

# Course Syllabus

## *Decision Making Tools & Techniques*



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## **COURSE DESCRIPTION**

Project managers are above everything else, decision makers and problem solvers. A project manager's effectiveness is directly proportional to his or her decision-making ability. This course is for those professionals wanting to improve their decision-making skills through the use of modern day computer tools and techniques. Participants will learn how to make effective decisions relating to project schedules, product design tradeoffs, project cost estimating, problem solving, and project risk analyses. Hands-on examples and exercises, using spreadsheet techniques, AHP, and KTA will enable the student to become confident in the use and application of practical decision making methods. Participants will be given access to the course website, containing numerous decision making tools, which can then be used in a computer lab classroom. This is a 15-hour course comprised of five classes, each being three hours in duration.

## **COURSE TOPICS**

- Section 1 How to Make Better Group Decisions
- Section 2 Spreadsheet Techniques
- Section 3 Root-Cause Analysis
- Section 4 Including Uncertainty Estimating in Project Schedules
- Section 5 Making Multi-Stage Decisions
- Section 6 Making Multi-Criteria Decisions with AHP
- Section 7 Making Multicriteria Decisions with KTA

## **IN THIS COURSE YOU WILL LEARN:**

- How to make effective group decisions.
- How to get down to the true cause of typical project problems using root-cause analysis.
- How to apply spreadsheet techniques to project management.
- Why the critical path may not always be the longest path.
- How to respond to imposed project completion dates which may be unrealistic.
- How to make critical project decisions under uncertainty conditions
- How to make multi-stage decisions using decision trees
- How to use AHP and KTA models to make multicriteria decisions.

## **SKILLS TO BE DEVELOPED**

- The ability to make effective multi-criteria decisions using conventional spreadsheets, and the Analytic Hierarchy Process (AHP).
- The ability to deal with project schedule and cost uncertainty estimates which contain uncertainties using conventional spreadsheets
- The ability to make multistage decisions using decision trees
- The ability to conduct a root-cause analysis using Ishikawa diagramming techniques.

## RECOMMENDED TEXTBOOK

John C. Goodpasture, *Quantitative Methods in Project Management*, (Boca Raton, Florida: J. Ross Publishing). This book is for additional decision-making information but will not be used in class nor will it be required for the final exam.

## PREREQUISITES

There are no prerequisites for this course but students are encouraged to take the "Role of the Project Manager" first.

## ATTENDANCE

Students must attend at least four of the five classes in order to receive a course letter grade.

## GRADING

Total possible grade points: 100

Letter Grade	Percentage of Total Possible Grade Points
A	94-100%
A-	90-93%
B+	87-89%
B	84-86%
B-	80-83%
C+	77-79%
C	74-76%
C-	70-73%
D+	67-69%
D	64-66%
D-	60-63%
Failing	<63%

## GRADING POLICY

Incomplete grade - given to those students who are passing the course but are unable to attend more than 80% of the classes or take the final exam. In order to apply courses toward the certificate program an average of "B" or better is required

## INSTRUCTOR



MICHAEL D. TAYLOR M.S., MPM, FAAPM, is a master project manager and a Fellow in the American Academy of Project Management, with over 30 years of project/subcontract management and engineering experience. During this time, he managed projects and subcontracts ranging in value from \$2 million to \$20 million by successfully directing multifunctional, multicultural project teams. Mr. Taylor managed outsourced projects with other major companies including:

- Honeywell Satellite Systems, Phoenix, Arizona
- Harris Corporation, Melbourne, Florida
- Scientific Atlanta, Atlanta, Georgia
- LNR Incorporated, Long Island, New York
- AEC-Able Engineering, Santa Barbara, California
- LTV Incorporated, Dallas, Texas
- RACAL Communications Corporation, Baltimore, Maryland
- Electrospace Systems Incorporated, Garland, Texas

Mr. Taylor is principal of Systems Management Services, a management training and consulting company specializing in project and program management. In addition to conducting project management courses, he is also the UCSC Extension Business and Management Coordinator for the Project and Program Management (PPM) Certificate Program. He has conducted project management training at companies such as GTE, Siemens, TRW, Sun Microsystems, Loral, Minolta, Santa Clara Valley Water District, and Inprise (Borland). He has conducted classes in the UCSC Extension Leadership & Management Program (LAMP) and was a guest speaker at the Santa Cruz Technology Symposium.

In addition to teaching project management courses at UCSC Extension in Silicon Valley, regularly contributes relevant articles to the International Community for Project Managers (ICPM), and the Project Manager's HUT, considered to be the largest database of categorized Project Management articles.

## MAJOR AWARDS

- Space Station Freedom Superior Performance Award
- Lockheed Project P285 Subcontracts Management Award
- Lockheed President's Award (Dr. F. Oder)
- Lockheed Project P377 Proposal Team Award

## UCSC EXTENSION INVOLVEMENT

Mr. Taylor has been teaching in the UCSC Extension Business and Management Department's "Project and Program Management (PPM) Certificate" program since 1995 and is the PPM Certificate Coordinator.

## CONTACTING THE INSTRUCTOR

Contact information can be found at: [www.projectmgt.com](http://www.projectmgt.com)