

Philadelphia University

Syllabus for  
***Engineering Economics***  
Spring 2004

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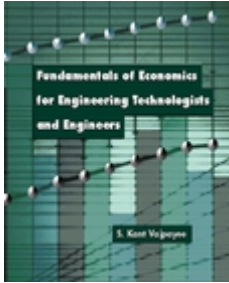
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**Office Hours:** MWF 1-2 and Tuesday and Thursday by appointment

**Text:**

**Fundamentals of Economics for Engineering Technologists and Engineers, 1/e**



S. Kant Vajpayee, University of Southern Mississippi

Copyright 2001, 444 pp.

ISBN 0-13-674383-8

Published by Prentice Hall

**Course Summary**

This is a one-semester introductory-level course in economics/finance methods taken by majors in engineering technology, engineering and industrial technology.

Focused on the *basics*—with minimal theory—this introduction to engineering economics makes even the more difficult concepts accessible to students. Its strong “how to” approach and extensive real-world engineering problems prepare students for the variety of situations they will encounter on the job.

**Course Requirements**

1. *Attend class* attentively.
2. Read the books and take notes (do not highlight) as you read.
3. Do homework assignments; think critically about the issues.
4. Use Excel (when requested) to present worksheets of calculations and graphics.

**Course Methodology:**

- **Participation** in this course is integral to maximizing your benefits. Thus, the student is urged to ask questions (interrupt!) as questions arise.
- Appropriate grammar and clear expression are expected on writing assignments. To achieve this end, please use a work-processing program and allow adequate time for editing. Additional support is available from the Writing Center. This requirement is not to be viewed as "fussiness" on the part of the professor but rather an effort to develop skills imperative for your future careers. Thus I urge you to adhere to a "**clear writing**" policy.

### **Course Goals**

The course will discuss the impact of economic decisions on engineering projects and how they affect the decision-making and design process. In addition, the student is required to make several analyses using spreadsheet programs.

### **Academic Honesty**

Students are expected to follow a code of honesty. Cheating on tests is prohibited, as is plagiarism. Plagiarism is using someone's material without attributing credit to that someone (per J. Witt, 1997). If in doubt about the meaning of these violations, please consult the Catalogue or the professor. Violation of this code certainly results in failure of the assignment and can result in failure of the course.

### **Grading**

There will be three “quizzes”, this number includes the “quiz” taken during finals week. The grades will be equally weighted in the average and the final quiz is cumulative. In the event that a quiz is missed due to unavoidable circumstances, if addressed promptly enough, a research paper can be assigned to cover the material.

## **Schedule**

### **Week# Topic**

#### **I. FUNDAMENTALS**

- 1. Introduction.**
  - 2. Cashflows.**
  - 3. Single Payment.**
  - 4. Multiple Payments.**
- Exam # 1**

#### **II. CRITERIA.**

- 5. Payback Period.**
  - 6. Present Worth.**
  - 7. Future Worth.**
  - 8. Annual Worth.**
- Exam # 2**
- 9. Rate of Return.**
  - 10. Benefit-Cost Ratio.**
  - 11. Comparison.**

#### **III. REALISM.**

- 12. Depreciation.**
  - 13. Income Tax.**
  - 14. Replacement Analysis.**
- Exam # 3**