COURSE DESCRIPTION: The first part of the course will focus on scheduling techniques. CPM and Pert will be covered, including the various floats. The second part of the course will focus on linear programming. The Simplex Method in linear programming will be covered and followed by linear programming applications in marketing, finance, and production management. The emphasis will be on the formulation of linear programming problems. The last part of the course will cover inventory methods and their use in business.

The course will cover linear programming, project scheduling using CPM and PERT, and inventory methods. The linear programming will include the graphical solutions but emphasis will be on the interpretation of computer generated output. Applications in marketing, finance, and production management will be discussed. Only a rudimentary introduction to CPM/PERT and inventory models will be attempted.

PREREQUISITE: BUS329 with a grade of C or higher


COURSE ASSIGNMENTS & GRADING CRITERIA:

Grading Elements | Percentage:
-----------------|-----------
Graded Assignments and/or Homework | 70%
Final Exam | 30%
Total | 100%

GRADE PERCENTAGE EQUIVALENTS:
A = 90 – 100
B = 80 – 89
C = 70 – 79
D = 60 – 69
F = below 60

COURSE POLICIES:
Absences and Tardiness – All students are required to attend the first session. Those who do not attend the first session will be automatically dropped from the course. Students with more than one absence will receive an "F" for the course. Since this class meets only five times, missing a single class meeting is equivalent to missing three weeks of a regular term. If you cannot attend a class you must let the instructor know via email as soon as possible. In case of absences you are responsible for obtaining all handouts and assignments. Tardiness may result in a deduction in your class participation grade. Excessive tardiness or early departure may count as an absence.

Late Assignments – No shows fail the assignment. It is expected that the students fulfill their assignments on the date they are scheduled to do so. Students with illness or other problems that prevent them from attending class on the day a presentation or written assignment (including a test and/or exam) is due must contact their instructors PRIOR to the deadline via Huntingdon College email with supporting documentation to request an extension or a make-up. In most cases, missed assignments are logistically difficult to make-up while maintaining the integrity of the module. In rare cases, approval to make-up an assignment may be granted at the discretion of the faculty member based on the seriousness of the circumstance and on the supporting evidence provided by the student. Contacting a fellow class member does not substitute for contacting the instructor.

Accommodation of Special Needs– Huntingdon College makes every reasonable accommodation for disabilities that have been processed and approved through our Disability Services Committee in accord with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. In order to request disability-related services at Huntingdon College, students must self-identify to the Disabilities Intake Coordinator, Camilla Irvin, and provide appropriate and up-to-date documentation to verify their disability or special needs. After the accommodations have been approved by the Disability Services Committee, the 504 Coordinator, Dr. Lisa Olenik Dorman, will notify your professor(s) of the committee's decision. If you have any questions regarding reasonable accommodation or need to request disability-related services, please contact Disability Services at (334) 833-4577 or e-mail at disabilityservices@huntingdon.edu.

Academic Honesty – Plagiarism is literary theft. Failure to cite the author of any language or of any ideas which are not your own creation is plagiarism. This includes any text you might paraphrase, as well. Anyone is capable of searching the Internet or any printed media; your research paper is intended to broaden your knowledge, stimulate your creativity, and make you think, analyze, and learn. It is not consistent with the College Honor Code, or with scholarly expectations to submit work which is not the product of your own thinking and research. Severe penalties will result upon the submission of any work found to be plagiarized, including potential failure of the entire course. It is easy and simple to properly cite all sources used in your paper. Take no risks – cite your sources.

Medical Considerations - If you have a medical condition that may preclude participation in this course or any aspect of this course, the College suggests you consult your physician. The College will work with you based upon physician recommendations to find the best means to address any concerns.

Title IX Statement - Huntingdon faculty are committed to supporting students and upholding the College's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, we encourage you to report it. While you may talk to a faculty member, understand that as a "Responsible Employee"
Huntingdon College Library: As an EB student you have access to the full-range of electronic resources provided by the Library of Huntingdon College. Your first step upon enrollment at Huntingdon should be to register for a library account. You can do this by going to the Library’s web site at http://library.huntingdon.edu/ and under “EB Services” complete the “Library Card Application” form and submit it. You will receive shortly your personal library account information, which will then allow you to access a variety of resources including databases. Should you ever have a problem accessing the Library’s electronic resources, please contact the Library (specifically, Systems Librarian Brenda Kerwin at bkerwin@huntingdon.edu).

* Among the Library’s electronic resources, you will find a number of databases specific to the area of business administration and its allied fields of study (e.g. databases within /EbscoHost/, /Gale/, and /ProQuest/, as well as /Oxford Journals/). You will also find databases that support your core courses in such fields as English, history, communications, the arts, and the sciences. You may be familiar with the AVL (the /Alabama Virtual Library/) and have your own AVL card. As a student at Huntingdon College, you no longer need to maintain your own AVL card, if you access the AVL through our web site. Simply click on “Campus & Library” rather than “Home Access” within the AVL. A few other mentions: /Countess/ is the name of the Library’s online catalogue and among its holdings you will find electronic books. If you want to know what full-text electronic journals are available to you through the Library’s databases, you can use the /Serials Solutions/ link on our web site. You can limit your search by discipline (such as “Business & Economic”). If you use Google for any of your research, we greatly encourage you to use /Google Scholar/ and /Google Books/. These features of Google will direct you to resources appropriate for academic research.*

COURSE LEARNING OUTCOMES:

Concept 1: Introduction to Linear Programming

This portion of the module is an introduction to linear programming. Upon completion students will be able to:

1. Formulate an objective function to be used to either maximize profit or minimize costs
2. Develop a system of inequalities and unknowns which represent the constraints
3. Mathematically state the problem using items (1) and (2) above and graph the feasible region
4. Test the corner points of the feasible region in the objective function to determine an optimal (either minimum or maximum) solution
5. Understand how to introduce slack (and surplus) variables to the inequalities in item (2) to form equations
6. Identify unsolvable problems in linear programming due to the regions being infeasible or an unbounded region.

Concept 2: Linear Programming Applications in Business and Interpretation of Computer Generated Output

This portion of the module focuses on linear programming applications in business as well as generation and interpretation of computer output. Upon completion students will be able to:

1. Formulate an objective function to be used to either maximize profit or minimize costs
2. Develop a system of inequalities and unknowns which represent the constraints
3. Use linear programming computer software, e.g. LINGO, to solve problems in marketing, finance, production scheduling
4. Interpret computer solutions of LP problems and perform sensitivity analyses.

Concept 3: CPM (Critical Path Method) and PERT (Program Evaluation and Review Technique)

This portion of the module is an introduction to CPM/PERT networks. Upon completion students will be able to:
1. Identify individual jobs or activities that make up a project and be able to draw the corresponding ordered network with completion times
2. Identify critical paths and the earliest start and finish times for individual jobs and the entire project
3. Understand networks with uncertain activity times and understand the concept of time-cost trade-off.
4. Understand how to “crash” activity times; that is, given extra money or man-power, where are these resources best invested within the project to reduce the over-all completion time.

Concept 4: Inventory Models and Review of Previous Topics

This portion of the module is an introduction to inventory models. Upon completion students will be able to:
1. Understand and utilize the Economic Order Quantity Model (EOQ).
2. Appreciate the overall use in business LP, CMP/PERT, and inventory models.

ASSIGNMENTS:

Assignment for Class 1
Read Sections: 2.1 – 2.3

Assignment for Class 2
Read Sections: 2.4 – 2.7; 3.1 – 3.4
Turn-in Problems: 2.11, 2.13, 2.15, 2.22, 2.33

Assignment for Class 3
Read Sections: 4.1 – 4.3; 9.1 – 9.2
Turn-in Problems: 2.35, 2.38 2.41; 3.7, 3.8, 3.11

Assignment for Class 4
Read Sections: 9.3; 10.1
Turn-in Problems: 4.3, 4.8, 4.17, 9.7, 9.15, 9.18

Assignment for Class 5
Turn-in Problems: 9.20; 10.9
Study for Final Exam