

DeVRY UNIVERSITY

Course Syllabus

Summer 2006

Course Title: Project Management
Course Number: EET400
Credit/Contact Hour: 3-0-3
Course Dependency: Prerequisite(s): Senior Status
Co-requisite(s): (none)
Instructor: Tom Wheeler
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Course Description

In this course students learn the design, feasibility, planning, and management of projects using program evaluation review technique (PERT), Gantt charts, critical path method (CPM), task development techniques and project management software. The course also focuses on the engineering technologist's role in the business environment. Current industry approaches are presented, including concurrent engineering, ISO9000, total quality management (TQM) and benchmarking. The students formulate a time-phased, hardware- and software-based senior project proposal to be completed in a later semester.

Textbooks and Materials

D. Joseph Stadtmiller, Electronics Project Management and Design 2/e, Prentice Hall

Terminal Course Objectives (TCOs):

Following are the objectives for this course. Individual faculty, based upon their experience and expertise may add to these objectives to meet local campus needs. Any such additions will be communicated to the class. While the instruction remains focused in helping students, accomplishing these objectives is a shared responsibility of students and faculty. The outcomes of this course will depend upon the motivation and capabilities of the students, sufficient time allocation for studying, and the effectiveness of that effort.

DeVry University is committed to the continual improvement of its curriculum and instruction and to meet the needs of students and employers in a rapidly changing global economy. Students, faculty, and the university must all be actively involved to accomplish these objectives, as well as the objectives of this particular course.

Every class is to some extent a unique interactive experience, which may cause some variance within the stated objectives, in either content or level. Individual faculty, based on their experience and expertise, are encouraged to add objectives, as they deem appropriate, and to communicate these directly to the class. The outcomes of the course will depend on the design of the course, the quality of instruction, and the motivation and capabilities of the students, including time available for studying and the effectiveness of the effort.

- 1...Given examples, evaluate five "Schools of Management" philosophies and select appropriate actions in management scenarios.
- 2...Given examples of management practices, illustrate or interpret appropriate management actions in each of the functional areas of management.
- 3...Given a case scenario, apply strategic management techniques to solve the problems presented.
- 4...Given appropriate case scenarios describing technical projects, generate a simple project plan, work breakdown structure, including PERT or CPM charts.
- 5...Given information on Senior Project expectations, form teams, elect leaders, and develop team policies and procedures to ensure full team participation in a group project and timely completion of electronics and management requirements.
- 6...Given specific examples of potential projects, choose one project to work on, prepare a project proposal for submission to a Senior Project Advisor, and gain acceptance of that proposal.
- 7...Given guidelines project by a Senior Advisor, create a Project Plan for completing and reporting the project on time.
- 8...Given a case study, select and apply an appropriate automated tool to meet the case study objectives.
- 9...Given business case examples, describe the relative merits of ISO, TQM, and reengineering techniques from the standpoint of quality, cost, and time considerations and evaluate the necessity for these kinds of programs.
- 10...Given a product development case study, describe how JIT contributes to or interferes with the product development process.

How this Course helps in Achieving Your Program's Objectives:

The following matrix illustrates how this course supports achievement of your Program Objectives.

EET400	Assessment Outcomes																							
Lecture	Testing & Instrumentation					Create/Implement Programming				Hardware/Software Design, Implem. & Eval						Writing Speaking		Team		Research Prob. Solv		Tech./Society Linkages		
TCOs	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	7.3
1																S	S					S		
2																S	S					S	S	
3																S	S					S	S	S
4																S	S					S	S	S
5																S	S	S	S			S	S	S
6																S	S	S	S			S	S	S
7																S	S	S	S			S	S	S
8																S	S					S	S	S
9																S	S					S	S	S
10																S	S					S	S	S

EET/CET Program Objectives and Outcomes:

(Student competencies achieved at the time of graduation)

1. Conduct experiments involving electronic systems using modern test equipment, interpret test results and use them to improve products or methodologies.
 - 1.1. Performs Needs Analysis – define the problem
 - 1.2. States goals and objectives of the experiment
 - 1.3. Identifies resources to conduct experiment (parts, equipment, data sheets, etc.)
 - 1.4. Develops a procedure and collect data using modern test equipment
 - 1.5. Analyzes test results and draw conclusions.
2. Create, implement high-level and Assembly language programs in support of technical activities.
 - 2.1. Analyzes the problem logically
 - 2.2. Designs the solution
 - 2.3. Implements the solution
 - 2.4. Tests and debugs the software
3. For EET: Use the principles of science, mathematics, and engineering technology to design, implement, and evaluate hardware and software solutions to complex technical problems,
 - 3.1. Selects and defines a meaningful problem taking safety, ethical, social, economic, and technical constraints into consideration.
 - 3.2. Devises process to solve problem
 - 3.3. Applies appropriate knowledge of scientific, mathematical, and engineering design tools toward the design and analysis of problem solutions.
 - 3.4. Identifies key issues in designing and building a prototype
 - 3.5. Builds, tests and troubleshoots prototype
 - 3.6. Optimizes prototype with a commitment to quality, timeliness, and continuous improvement.

For CET: Use the principles of science, mathematics, software engineering, and engineering technology to design, implement, and evaluate software solutions to complex technical problems.

- 3.1. Identifies a meaningful problem and defines preliminary solution specifications taking safety, ethical, social, economic, technical constraints, and user requirement into consideration
 - 3.2. Designs and implements appropriate data structures and algorithms
 - 3.3. Prepares a plan of action to implement the system
 - 3.4. Applies scientific, mathematical, software, and engineering design tools toward the design and analysis of problem solution
 - 3.5. Writes and tests readable and maintainable code
 - 3.6. Optimizes code with a commitment to quality, timeliness, and continuous improvement
4. Communicate effectively both orally and in writing.
 - 4.1. Communicates effectively in writing
 - 4.2. Communicates effectively orally
5. Work effectively in a team environment.
 - 5.1. Exhibits good dialoguing skills
 - 5.2. As part of a small group project, when assigned roles, performs roles effectively
6. Apply applied research and problem-solving skills to support learning at DeVry as well as life-long personal and professional development.
 - 6.1. Recognizes the need to know information beyond one's own expertise and has the ability to gather and synthesize the necessary information into the solution of a problem
 - 6.2. Uses engineering problem-solving methodology in solving problems
7. Evaluate the broader effects of technology and to identify connections between technology and economics, politics, culture, ethical responsibility, social structure, the environment and other areas.
 - 7.1. Identifies linkages and causal relationships between technology and social, political, economic, cultural, and environmental conditions.
 - 7.2. Works effectively in diverse environments and adapts technical solution to solution a diverse audience
 - 7.3. Pursues technical work within guidelines for professional, ethical, and social responsibility

Class Policies and Procedures:

Attendance

Each student is required to attend every lecture and laboratory session in which he or she is enrolled. A swipe-card terminal (ATS) in each classroom is used to record attendance electronically. Students are responsible for arriving before class begins, sliding their identification card through the wall-mounted reader, and remaining for the duration of the course meeting. Students who are absent for two or more days should notify their Professor or assigned Academic Advisor in advance. Students who miss more than five (5) consecutive days of school are in violation of the DeVry attendance policy and will be dismissed.

Make-Up Exam

No make-up exams are given in EET400.

Grading:

A total point system is used for determining the grade in this course. The points earned are distributed among the elements in the course as follows:

Homework/Quizzes/ Proposal 1st & 2nd Drafts	100 points	(These are normalized to 100 points).
Mid-Term Exam	100 points	
Final Written Proposal	100 points	
Oral Presentation of Proposal	100 points	(10-15 minutes in length)
Comprehensive Final	150 points	

	550 points	

- Homework will be turned in using a three-tab paper folder with your name and the course number clearly marked on the front. The latest homework assignment will be placed first in this folder.
- Late homework will not be accepted. Homework is due at the beginning of class on the assigned due date.
- Unexcused absence from the oral presentation will result in a grade of 0 for this element. You will be asked to sign up for a specific date to present your proposal. If you discover a conflict, let the instructor know at least two weeks in advance so that alternate arrangements can be made.

Course Grading Standards

A final letter grade is to be awarded to each enrolled student in accordance with the 4.00 grading system shown below:

Letter Grade	Percent of Total Points	Grade Points
A	90 – 100%	4.00
B	80 – 89%	3.00
C	70 – 79%	2.00
D	60 – 69%	1.00
F	Below 60%	0.00

Academic Integrity Policy

Ideas and learning form the core of the academic community. In all centers of education, learning is valued and honored. No learning community can thrive if its members counterfeit their achievement and seek to establish an unfair advantage over their fellow students. The academic standards at DeVry are based on a pursuit of knowledge and assume a high level of integrity in every one of its members. When this trust is violated, the academic community suffers injury and must act to ensure that its standards remain meaningful. The vehicle for this action is the Academic Integrity Policy outlined in the *Student Handbook*.

The Academic Integrity Policy is designed to foster a fair and impartial set of standards upon which academic dishonesty will be judged. All students are required to read, understand, and adhere to these standards, which define and specify the following mandatory sanctions for such dishonest acts as copying, plagiarism, lying, unauthorized collaboration, alteration of records, bribery, and misrepresentation for the purpose of enhancing one's academic standing:

- The ***first recorded offense*** will result in the student receiving zero credit for the entire paper, exam, quiz, lab, homework assignment, or other graded activity in which the incident of academic dishonesty occurred. No partial credit may be given. Where the incident involved a graded assignment normally subject to a "drop" option, the student may not exercise that option.
- The ***second recorded offense*** will result in the student receiving a failing grade for the course in which the second offense occurs. The second offense need not be in the same course, program, or term as the first offense to invoke this sanction.
- The ***third recorded offense*** will result in the student being permanently expelled from the DeVry system. Again, the third offense need not be in the same course, program, or term as either the first or second offense to invoke the sanction.

Diversity Policy:

In accordance with DeVry University's Mission Statement, we are a diverse university community of life-long learners committed to promoting the acceptance and respect of individual differences that are inherent in our university. Through standards of conduct and diversity training, we seek an environment that will ensure the success, well-being, and safety of our entire DeVry community.

Students, faculty, staff and all other members of the DeVry community are expected to respect diversity, which includes, but is not limited to: age, disability, gender, marital status, national origin, race, religion, and sexual orientation.

Students engaging in discriminatory behavior will be subject to the consequences established in the Student's Code of Conduct in the Student Handbook. Student grievances involving charges of discrimination and sexual harassment should be taken to the Student Services Office.

Changes to Syllabus:

The contents of this syllabus are subject to change with appropriate notice to the students.

Weekly Course Schedule:

Week	Topic	Reading	What's Due? (These are due on THURSDAY class of this week)
1	Corporate Environments and Roles	Chapter 1	
2	Managing Electronic Projects	Chapter 2	
3	Approval and Certification, Problem Solution Process	Chapters 3,4	Homework #1
4	Developing Design Specifications	Chapter 5,6	Homework #2
5	Developing a Solution Plan: Scheduling (Gantt, PERT/CPM)	Chapter 7	Proposal Draft #1 (50 pts)
6	MIDTERM EXAM , Preliminary Design Process	Chapter 8	Homework #3
7	Component Selection, Breadboarding	Chapters 9,10	Homework #4
8	Prototype Development, Design Verification	Chapters 11, 12	
9	Analog Best Practices	Handout	Proposal Draft #2 (50 pts)
10	Digital Best Practices, Presentation Tips.	Handout	
11	Student Presentations		
12	Student Presentations		
13	Student Presentations		
14	Wrap-up and prepare for final examination		Proposal FINAL DRAFT (100 pts)

- These due dates are tentative and could be subject to change.
- Please let me know in advance (if possible) if you can't make an assignment on time, so that we can make alternate arrangements.
- **Don't put off your writing until the last minute!** Set aside a little time each day to think and work on your idea, *even if you don't necessarily feel like it that day.*
- After week 8, we will be concentrating on practical electronic topics you'll need for senior project. Bring your project ideas and design questions to class and we'll address them as time permits.
- A sample final proposal is available on the instructor's web site at <http://faculty.kc.devry.edu/twheeler/eet400/sampleproposal.pdf>

Homeworks

1. Chapter 1 exercises 1-24
 2. Chapter 2 exercises 1-11
 3. Chapter 3 exercises 2,5,6,7,8,10-16
 4. Chapter 4 exercises 6,7
 5. PERT (Handout to be provided in class)
 6. Sensitivity Analysis (Handout to be provided in class)
- * Other homeworks will be added as the course progresses.