West Virginia University Department of Industrial and Management Systems Engineering IENG 445 – Project Management for Engineers

Amended 8/29/18

Class Schedule:	**CRN**	**Section**	**Time**	**Day**	**Location**
	84930	**001**	**3:30-4:45**	**T/TH**	**ESB-E G78A**

Format: In-class lecture, class activities and group projects

Credit Hours: 3

Description: This course provides an introduction to processes, tools, and techniques used to manage engineering projects within the context of an organization. It provides an overview of the engineering project management process, groups, and knowledge areas defined by the Project Management Institute and introduces Microsoft Project as a project planning tool.

Prerequisite: ENGR 102

Instructor Nelson F. Rekos, ME, MBA, PMP.
Office: ESB 337 Email: nfrekos@mix.wvu.edu
Hours: Tuesday & Thursday 2-3:30 pm, or by appointment
Phone Number: (304) 376-5539

Required Textbooks, Software, and Materials

- Project Management: The Managerial Process (7th Edition) – Erik Larson and Clifford Gray,
  - McGraw Hill, 2014 - ISBN: 978-0-07-809659-4 Available Online or in the WVU Bookstore
- Microsoft Project 2013 (2010 and 2016 versions will also work)
- FREE 60-DAY TRIAL VERSIONS ARE AVAILABLE:
  - HTTPS://PRODUCTS.OFFICE.COM/EN-US/PROJECT/PROJECT-ONLINE-PROFESSIONAL, HTTPS://WWW.APPONFLY.COM/EN/MICROSOFT-PROJECT-STANDARD-2016, HTTPS://WWW.POWER2PLAN.COM/MICROSOFT-PROJECT/MICROSOFT-PROJECT-DOWNLOAD-FREE-TRIAL.
  - NOTE THAT THE TRIAL LENGTH IS SHORTER THAN THE COURSE LENGTH; ***DO NOT DOWNLOAD OR INSTALL THE TRIAL UNTIL SEPTEMBER 19TH.*** SOFTWARE IS ONLY AVAILABLE FOR WINDOWS-BASED PCS
- Microsoft Office – Word, Excel, PowerPoint.
- Access to a computer that meets MS Project and eCampus requirements, **and can be brought to class for MS Project exercises.**

Recommended Materials

- Guide to the Project Management Body of Knowledge (5th Edition) – PMI
  - Project Management Institute, 2013 – ISBN: 978-1-93558-967-9
  - Available Online or in the WVU Bookstore. Note that a free digital copy is available with the purchase of a PMI Smart Start Package or PMI Student Membership (approximately $35). Visit http://www.pmismartstart.org for details on both of these options.
  - If you plan on pursuing a Project Management Certification such as the CAPM or PMP, this purchase is strongly recommended.
- PMI Smart Start Package
  - Students in this course have the option to purchase a Smart Start package from the Project Management Institute that combines a PMI Student Membership with the CAPM exam application fee. The combined fee for both is approximately $260 (compared to ~$350 regular price), and will allow you to earn your Certified Associate in Project Management designation after completing the course and passing the CAPM exam. t http://www.pmismartstart.org.

- While this course covers the most of the material tested on the CAPM exam, further detailed study is recommended prior to taking the exam. The exam relies heavily on memorization of the specific processes, inputs, outputs, tools, and techniques presented in the PMBOK, and we are covering the material at a much higher, more application-based level. There are many study materials and practice exams available online and through bookstores if you wish to prepare further for the exam.

Course Learning Outcomes

Upon completion of this course, the student will be able to:

- Describe the benefits that a structured project management approach provides to engineering organizations.
- Define projects, describe the role of an engineering project manager, illustrate what is meant by the project life cycle, and explain the impact of environmental factors on project management
- Model a project management framework, based on the PMBOK, that takes into account various inputs, tools, and techniques, and provides outputs to make decisions about the efficacy of project management processes.
- Assess the purpose and importance of project management processes
- Analyze the project management processes from a real--world case study, using Microsoft Project where appropriate
- Relate the similarities between engineering project management and engineering design.

Detailed learning outcomes for each week can be found at the beginning of the course modules. The textbook readings and course materials are designed to provide the knowledge needed to meet these outcomes, and course discussions, assignments, and exams/quizzes are designed to evaluate your mastery of these outcomes.

Course Relationship to Program Educational Outcomes

The course relates strongly to the following student outcomes for the Department of Industrial and Management Systems Engineering:

- Outcome 3: Students will be able to develop project management strategies with measurable organization results that are communicated effectively.
- Outcome 4: Students will be able to identify strategies for managing stakeholders from other disciplines.
- Outcome 6: Students will be able to differentiate impacts that projects have on internal and external stakeholders.
- Outcome 8: Students will be able to demonstrate proficiency in project documentation and project planning that are expected of an experienced engineer.

Course Policies

- **Communication to Students**: The instructor will communicate to the class via eCampus Course Announcements and WVU e---mail. Please check these daily to receive updates on the course.
- Tentative dates for Labs, Exams, and Homework assignments (HW) are on the course schedule. There may be additional HW added during the course.
- Exams will be accessed through eCampus. Exams will be available only for a designated time and will not be re-opened after the deadline for completion has passed. No make-up exams are permitted, except by prior arrangement with the instructor, at the sole discretion of the instructor.
- Assignments are due ***at the beginning*** of class on the due date assigned. It is expected that assignments will be printed out before class starts and handed in on time. Additionally, electronic copies of assignments may be requested. These electronic copies must also be submitted prior to the start of class. **Late assignments will not be accepted or graded.**
- This course contains both team and individual grading elements. All homework and exams are considered individual assignments. Anyone found to be cheating on any individual assignment will be disciplined according to the University's policy on Academic Integrity.

- **Assignment Submission**: All electronically submitted homework or Labs assignments must be via the course website. No email submissions will be accepted unless the instructor grants permission in advance.
  - Assignments that deviate from the assigned file format or naming convention are subject to a grade reduction of 10%.
  - Assignments that do not represent a professional---quality work product suitable for presentation to a senior manager will be subject to a reduction of no less than 10%.
  - Students must ensure that their electronic submissions are free of any viruses, malware, spyware, etc.
- **Academic Dishonesty**: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please contact me before the assignment is due to discuss the matter. Unless otherwise indicated, **all graded course components are to be completed independently.**

Statement on Social Justice

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect and inclusion. I concur with that commitment.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this course, you must make appropriate arrangements through Disability Services (293---6700). They will identify the nature of the accommodation your disability requires.

Course Structure

This course meets twice per week. At the beginning of each week, you are expected to review the week's learning outcomes, complete a reading assignment in your textbooks, and review the course materials in eCampus. The course includes a formal lecture on the appropriate chapter from the textbook, individual and team assignments in class. It is expected that you will participate in the exercises and class discussion portion.

Grading Elements, Weighting, and Scale

- Participation/Attendance – To promote student to student and student to instructor interaction, students will respond to weekly questions posed by the instructor. Questions posed may be based on the reading assignments, homework or team assignments. Non responsive or consistent absences will be noted/counted*. *Attendance will be taken (sign-in sheets) for a minimum of (10) classes.
- Labs – Lab 1 will be individual assignment, Lab 2 & 3 will be Team assignments (2-member /team) utilizing the Microsoft Project software. Detailed instructions and a grading policy for each lab assignment will be posted on eCampus. Note that each team member needs to be able to work with the MS Project software since the MS Project Exercises on Exams 2 & 3 will incorporate all the techniques used to complete the Lab 2 & 3.
- Assignments/Homework - will be a mixture of be individual and/or team submittals.
- Exams - Students will be given 3, exams throughout the term. Exams will focus on textbook reading, project management theory, and technical knowledge. The 2cd and 3rd exams will include exercises to test your proficiency with MS Project Software. The Final Exam will not be cumulative.

GRADING

Grades are based upon student performance on assignments, quizzes, and projects, as well as upon student participation in required activities, such as study labs and a variety of outside of class experiences designed to show students more about the engineering profession. Each assessment tool is weighed as follows:

30%	Labs [3@ 10% / each]
45%	Exams [3@15% / each]
15%	Final Exam
5%	Assignments [team assignments, homework]
5%	Class Participation/Attendance

GRADING SCALE

Letter grades are assigned according to the following scale:

A	90% – 100%
B	80% – 89%
C	70% – 79%
D	60% – 69%
F	Below 60%

***TENTATIVE COURSE SCHEDULE**

Week	Topic	Book Chapters And Sources	Assignments & Deliverables
1 8/15-8/17	Modern Project Management	L/G: Chaps 1	
2 8/20-8/24	Organization: Structure & Culture	L/G: Chaps 1, 3	
3 8/27-8/31	Organization Strategy, Project Selection, Portfolio Management Defining the Project (part 1)	L/G: Chap 2 & 4	Lab 1 Start
4 9/3-9/7	Defining the Project Scope (part 2) Estimating Project Times and Costs (part 1)	L/G: Chaps 4 & 5	
5 9/10-9/14	Estimating Project Times and Costs (part 2) Impact of Learning Curves	L/G: Chap 5	***Lab 1 Due (9/9)*** **Exam 1** ***Chaps 1-5***
6 9/17-9/21	Sequencing the Project Activities MS Project – tutorial #1	L/G: **Chap 6** MS Project videos	Install MS Project Lab 2 Start
7 9/24-9/28	Managing Risk	L/G: Chaps 7	
8 ***10/1-10/5***	Scheduling Resources and Cost	L/G: **Chap 8**	Lab 2 Due
9 10/8-10/12	MS Project tutorial #2, Lab 3 Discussions	MS Project videos	**Exam 2** (*chaps 6-8*)+ MS Project Lab 3 Start
10 10/15-10/19	Reducing Project Duration and Finalizing Time and Cost Baselines	L/G: Chap 9	
11 10/22-10/26	Staying on Course: Monitoring and Controlling the Project	L/G: **Chap 13**	Lab 3 Due
12 10/29-11/2	Leadership & the Effective Manager	L/G: Chap 10	
13 11/5-11/9	No Class 11/6 Election Day Exam 3 on 11/8	L/G: Chap 11	**Exam 3** (chaps 9, 10, 13 +MS Project)
14 11/12-11/16	Managing Project Teams Outsourcing Project Components	L/G: Chaps 11 &12	
11/19-11/23	**Thanksgiving Break**		
15 11/26-11/30	Project Closure, Agile Project Management CAPM Exam Preparation	L/G Chap 17 PMBOK Review	
16 12/3-5	CAPM Practice Tests Last Class 12/5 **Class Final – Monday, 12/11 8-10am**		**Final** **Chaps 11,12,14,17** + CAPM principles

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