# EM637 Project Control Syllabus

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| Professor: | Harris Snyder |
| Office: | N/A |
| E-Mail: | Harris.snyder@comcast.net Please use this for all student to teacher communications. |
| Telephone: | 856-316-8519 (Cell, Text) |
| Classroom: | Canvas. (http://Canvas.njit.edu/) * |
| Office Hours: | If you need to communicate directly with me, first use the above email address. I check this every other night. If I can easily answer your question via email, I will. If a spoken conversation is more appropriate, I can make time by appointment only. Please propose a date and time and phone #, and I'll either call you or (if I have to) propose an alternate time. |

* If you have problems using Canvas, http://Canvas.njit.edu has a help section. If you still need help after having looked at these, contact the Helpdesk at 973-596-2900.

COURSE OBJECTIVES

The purpose of this course is to give the student an understanding of Project Control, and to provide practical guidance and tools to enable the student to perform Project Control in the "real world". Project Control is an important component of Project Management, and the success of any project relies on the ability to control the project. Project Control focuses on project scope, schedule and budget, and how to determine when the project is "off-course" in these areas, and how to get back on track.

Note to students who may already have project management and project control knowledge and experience - Some of the material in this class may be repetitive compared to your own background. Since I have no idea of the knowledge and experience range of the class, I have to assume that there are some students who are seeing this material for the first time. Therefore, the material is set appropriately. The slide material in this class may be what you believe to be too detailed. I had a choice in designing the class educational material. I could have provided high level slides with little detail, and created videos which allowed me to verbally provide the detail (which you would have had to watch and take notes from). I chose, however, to create only slides which contain the detail required for presenting the required knowledge (which you can read at your own speed without having to take copious notes.

Learning material for this course was derived from:

- The course text book
- Project Management Institute knowledge
- Independent Subject Matter Expertise
- My practical experience working in project environments at Computer Sciences Corp., First USA Bank, PECO Energy - an Exelon Corp., Cendant Mortgage and Lockheed Martin.

It is assumed that the student as already taken EM 636 - Project Management (an EM637 prerequisite), and is familiar with the following topics.

- General Project Management theory
- Quality Control
- Organizational cultures and structures
- Motivational theory
- Communications theory

If the student has not taken EM636, or does not have practical experience running a project team or being a member of a project team, or closely observing either, then it is not recommended that this course be taken.

Some of the course material may refer back to material taught in Project Management EM636.

TOPIC AREAS

The course is divided into 4 learning areas, or modules, as described below.

Module 1 - Project Control Enablers

Enablers are tools, or processes, or business models, which provide project control "anchors" - support mechanisms to encourage project control. The student will learn about the following enablers, and their value in helping to keep a project under control.

- Project Methodology, and organization acceptance of this
- Project organizational charts - Who's Who
- Defined roles for the project team
- Project Stakeholders identified and on-board
- Approved Business Requirements and Scope statements
- Project Charters
- Project financial buy-in, with recognized cost-benefit analysis
- Approved Vendor contracts, with change control systems established
- Project Management Information Systems
- Project Charters
- Design Approvals
- Historical Data

Module 2 – Project Plan Development

The project plan provides a path to follow to a successful project completion. It also provides the measurement benchmark. Without a plan, there is no way to measure if the project is off-course. The student will learn about project plan components, and ways to develop usable project plans. Topic areas include:

- Performance Requirements/Cost/Time/Scope (PCTS) trade-off analysis in planning
- Project plan components
- Who should develop the project plan
- Work Breakdown Structures
- Work Packages
- Risk Analysis in planning
- Cost Estimates

Module 3 - Schedule Development

Project time control is about knowing when you need to be done with each component of the project. The project schedule is the means to measure success against time. The student will learn the steps and techniques required to develop good working schedules. The scheduling tool of choice for the course will be Microsoft Project. Areas covered include:

- The schedule development process
- Network development techniques
- Fast Tracking, Schedule Crashing, & Resource Leveling

Module 4 – Project Control

Once a project has the right enablers in place, and a good project plan and schedule in place, and that project is "in flight", the real work of project control begins. The student will learn about tools, processes and techniques which provide for the timely detection of whether the project is on/off course, and how to get that project back on course. Topic areas include:

- Performance Requirements/Cost/Time/Scope (PCTS) trade-off analysis in project control
- Risk analysis in project control
- Earned Value Analysis and other financial tracking methods
- Change Approval Processes
- Work Authorization Systems

Assignments and Grading

Assignments will include (but not be limited to) the following:

- Reading assignments from the course book
- Study of course material provided as slides or documents posted to Canvas
- Responding to posted discussion questions on Canvas
- Practical application of techniques taught in the class, such as development of a project schedule, or development of other project control tools.

Your class grade will be based on the following components:
An open book Canvas Quiz Final Exam (no midterm), the dates of which are documented in the Class Schedule – 33%
Class Participation CP (via Canvas ) – 33%
Completion of Assignments (visa Canvas) - 33%
Work submitted late will be assessed a grading penalty.

The schools grading policy for individual assignments and your final number/letter grade is as follows:

A 90-100
B+ 80-89.9
B 70-79.9
C+ 60- 69.9
C 01-59.9
F 0 – if you do no work on an assignment or the whole class

Your final class grade number is the average of CP grades + Average of Writing Grades + Final exam grade, the sum then divided by 3. I then make an adjustment based on extra credit, if you submit it (I offer only one extra credit assignment). Finally, I convert the number grade to a letter grade based on the above distribution.

NOTE - this course is NOT a "casual - take at your own pace" Canvas course.
There are weekly reading/writing assignments, and weekly class participation in Canvas "Discussion Forums" is mandatory. The Class Policy outlined below discusses due dates. Except for a few of the writing assignments, the Work in this course will take you about 3-4 hrs per week on average.

Course Materials

Project Planning, Scheduling, and Control - 5th Edition, James P. Lewis, ISBN – 978-0-07-174652-6, Publisher: McGraw Hill, Copyright: 2011.

Additional Reference Material

This course uses Project Management Institute (PMI) material as reference material in many places. While not required for the class, it would be useful for the student to have access to the latest PMI "Guide to the Project Management Body of Knowledge" as an additional information source. (See http://www.pmibookstore.org).

This course will also reference the course book from Project Management – EM636: "Project Management – A Systems Approach to Planning, Scheduling & Controlling", by Harold Kerzner (ISBN – 0-471-28835-7).

The student will have to create a project schedule as part of the course assignments. **The required tool for this will be Microsoft Project. The reason for this is that Microsoft project is the industry standard for developing project schedules. In order to gain real world value from this class, you must get hands on experience using this tool.** If you already have Microsoft Project available, you can use that. NJIT has Microsoft Project available for students. I will provide instructions for how to get access to this software early in the semester.
You will not need Microsoft Project until week 10 (Spring/Fall Semester), week 7 (Summer semester), but I strongly urge you to execute my instructions as soon as they are provided and **MAKE SURE YOU CAN USE THE SOFTWARE**. I will not allow late submissions of the schedule because you delayed getting access to the schedule software. Please note that the access to the scheduling software works for both Windows and Apples users.

The student will have to create a network chart as part of the course assignments. The required tool for this will be either Microsoft Visio or Excel. NJIT has both available as a download for students. There are certain restrictions. You will need an active UCID, and an active password that works for the on campus computers (the PW that works for the Registrar On-Line and Highlander will NOT work). Place a Helpdesk ticket and request the software. You will not need these until week 9 (Spring/Fall Semester), week 6 (Summer semester), but I strongly urge you to download the program early in the class and get it working. I will not allow late submissions of the schedule because you delayed getting the schedule.

Course Schedule and assignments – will be provided on Canvas by the first week of the course.
Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

Generative AI Policy - I am OK with you using AI as a start for your research regarding an assignment, but you must then go to actual web location called out by the AI reference for detailed analysis. It is NOT OK to use an AI tool to generate an answer that is submitted as your own work.

**Student Absences for Religious Observance:** NJIT is committed to supporting students observing religious holidays. Students must notify their instructors in writing of any conflicts between course requirements and religious observances, ideally by the end of the second week of classes and no later than two weeks before the anticipated absence.

Final Exam

Per NJIT's recent policy, the final exam will be proctored by ProctorU. The final exam dates will be listed in the class schedule. All other details will be provided in advance.

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