

Decision Making Tools & Techniques

Course Syllabus



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www.projectmgt.com

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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.

Topics Include:

- How to set up a spreadsheet for project decision making
- How to optimize project schedules using spreadsheets
- How to include uncertainties in making cost/schedule estimates, using Risk+
- How to select the best product designs using multicriteria decision making methods
- How to use AHP (Analytic Hierarchy Process) in making key project decisions
- How to use Kepner-Tregoe Analysis (KTA) in making key project decisions
- How to estimate project costs using spreadsheets
- How to separate problem effects from problem causes using Ishikawa Diagrams
- How to locate and use Internet decision-making tools

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, using Risk+.
- How to use AHP 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, and commercial software applications such as "Risk+," and "@Risk."
- The ability to make multistage decisions using KTA and commercial software applications.
- 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).

Course Toolkit

Students may download and use the "Decision Making Course Toolkit" for completing the selected exercises. Download from: <www.projectmgt.com>

Attendance

Only one excused absence is permitted. More than two absences will result in receiving an "incomplete" status for this course. Each student is required to sign in each week.

Grading

- A = 90 - 100 points
- B = 80 - 89 points
- C = 70 - 79 points
- D = 60 - 69 points
- Failing = 59 points or below

Scoring

- Class participation/attendance.....40 points
- Final Exam.....60 points

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. has 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, and is a member of the Project Management Institute. He has also 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 2001 Santa Cruz Technology Symposium.

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 Certificate" program since 1995 and is also the Project and Program Management (PPM) Certificate Coordinator.

Community Involvement

Big Brothers/Big Sisters of Santa Cruz

Instructor Website:

<<http://www.projectmgt.com>>

Contacting the Instructor

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