. 2 <u>An Introduction to Linear Programming (LP)</u> <u>Graphical Solutions Standard Form</u> Ch. 4 <u>LP Applications</u>
January 23, 25	Ch. 4 <u>LP Applications (continued)</u> Ch. 5 <u>Solving LP Problems – Simplex Method</u>
January 30, February 1	Ch. 5 <u>Solving LP Problems – Simple Method (continued)</u>
February 6	Ch. 6 <u>Simplex-Based Sensitivity Analysis</u>
February 8	<b><u>EXAM I Wednesday, February 8, 2006</u></b> <b><u>100 points on Chapters 1, 2, 4 and 5</u></b>
February 13, 15	Ch. 6 <u>Sensitivity Analysis (continued)</u>
February 20	<b><u>HOLIDAY, President's Day</u></b>
February 22	Ch. 7 <u>Transportation, Assignment and Transshipment Problems; Read pages 307-335 and 347-353 only.</u>
February 27	Ch. 7 <u>Transportation, Assignment and Transshipment Problems(continued)</u>
March 1	<b><u>EXAM II, Wednesday, March 1, 2005</u></b> <b><u>100 Points on Chapters 6 and 7</u></b>

### Homework Assignments

<u>Chapter</u>	<u>Problems</u>
Gauss Jordan	Class Handout
2	1, 7, 9, 10, 13, 14, 17, 18, 19, 21, 31, 32, 33, 40, 41, 43
4	Set up the algebra model and solve using Management Scientist software. 1, 2, 3, 4, 6, 7, 8, 10, 17, 24
5	1, 2, 5, 6, 9, 11, 15, 17, 18, 23, 24, 25, 26, 27, 28, 29
6	1,2,3,4,5,6,7,11,16,17
7	In addition to the text questions determine the starting solution using both the Northwest Corner and the Minimum Cost Method 1,3,4,5,7,10,11
7	Solve the following problems using the Hungarian Method 12,13,14,19,20,21