

## USC MARSHALL SCHOOL OF BUSINESS

### PROJECT MANAGEMENT

DSO 580, Online - Section 16281

Summer 2023

Date – Date

(Day of week) 6:00 pm – 9:00 pm (Pacific Time)

***DRAFT March 11, 2023 – WILL BE UPDATED***

**Instructor:** Professor Vitaly Glozman  
E-mail: [glozman@marshall.usc.edu](mailto:glozman@marshall.usc.edu)  
Phone: +1 (310) 529-3834

**Office hours:** By appointment

### Course Learning Outcomes and Description

#### Summary

Managing projects has become a critical activity for many companies. This trend of project-based work is getting stronger as businesses continue to innovate outside of steady-state operations, rely on contractor-subcontractor models, collaborate across traditional functional lines, and move into decentralized working environments. This course introduces important behavioral skills and analytical tools for managing complex projects across functions and companies. The behavioral skills will focus on organizing, planning, and leading diverse teams through uncertainties and risks to produce a desired outcome. The analytical methods will be applied to uncover project risks and constraints, evaluate options and trade-offs, and help make the best decision in an uncertain and complex environment.

In this course, you will:

- Analyze tools and skills needed in project management
- Learn MS Project and Crystal Ball applications
- Learn applications of such tools and skills in real projects from various industries

This course begins with organizational issues in project management and focuses on skills and roles of project leaders, and structure of project and governance teams. Then the course moves on to more technical areas and covers project planning, scope management, schedule and critical path management. It will also cover project resource, cost, and risk management. The course will include controlling, monitoring and terminating projects, as well as an overview of project management future trends and applications. Throughout the course students will learn how to use MS Project, Monte Carlo simulation, and other tools for project risk management, trade-offs, and optimization.

The course is divided into sessions which correspond with weeks. Students are required to complete all of the reading assignments, pre-recorded lectures, interactive exercises, and homework assignments at their own pace during the week before attending the live video conference (aka MarshallTALK) session, where they will interact with one another and with faculty to apply the concepts they've learned throughout the week. It is estimated that students will spend approximately 9 hours per week to complete each module in a 3-unit course.

## Learning Outcomes

Upon successful completion of this course, students will be able to –

- Describe the required behavioral and analytical skills to successfully manage complex cross-functional projects
- Explain roles and capabilities for project managers, project teams, and governance teams
- Describe the phases of the project lifecycle, from initial proposal through closure and transition into the organization
- Apply analytical tools (Excel, MS Project, Crystal Ball) to support managing projects and their uncertainties
- Explain methods and tools of Project Management (scope, business case, resources, cost, risk management, monitoring & controls, scheduling and critical path, decision making, closure, etc.)
- Describe the benefits of various methods and approaches to apply Waterfall, Agile, Critical Chain and Lean
- Assess how project management will evolve in the future
- Learn to apply the current and future best practices in your organizations!

## Course Materials

### Required Readings

- Project Management: A Strategic Managerial Approach, 11th Edition, by Jack R. Meredith, Scott M. Shafer, Samuel J. Mantel Jr. ASIN : ISBN 9781119803812 epub (2022), 524 pages

### Recommended References

- A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition (2021) <https://www.pmi.org/pmbok-guide-standards/foundational/pmbok>
- The CIO's Guide to Breakthrough Project Portfolio Performance: Applying the Best of Critical Chain, Agile, and Lean, by Michael Hannan, Wolfram Müller, Hilbert Robinson (Author), Maureen Hannan (Editor), ASIN: B00MHYS0T0, Publisher : Fortezza Consulting, LLC; 1st edition (August 7, 2014)

### Online Course Reader

Containing cases which can be purchased from Harvard Business Online. To purchase the case, you need to go to “HBSP Online Course Reader” <https://.....> and register/sign in. The website will allow you to purchase the cases using your credit card. There are XXX cases in this online reader (an additional one or two cases might be added), other cases will be provided in Blackboard.

### Project Simulation Game

Please go to “HBSP Project Simulation Game” which is also included in the “HBSP Online Course Reader” at <https://xxxxxxxx> and sign in to purchase the license. After the purchase, you will have access to the simulation game, which we will play throughout the semester.

### Blackboard Files

Additional articles and notes will be posted on Blackboard

### Software

- Microsoft Project (MSP) – please follow the instructions that will be provided during the first week to install it on your laptop (for assistance, contact Marshall IT Help Desk)
- Crystal Ball (CB) – please follow the instructions that will be provided during the first week to install it on your laptop (for assistance, contact Marshall IT Help Desk)
- Project Management Simulation: Scope, Resources, Schedule. Available from the online course reader
- Note: MSP and CB can also be available through Virtual Lab, which requires that the work is saved on OneDrive (or flash drive or local computer) as Virtual Lab does not allow the files to be saved directly there when the student logs out.

## Grading

Your grade in this course will be based on individual class participation (MarshallTalk sessions), group assignments, individual assignments, and tests. I will try to assess your understanding of the tools and concepts covered, your ability to integrate and apply those concepts and your contribution to the learning experience of the class as follows:

<u>Activity/Assessment</u>	<u>% of Course Grade</u>
Class participation and discussion	5%
Case prep and presentation	10%
Homework assignments	18%
Mid-term exam	25%
Final exam	35%
Simulation debriefing reports	7%

### Class Participation

Class participation counts 5% of your course grade. It requires that you do the assigned

readings, analyze the cases based on the questions given and participate actively in MarshallTalk sessions. I prefer substantive comments based on good analysis rather than brief, general comments that add little to the discussion and learning. If you are reluctant to talk in class but would like to show your preparation, please provide me with your analysis via the online discussion boards before MarshallTalk sessions. Be prepared to defend your suggestions or solutions with careful and thoughtful analysis! Useful criteria for measuring effective class participation include:

- Is the student absent too many times? Is the participant a good listener?
- Are the points that are made relevant to the discussion? Are they linked to the comments of others?
- Is there a willingness to participate and bring new ideas?
- Do the comments show evidence of analysis of the topic or the case?
- Do the comments clarify or build upon the important aspects of earlier comments and lead to a clearer statement of the concepts being covered?

I will take attendance on a regular basis. Attendance is not mandatory but will be considered as a part of your participation score. The relevant contribution to the discussion boards will also be graded and be part of class participation.

### **Case Read and Prep (included in Homework assignments grade)**

All cases must be read before the class they are to be discussed in (whether a presentation submission is required or not). Each student read the case carefully and fill out a Qualtrics survey with several discussion questions prior to the class discussion. The link for these Qualtrics surveys will be posted on Blackboard.

### **Group Case Presentation**

You are required to turn in one complete case analysis. It will be done in a learning team of 4-6 students and your case will be assigned to you after the teams are formed in the third week. Each team will prepare a presentation for the assigned case.

The presentation should cover the following outline:

- Brief discussion of the company and its environment
- Brief description of the problems
- Analysis that links the problems to its causes
- Short term recommendations
- Long term recommendations
- Implementation plan and the risks

Please ensure that the presentation deck is well organized for the outline provided above. You are expected to make a brief (15 minute) presentation of your analysis and recommendations during MarshallTalk.

## Homework Assignments

Homework counts for 18% of your course grade. There will be 5 – 6 homework assignments, plus case study prep assignments. A typical assignment will consist of several questions related to subject discussed in the previous weeks.

## Midterm Exam

It counts for 25% of your course grade. It will be a take-home exam on **(DATE)** from 8:00 am – 10:00 pm PT. Please take this into account when scheduling your trips, particularly as it is right after the 4<sup>th</sup> July holiday in the US!

## Final Exam

It counts for 35% of your course grade. It will be a take home exam on **(DATE)** from 8:00 am – 10:00 pm PT. The final exam is cumulative. Please take this into account when scheduling your trips! If there are extenuating circumstances that prevent you from taking an exam, you must discuss the reason with me before the time of the exam. You will not be given a make-up exam unless you obtain permission from me in advance. In addition, you must be able to document the extenuating circumstance. If you miss the exam due to a medical emergency that can be documented and verified, then a make-up exam will be given. Otherwise, a grade of zero will be given for the missed exam.

## Simulation Debriefing Reports

It counts for 7% your grade. There will be two or three debriefing reports. Each report will ask you to address a specific set of questions related to the interactive project management simulation we will be conducting throughout the semester.

## System Requirements

### Technical Support

- For Blackboard support go to [USC ITS Services Website](#) or call USC ITS at 213.740.555
- For MarshallTALK (Zoom) support go to [Zoom Support](#) or call (888) 799-9666 ext. 2

### Required Equipment

- Computer (PC or Mac)
- Headset or built-in speakers & microphone, if possible
- HD Webcam
- High speed Internet connection
- Up-to-date internet browser (Chrome, FireFox, Safari, or Internet Explorer)

## Statement on Academic Conduct

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own (plagiarism). Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. All students are expected to understand and abide by the principles discussed in the *SCampus*, the Student Guidebook ([USC SCampus](#)). A discussion of plagiarism appears in the University Student Conduct Code (section 11.00 and Appendix A).

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: [USC Student Judicial Affairs and Community Standards](#). Failure to adhere to the academic conduct standards set forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in [SCampus in Part B](#), Section 11, “Behavior Violating University Standards”. Other forms of academic dishonesty are equally unacceptable. See additional information in [SCampus](#) and [USC policies on scientific misconduct](#).

## Support Systems

*USC Emergency Information - [USC Emergency](#)*

If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

*The Office of Disability Services and Programs – (213) 740-0776*

[The Disability Services and Programs](#) (DSP) office provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with DSP each semester.

*Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call*

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. Go to: [USC Engemann Student Health Center Website](#)

*National Suicide Prevention Lifeline - 1-800-273-8255*

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. Go to: [National Suicide Prevention Lifeline](#)

*Relationship & Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call*

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. Go to: [USC Engemann RSVP Services](#)

*Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the Website: [Sexual Assault Resource Center](#)

*Office of Equity and Diversity (OED)/Title IX compliance – (213) 740-5086*

Works with faculty, staff, visitors, applicants, and students around issues of protected class. Go to: [Office of Equity and Diversity Website](#)

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. Go to: [USC Student Affairs - Bias Assessment Response and Support](#)

*Student Support & Advocacy – (213) 821-4710*

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. Go to: [USC Student Affairs - Student Support and Advocacy](#)

*Diversity at USC – [Diversity Matters](#)*

Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students

*American Language Institute - [ALI](#)*

Students whose primary language is not English should check with the *American Language Institute*, which sponsors courses and workshops specifically for international graduate students.

## Detailed Class Schedule (subject to change)

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 1</b> <b>(Date)</b></p> <p><b>Principles of Project Management</b></p>	<p><b>Introduction to Project Management</b></p> <ul style="list-style-type: none"> <li>• Define what is a Project and Project Management</li> <li>• Evaluate why projects fail</li> <li>• Define the three core performance goals</li> <li>• Describe success factors for project management</li> </ul> <p><b>Project Phases and Strategic Context – Overview</b></p> <ul style="list-style-type: none"> <li>• Describe the phases of project lifecycle</li> <li>• Explain the difference between projects, programs, portfolio</li> </ul> <p><b>Project Manager Role</b></p> <ul style="list-style-type: none"> <li>• Explain how Project Manager is selected</li> <li>• Define core and advanced skills for PM</li> <li>• Describe PM roles and responsibilities</li> <li>• List Project Management organizations</li> </ul> <p><b>Project Team Structure</b></p> <ul style="list-style-type: none"> <li>• Explain how to identify Project Team members</li> <li>• Describe strategies dealing with conflict</li> <li>• Define relationships between Project Team and company’s structure</li> </ul> <p><b>Stakeholders Management</b></p> <ul style="list-style-type: none"> <li>• Explain how to identify and analyze Stakeholders</li> <li>• Describe ways to obtain Stakeholders support</li> </ul> <p><b>Project Governance and Decision Making</b></p> <ul style="list-style-type: none"> <li>• Define structures and role of Project Management Office</li> <li>• Identify operating rules for Steering Committees</li> </ul> <p><b>Introduction to Project Financial Evaluation</b></p> <ul style="list-style-type: none"> <li>• Evaluate and compare financial metrics – NPV, Payback Period, Weighted Score</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Complete the Introduction survey on Discussion Board by (Date)</li> <li>• Complete all Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>• Ch 1.1-1.3</li> <li>• Ch 3.1-3.4</li> <li>• Ch 4.1-4.4</li> <li>• Ch 5.1-5.8</li> <li>• Article: PM Statistics and Trends</li> <li>• Article: Why do projects ‘fail’ and more to the point what can we do about</li> </ul> <p><b>MarshallTalk:</b> <b>(Date)</b></p> <ul style="list-style-type: none"> <li>• Course Introduction</li> <li>• Virtual Classroom Materials Review <ul style="list-style-type: none"> <li>○ Project Phases &amp; Strategic Context</li> <li>○ PM Role</li> </ul> </li> <li>• Project Team Structure</li> <li>• Project Governance and Decision Making</li> <li>• Project Financial Evaluation</li> <li>• Crystal Ball and MS Project installation</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 2</b> <b>(Date)</b></p> <p><b>Project Selection and Project Planning</b></p>	<p><b>Sidney Opera House Case Discussion</b></p> <ul style="list-style-type: none"> <li>Identify what makes a successful team and the trade-offs between goals</li> </ul> <p><b>Astra Zeneca Case Discussion</b></p> <ul style="list-style-type: none"> <li>Describe the role and challenges of PMO</li> </ul> <p><b>Project Selection – Proposal</b></p> <ul style="list-style-type: none"> <li>Describe how the project concepts are generated</li> <li>Identify the main roles to evaluate project ideas</li> <li>Describe the application of feasibility analysis</li> </ul> <p><b>Project Selection – Analysis and Approval</b></p> <ul style="list-style-type: none"> <li>Describe numeric and qualitative methods of project concept assessment</li> <li>Identify inputs, outputs, and the use of Business Case</li> <li>Describe the requirements for the approval of the project</li> </ul> <p><b>Project Selection – Simulation analysis</b></p> <ul style="list-style-type: none"> <li>Explain Monte Carlo and how to construct simulation models using Crystal Ball</li> <li>Analyze risk-adjusted NPV estimates using Crystal Ball</li> </ul> <p><b>Project Charter and Plan</b></p> <ul style="list-style-type: none"> <li>Describe the difference between project charter and project plan</li> <li>Describe components of Project Plan</li> </ul> <p><b>Work Breakdown Structure</b></p> <ul style="list-style-type: none"> <li>Explain work breakdown structure (WBS) and its levels</li> <li>Construct WBS for a project</li> <li>Describe a RACI matrix and its uses</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>Read Case Study: Sydney Opera House</li> <li>Read Case Study: Astra-Zeneca</li> <li>Complete Homework 1</li> <li>Complete all Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>Ch 2.2</li> <li>Ch 4.5</li> <li>Ch 6.1, 6.3</li> <li>Ch 7.4 (starting on page 274)</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>*Guest speaker</li> <li>Sydney Opera House &amp; AZ case discussions</li> <li>Virtual Classroom Materials review</li> <li>Crystal Ball example</li> <li>WBS exercise</li> <li>MS Project example</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 3</b> <b>(Date)</b></p> <p><b>Schedule and Critical Path Management</b></p>	<p><b>Project Approval Gate and Kick-off</b></p> <ul style="list-style-type: none"> <li>• Explain criteria to approve the project to proceed</li> <li>• Describe the role of PMO and SteerCo in approving the project</li> <li>• Describe inputs and outputs of a formal Kick-off meeting</li> </ul> <p><b>Project Execution Processes and Dynamics</b></p> <ul style="list-style-type: none"> <li>• List core processes of project execution</li> <li>• Contrast the roles of Project Manager and Project Team during execution</li> <li>• Describe likely pitfalls during project execution</li> </ul> <p><b>Project Scheduling and Use of MS Project</b></p> <ul style="list-style-type: none"> <li>• Construct project schedule from WBS</li> <li>• Describe Gantt, PERT, and CPM scheduling methods</li> <li>• Efficient use of MS Project as a PM tool</li> </ul> <p><b>Critical Path Methods and Networks</b></p> <ul style="list-style-type: none"> <li>• Design network diagrams</li> <li>• Identify critical path, critical time, and slack, using Excel and MS Project</li> <li>• Apply critical path analysis to solve a scheduling problem</li> </ul> <p><b>Echelon (A) Case Discussion</b></p> <ul style="list-style-type: none"> <li>• Apply the critical path method over a realistic example</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Read Case Study: Echelon A</li> <li>• Complete Homework 2</li> <li>• Complete all Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>• Ch 8.1-8.4 (not 8.3)</li> <li>• Article: ABC of Critical Path</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>• *Guest speaker</li> <li>• Virtual Classroom Materials review</li> <li>• Networks and critical path development worksession</li> <li>• Echelon A Discussion – MS Project example</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 4</b> <b>(Date)</b></p> <p><b>Probabilistic Scheduling</b></p>	<p><b>Scheduling Strategy and Hierarchy</b></p> <ul style="list-style-type: none"> <li>Define the different level of schedules for a larger project</li> </ul> <p><b>Uncertainty Management</b></p> <ul style="list-style-type: none"> <li>Differentiate between pessimistic, optimistic, and likely scheduling scenarios</li> <li>Find probability of completing the project under different scheduling scenarios</li> </ul> <p><b>Applying Simulation Analysis to Managing Timeline Uncertainty</b></p> <ul style="list-style-type: none"> <li>Describe how to evaluate scheduling bias</li> <li>Use Crystal Ball to evaluate the probability of successful project</li> </ul> <p><b>Harvard Simulation Game (A)</b></p> <ul style="list-style-type: none"> <li>Explain how the three objectives of the project are linked together</li> <li>Explain how to manage project team morale during the project</li> </ul> <p><b>Echelon (B) Case Discussion</b></p> <ul style="list-style-type: none"> <li>Evaluate probabilistic duration and critical path under different conditions</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>Read Case Study: Echelon (B)</li> <li>Complete Homework 3</li> <li>Complete all Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>Ch 9.1-9.5 (move to 5)</li> <li>Ch 8.3, 8.4 (add)</li> <li>Ch 7.1,7.2 (move to 5)</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>*Guest speaker</li> <li>Echelon B Discussion - Probabilistic duration</li> <li>California High Speed Rail???</li> <li>Virtual Classroom Materials review</li> </ul>

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<p><b>Session 5</b> <b>(Date)</b></p> <p><b>Resource Management</b></p>	<p><b>Resource Identification and Allocation</b></p> <ul style="list-style-type: none"> <li>• List project resources types</li> <li>• Explain resource loading and leveling</li> <li>• Describe methods for resource on-boarding, management, and roll-off</li> </ul> <p><b>Resource Management – Heuristic Approach</b></p> <ul style="list-style-type: none"> <li>• Model future resources needs</li> <li>• Identify resources with overallocation constraints</li> <li>• Explain how to level load resources to minimize constraints</li> <li>• Learn how to use MS Project for resource assignments, allocations, level loading, and prioritizing</li> </ul> <p><b>Echelon (C) Case Discussion</b></p> <ul style="list-style-type: none"> <li>• Evaluate resource management, cost trade-offs, expediting</li> <li>• Conduct working session</li> </ul> <p><b>Mid-Course Review and Midterm Prep</b></p>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Read Case Study: Echelon (C)</li> <li>• Read Case Study: Executing the Bogibeel Bridge for Social Impact</li> <li>• Complete Homework 4</li> <li>• Complete all Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>• Ch 7.3-7.4</li> <li>• Harvard Simulation Game description</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>• Virtual Classroom Materials review</li> <li>• Echelon (C) case discussions</li> <li>• Executing the Bogibeel Bridge for Social Impact Discussion case discussion</li> <li>• Simulation Game (A)</li> <li>• Midterm Exam prep</li> </ul>

<b>Session Date</b>	<b>Topics and Learning Outcomes</b>	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<b>Session 6</b> <i>(Date)</i> <b>Midterm</b>	<b>Take-home mid-term between .....(TIME)</b>	None – No MarshallTalk class

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 7</b> <b>(Date)</b></p> <p><b>Budgeting, Costing and Critical Chain</b></p>	<p><b>Project Budgeting and Costing</b></p> <ul style="list-style-type: none"> <li>• Describe the purpose of project budgeting and why it is difficult</li> <li>• Explain top-down and bottom-up methods and supporting techniques</li> <li>• Describe the difference between budgeting and costing</li> <li>• Explain how to address uncertainty with cost estimates</li> </ul> <p><b>Earned Value Analysis and Management</b></p> <ul style="list-style-type: none"> <li>• Explain the earned value analysis</li> <li>• Calculate earned value, planned value, and actual cost for a project</li> <li>• Define key EVM performance indices and cost estimates for project completion</li> </ul> <p><b>Critical Chain</b></p> <ul style="list-style-type: none"> <li>• Explain what is critical chain and how it is different from critical path</li> <li>• Explain and calculate buffer types</li> <li>• Describe resource contention</li> </ul> <p><b>Introduction to Risk Management</b></p> <ul style="list-style-type: none"> <li>• Identify what is a “risk” in the project</li> <li>• Describe risk management approaches</li> </ul> <p><b>Introduction to Case Study Projects</b></p> <ul style="list-style-type: none"> <li>• Brief on 2 case studies</li> <li>• Structure teams</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Book report on critical chain</li> <li>• Virtual Classroom content prior to the MarshallTalk session</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>• The Project Manifesto</li> <li>• Ch 9.5, 9.6</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>• *Guest speaker</li> <li>• Virtual Classroom Materials review</li> <li>• Critical chain discussion – The Project Manifesto</li> <li>• Simulation Game Scenarios</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 8</b> <b>(Date)</b></p> <p><b>Risk Management, Monitor and Controls, Time-Cost Trade-offs</b></p>	<p><b>Risk Management (continuation)</b></p> <ul style="list-style-type: none"> <li>List types of risks in projects</li> <li>Describe the formal project risk management processes</li> <li>Explain the sources and methods for risk identification</li> </ul> <p><b>Monitoring and Control – Processes</b></p> <ul style="list-style-type: none"> <li>Explain how to design Monitoring system</li> <li>Describe the purpose and focus on Controls system</li> <li>Explain the different Controls processes, and where they are applied</li> </ul> <p><b>Monitoring and Controls – Senior Management Controls</b></p> <ul style="list-style-type: none"> <li>Describe Milestone-based Reviews and what controls are deployed</li> <li>Describe Exception Reviews with their triggers and requirements</li> </ul> <p><b>Time-Cost Tradeoff Analysis</b></p> <ul style="list-style-type: none"> <li>Calculate minimum cost of an activity for a given duration</li> <li>Optimize time-cost trade-off for a deadline constraint</li> <li>Optimize time-cost trade-off for a budget constraint</li> </ul> <p><b>Harvard Simulation Game (B)</b></p> <ul style="list-style-type: none"> <li>Address unplanned issues with the project to minimize impact</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>Virtual Classroom content prior to the MarshallTalk session</li> <li>Boeing 767 Case A and Case B (initial review)</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li>Ch 10</li> <li>Ch 11</li> <li>Ch 12</li> <li>Ch 13</li> <li>Article: Why do projects seem to go bad right at the end? - The Hidden Risks in Earned Value Measurement</li> <li>Article: ADKAR Model</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>*Guest speaker</li> <li>Virtual Classroom Materials review</li> <li>Key controls during project execution</li> <li>Escalation and decision making</li> <li>Transition of project’s results into the functional organization</li> <li>Boeing Case introduction</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 9</b> <b>(Date)</b></p> <p><b>Communication, Stakeholder Management, Project Closure, Case Study Presentations</b></p>	<p><b>Communication and Stakeholder Management</b></p> <ul style="list-style-type: none"> <li>• Identify challenges and risks with poor communication</li> <li>• Define different methods of communication</li> <li>• Link stakeholder need to communication flow</li> <li>• Describe how to prepare communication plans</li> </ul> <p><b>Project Evaluation and Auditing</b></p> <ul style="list-style-type: none"> <li>• Explain project evaluation and its purpose</li> <li>• Explain project auditing and list steps in a project audit</li> <li>• Contrast when / why evaluation vs. auditing is deployed</li> </ul> <p><b>Closing Project</b></p> <ul style="list-style-type: none"> <li>• Define the post go-live support period and structures</li> <li>• Explain how to embed project outcomes into functional organizations</li> <li>• Describe the “closed-loop” evaluation of project results against the business case</li> </ul> <p><b>Case Studies Presentation by Teams</b></p> <ul style="list-style-type: none"> <li>• Case A – Team Presentation</li> <li>• Case B – Team Presentations</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Virtual Classroom content prior to the MarshallTalk session</li> <li>• Boeing 767 video primer</li> <li>• Boeing 767 Case A and Case B</li> <li>• Survey Questions on Boeing case</li> <li>• Presentations on Boeing 767 Case (assigned teams)</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>• Virtual Classroom Materials review</li> <li>• Best practices for effective communication</li> <li>• Boeing Case presentations (teams) and discussion</li> </ul>

Session Date	Topics and Learning Outcomes	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<p><b>Session 10</b> (Date)</p> <p><b>Portfolio Management, Agile and Hybrid PM Methods, The Future of PM</b></p>	<p><b>Portfolio Management</b></p> <ul style="list-style-type: none"> <li>Identify project categories and criteria</li> <li>Explain approach for managing portfolio stakeholders and management reviews</li> <li>Describe methods for setting goals and boundaries</li> </ul> <p><b>Portfolio Selection Analysis</b></p> <ul style="list-style-type: none"> <li>Develop an optimization model for portfolio selection problem</li> <li>Select the best set of project for given constraints</li> </ul> <p><b>Agile and Hybrid Methods During Project Lifecycle</b></p> <ul style="list-style-type: none"> <li>Identify when and how to apply Agile – during Selection, Planning, Execution, Closure</li> <li>Compare the benefits of Waterfall, Agile, Critical Chain and Lean</li> </ul> <p><b>The Future of Project Management</b></p> <ul style="list-style-type: none"> <li>Describe the tug-of-war between project and functional organizations</li> <li>Explain evolution of traditional hierarchical structures</li> <li>Open-mic discussion</li> </ul> <p><b>Finals Prep</b></p> <ul style="list-style-type: none"> <li>Practice questions for next week’s finals</li> </ul>	<p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>Virtual Classroom content prior to the MarshallTalk session</li> <li>Complete Homework 5</li> </ul> <p><b>Additional Reading:</b></p> <ul style="list-style-type: none"> <li><i>Agile-related:</i> Ch 1.4, Ch 2.1 (Business Case), Ch. 4 (Project Management in Practice), Ch 5.7 (Agile team roles), Ch 6.2, Ch 7.1 (Budgeting with Agile), Ch 8.5, Ch 10.4, Ch 11.3 (scrum events with project controls), Ch 11 (Reading, at the end of chapter), Ch 13.2 (closing agile projects)</li> <li><i>PPM-related:</i> Ch 2.3</li> <li>Additional readings TBD</li> </ul> <p><b>MarshallTalk:</b> (Date)</p> <ul style="list-style-type: none"> <li>Boeing Case Study debrief</li> <li>Virtual Classroom Materials review</li> <li>Application of Agile methods</li> <li>Worksession – the future of project management</li> <li>Final Exam prep</li> </ul>

<b>Session Date</b>	<b>Topics and Learning Outcomes</b>	<b><i>WILL BE UPDATED</i></b> <i>Readings / Assignments / Speakers</i>
<b>Session 11</b> (Date)  <b>Final</b>	<b>Take-home final between ....(time)</b>	None – no MarshallTalk class