

## EM701: Engineering and Technology Management Master's Independent Capstone Syllabus

**Instructor:** ETM Faculty

**Communication Methods:** Class orientation is held during the first week of class (see BB Learn posted course schedule for day and time, and session link to access orientation) and recorded. The recording will be archived and available for students on the course site. A 'Question and Answer' discussion group will be also available on the course site for any non-time critical questions and answers. This will be viewable to all for maximum benefit in case students have the same questions. For time critical communications, contact the Faculty Instructor directly using the contact information listed on the BB Learn EM701 course Home Page. All official WSU email communication must be sent through the student's WSU email address.

**Prerequisites:** EM701 is completed in the final semester of your ETM program.

**Course Credits:** 3 (some students may complete additional credits in EM701 to meet graduation requirements).

### Course Description

For the EM701 course, students perform in-depth analyses on a set of assigned engineering management related case studies over one semester.

### Course Objectives

After taking this course, the student will be able to:

- Integrate and extend the knowledge, skills, and abilities attained from the various classes completed in the ETM program.
- Further advance understanding of the multidisciplinary nature of engineering management.
- Demonstrate depth and breadth of competency in engineering management.
- Consider the role of ethics in engineering management.

### Course Approach

There are no weekly class meetings for the capstone course; however, there will be a recorded orientation in the beginning of the semester with optional student attendance; however, students should review the recording if they miss the live orientation. Students complete four case study assignments, write an executive summary, and develop a presentation that they deliver to their committee in a formally scheduled session. Students schedule their oral presentation according to the instructions posted in BB Learn. EM701 content and detailed assignments are posted to the appropriately labeled sections of the online BB Learn course site, along with general EM701 and graduation related material. Students will complete an end of program survey at the end of the semester.

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### Required Material

- Case studies through a variety of formats will be required reading
- Citation Style Quick Guides: <https://libraries.wsu.edu/quickguides> (APA preferred)

### Case Study Analyses

Students complete **four** case studies for EM701 where each case study is primarily focused on one or two of the six core areas of the ETM Masters; however, each case study presents a situation that spans multiple areas of engineering management. The EM701 instructor provides the **four** case studies covering the six core areas of the program as grouped below:

- Managing Organizations and People and Managing Projects
- Managing Financial Resources and Managing Strategy
- Managing with Analytical Methods
- Managing Variability

***The case studies are assigned as due in a particular order each semester, and this order is announced in the BB Learn class.*** For a current list of the EM courses that align with each core area see: <https://etm.wsu.edu/masters-degree/>.

The case studies are selected to provide the student the opportunity to demonstrate the breadth and depth of knowledge gained during the Engineering and Technology Management (ETM) Master's program. Students integrate skills from several different classes and extend their learning as they explore each case study in depth, summarize the case study, respond to questions about the case study, and provide additional insight and recommendations from their personal experience from their work environment or the broader community. ***It is important, however, that the student excludes any work-related proprietary information from the analysis.***

The intent of the case study analysis is to encourage the student to gain a mature understanding of the situation, ponder the problem, and consider various approaches and solutions and their implications over one semester. Student should relate the case study context to problems of importance in their workplace or community and provide related examples of lessons learned.

Students submit written case study analyses using the following guidance. For the case study assignments, students include a title page with a title, their name, the date, the case study being analyzed, and the academic integrity pledge.

The case study analyses consist of three parts. Students are required to:

- Part I: Write a case synopsis. This is a concise relevant summary of the case study. Limit the synopsis to 350 words.

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- Part II: Discuss and answer the questions from the case submitted as numbered Q&A. Limit each question response to 250 words (not including graphs, charts, equations, tables, etc.) unless a different word limit is specifically noted. Note: The 250-word limit applies to each numbered question separately.
- Part III: Provide a student opinion of the case study that demonstrates mature understanding of the situation; provides insights and lessons learned, notes issues or potential conflicts, and relates to work and community experience, going beyond the obvious and digger deeper into the implications of the case study. Limit the student opinion to 550 words (not including graphs, charts, equations, tables, etc.).

Students post their completed case study analyses per the scheduled due dates shown in the **EM701 Course Schedule**.

**Students should answer ALL applicable questions in the case studies** noting that some questions depend on which courses were completed. Please note: If a student transferred in a course to cover a particular core area, they have the option to choose which course specific question set they respond to, but they must choose one.

Students receive feedback from the faculty responsible for the core area(s) pertaining to each of the four case studies.

### Final Executive Summary and Oral Presentation

For the final assignments in the class, students start with the work they completed on one of the **four** case studies, and they expand on their previous work with reviews of relevant literature on similar situations, research and exploration of tools and methods used to address these related situations, in-depth (further) discussion of the student's original assessment, new insights, further recommendations, and implications to the work environment, the Engineering Management field, and the broader community. For the final assignment deliverables, students synthesize concepts across their Master's program and demonstrate mastery of engineering management.

In general, students perform a more in-depth analysis related to the case study that they have selected for their final EM701 deliverables: *an executive summary, presentation slides, and an oral presentation*. Students are advised to select one of the previously completed cases studies for which they have a breadth and depth of experience and proficiency on the topic allowing for an extension of their case study analysis work.

The final deliverables address a concise relevant summary of the initial case study, responses to every applicable (depending on which courses completed) question about the case study (for further in-depth discussion) and additional insight and recommendations from the students' personal experience from the work environment or the broader community. However, students also perform a more complete in-depth analysis, extending the student's prior work. **Students apply**

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**new methods, processes, and tools not required in the original case study analysis; perform extended research beyond their initial research; further relate their “new” work to the original case study and to related examples or experiences in their workplace or community; and integrate their new and updated findings into a concise presentation that they deliver to their faculty committee in a formally scheduled oral presentation. Students who simply document and present their previously completed case study analysis for the final executive summary and oral presentation, will receive an Unsatisfactory grade in the course.**

Students submit a set of presentation slides and a several page executive summary that summarizes the purpose, goals, approach, findings, and synthesis of their detailed presentation, prior to the student's scheduled oral presentation. The executive summary should give any evaluator (your committee) a clear idea of the problem you are tackling, your approach to solving the problem, and how the problem applies to current business and technology events. Consider the executive summary a concise overview of your in-depth case study analysis provided in your presentation. Refer to the Executive Summary section of BB Learn for guidelines and tips for writing the executive summary.

Students sign up for their 1-hour oral presentation timeslot in BB Learn. After all students have signed up for a timeslot, individual meetings are created, one for each student. Students present using the typical classroom delivery tool in the EM701 classroom, from a private or quiet area, where they use both video and audio features of the presentation system to provide a professional presentation of their culminating work. Students should login to their scheduled case study presentation meeting area at least 15 minutes (and up to one hour) earlier than the scheduled time to test the connection, audio, video, and presentation slides. The 1-hour timeslot includes the student's 20-minute (hard limit) presentation followed by questions from faculty (per WSU policy, only faculty members ask questions during the final oral presentation.), a private committee deliberation (while students wait in a break room), and a final meeting on the presentation outcome. Once the student receives his/her feedback from their committee Chair or a committee member after the faculty deliberation, students have up to one week to update any artifact required by their Chair and committee.

Students sign up for their oral presentation timeslot and post their completed final executive summary and final presentation per the scheduled due dates shown in the **EM701 Course Schedule**. The goal of these final deliverables is for the student to demonstrate their overall mastery of the ETM program content and their advancement in the field of engineering management.

### All Assignment Submissions

The **four** case studies, final executive summary, and final presentation will be submitted to the corresponding assignment areas in Bb Learn by the due dates specified in the **EM701 Course Schedule**. The final executive summary and final presentation may be required to be updated and re-submitted based on faculty

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feedback received at the scheduled oral presentation, by the required committee deadlines up to one week later. Papers should be posted as a Microsoft Word or Adobe PDF document and presentations should be posted as a Microsoft PowerPoint or Adobe PDF document.

**All assignment submissions are made through the Bb Learn EM701 class.** Submitted work must be readable and printable using a commonly available Microsoft product (included in Office Suite) or Adobe Acrobat (.pdf format). Any other formats will not be accepted without prior approval. Students must retain electronic copies of all submitted works to be made available for resubmission should unforeseen technical circumstances warrant.

The writing and reference formatting style identified in the current edition of the *Publication Manual of the American Psychological Association* (APA) is preferred for use on written assignments in this course. In the workplace, you are expected to produce documents that are clear, error-free, and visually effective in communicating the intended message. All work submitted for credit in this course must also satisfy these general professional expectations as well as be appropriate for the specific purpose and audience for which the communication is intended. Quality of work will be reflected in the assignment scores. All work must identify the student, course, ETM core area for the case study, and appropriate assignment identifier within the document. Electronic file submissions **MUST** conform to the following naming conventions:

LastName.Initial(s).Course Prefix and Number.ETM Core Area.Activity ID.FileExtension (no spaces in filenames)

Examples:

**Phelps.M.EM701.ManagingStrategy.CaseStudyAnalysis.docx**

**Phelps.M.EM701.ManagingStrategy.ExecutiveSummary.docx**

**Phelps.M.EM701.ManagingStrategy.Presentation.pptx**

Submissions not in the proper format will be returned to the student.

### Point Distribution

• Assigned Case Studies (4 cases at 10 pts each)	40 pts
• Executive Summary	30 pts
• Oral Presentation	30 pts
<b>TOTAL</b>	<b>100 pts</b>

**Note: there is a 10% grade reduction per day for late submissions for case studies, the final executive summary, and the final presentation.** Also, please note that assignments in this class may be submitted to a web-based anti-plagiarism system for an evaluation of their originality.

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### EM701 Course Schedule

Assignment or Event	Due Date Description (subject to change)
EM701 Orientation	Friday of first week of class, 5pm PST
Case #1 Due	third Sunday of class, midnight PST
Case #2 Due	fifth Sunday of class, midnight PST
Sign-up to Present Due	seventh Sunday of class, midnight PST
Case #3 Due	seventh Sunday of class, midnight PST
Case #4 Due	ninth Sunday of class, midnight PST
Executive Summary Due	Thurs before Presentations, midnight PST
Presentation Slides Due	Thurs before Presentations, midnight PST
Oral Presentations Due	M-H, 2 wks prior to ballots, 8am–2pm PST
ETM Masters Survey Due	Monday before ballots, midnight PST
Ballot Meeting (Faculty)	Thursday of final ballot week, 10am PST

### Academic Integrity Statement

Students should include the following academic integrity statement on the title page of their case studies, final executive summary, and final presentation, as required. Sign the statement by typing your name on the space provided. **Note that your case studies, executive summary, and presentation will not be accepted without including the following signed academic integrity statement** (final line for EM701 only):

*I commit myself to Washington State University's high standards to uphold academic honesty and scholarly values as established by the WSU's Standards of Conduct. I affirm that I have not given or received any unauthorized assistance on this assignment/examination, that the work product presented here is the work of the author(s) [myself or all team members listed], and that all materials from other sources (including books, articles, Internet, or other media), whether quoted or paraphrased, have been properly cited.*

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Typing or electronically signing my name above serves as my signature

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\*Current Job Title (optional)

\*Employer

\*Future email

### Grading Policy

For EM701, the earned grade is 'S' (Satisfactory) or 'U' (Unsatisfactory) depending on whether the student made satisfactory progress. A student must earn a final grade of 70% or higher and must earn above a 60% or higher on any one individual assignment, to earn a satisfactory grade in the course. For the case study submissions, students must earn 6 points or higher or they may be required to redo the case study. For the final executive summary and oral presentation, students

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must earn 18 points or higher, or they will not earn a satisfactory grade in the course. Students may be asked to do additional work after their oral presentation, with hard deadlines, in order to earn a passing grade for the class. The EM701 assignments are scored, and feedback and grades are placed in the Bb Learn gradebook. At the discretion of the committee, if the student did not make satisfactory progress which normally involves meeting published deadlines in the semester, the student may be required to repeat the work the following semester and may be awarded a grade of 'U' for the current semester. Two semesters of 'U' grades are the basis for removing a student from the Graduate School and program.

### Incomplete Policy

There are no incompletes for this course, only satisfactory or unsatisfactory completion.

### Library Access

All students enrolled in WSU distance courses can use the WSU Libraries online databases at <http://libraries.wsu.edu>. Login with your WSU username and password if prompted. Students may also receive reference and research assistance from the online university services and borrow books and other circulating material and receive photocopies of journal articles. Visit the online university resources at <http://libguides.libraries.wsu.edu/global> for library support information and access to the online library tour for global campus students.

### Information Technology (IT) Help Desk

For any technical issues with Blackboard Learn or Blackboard Collaborate please contact support at [wsuonline.support@wsu.edu](mailto:wsuonline.support@wsu.edu) or call 509-335-4320 or 1-800-222-4978. To join the Blackboard alerts email list and receive notifications about Blackboard outages please visit <http://lists.wsu.edu/join.php> and select the Blackboard-alerts option from the dropdown menu.

## General Course Policies

### Academic Policy Reminders Pertaining to Courses

Additional reminders about academic policies intended to create clear communication between faculty and students, and fair and equitable conditions of teaching and learning. The full text of all academic regulations is available at: <https://registrar.wsu.edu/academic-regulations/>

### American Disability Act (ADA) Accommodations

Reasonable accommodations are available in online classes for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center or Disability Services for your home campus to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center or

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Disability Services. For more information contact a Disability Specialist on your home campus. **Students are responsible for initiating requests for reasonable accommodations and services that they need.**

### Requesting Reasonable Accommodations

Students with identified disabilities should contact the Access Center before the semester that they plan to attend and initiate the accommodations process. Accommodations are unique for each individual and some require a significant amount of time to prepare for, so it is essential that students notify the Access Center as far in advance as possible. Students with a disability that is identified during the semester should contact the Access Center as soon as possible to arrange for an appointment and a review of their documentation by an Access advisor. Contact information for the Access Center at each campus can be found at the following websites:

- **Pullman or WSU Online:** 509-335-3417, Washington Building 217; website: <http://accesscenter.wsu.edu>, email: [Access.Center@wsu.edu](mailto:Access.Center@wsu.edu)
- **Spokane:** <https://spokane.wsu.edu/studentaffairs/access-resources>
- **Tri-Cities:** <http://www.tricity.wsu.edu/disability/>
- **Vancouver:** 360-546-9138  
<https://studentaffairs.vancouver.wsu.edu/access-center>

All students requesting reasonable accommodation must meet with the instructor prior to or during the first week of the course to review all proposed accommodations in relation to course content and requirements. Exceptions to this timeframe will be granted only upon a showing of good cause.

### Academic Integrity

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will earn a zero on the assignment; further consequences range from failing the course, being placed on academic probation, or being dismissed from WSU. Students will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct. Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26- 010(3). Students need to read and understand all of the definitions of cheating: <http://app.leg.wa.gov/WAC/default.aspx?cite=504-26-010>. If a student has any questions about what is and is not allowed in this course, ask the course instructor before proceeding.

Examples of issues include: not quoting/citing directly copied and pasted text; collaborating on individual work (collaborate on team work only); presenting another person's work as your own; rephrasing another person's work without



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citing; or turning in work where a majority is someone else's work even when properly quoted and cited.

If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at <http://conduct.wsu.edu/>.

Examples of issues include: not quoting/citing directly copied and pasted text; collaborating on individual work (collaborate on team work only); presenting another person's work as your own; rephrasing another person's work without citing; or turning in work where a majority is someone else's work even when properly quoted and cited.

### WSU Safety Statement (if/when on campus)

WSU is committed to maintaining a safe environment for its faculty, staff, and students. Safety is the responsibility of every member of the campus community and individuals should know the appropriate actions to take when an emergency arises. In support of our commitment to the safety of the campus community the University has developed a Campus Safety Plan, <http://safetyplan.wsu.edu>. Before visiting campus, please also visit the University emergency management web site at <http://oem.wsu.edu> to become familiar with the information provided.

Classroom and campus safety are of paramount importance at Washington State University and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act," protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able). Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the FBI's Run, Hide, Fight video (see: <https://oem.wsu.edu/emergency-procedures/active-shooter/>) and visit the WSU safety portal: <https://oem.wsu.edu/about-us/>.

### Copyright Notice

The content of this program and the video transmissions of the classes are the property of Washington State University and are to be viewed and used only by persons currently enrolled in this course. The materials provided in this program are copyrighted and unauthorized duplication is not allowed without permission of the copyright holders. Any other use requires the express written consent of the Instructor.

### Professional Oral and Written Presentations

The WSU ETM Master's degree is a professional graduate program. Student work should be presented neatly and with correct English spelling, grammar and punctuation. There are numerous software packages available to help students.

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Also, the Graduate and Professional Writing Center is available to help on-line students. Visit <https://writingprogram.wsu.edu/graduate-writing-center/> and <https://writingprogram.wsu.edu/graduate-writing-center/professional-editing-service-center/> for services.

### Washington State University Student Grievance Process

If a WSU Online student has a complaint or problem, the University offers several remedies as outlined below.

See: <http://online.wsu.edu/nonResidentComplaintProcess.aspx>

#### **Academic Complaint Procedures** (Academic Rule 1 04)

Students having complaints about instruction or grading should refer them first to the instructor. If the complaint is not resolved, then the student may refer the complaint in writing to the Chair of the department in which the course is offered by the end of the last day of the following semester (excluding summer term). The Chair's decision shall be rendered within 20 business days. After the Chair's decision, the student or the instructor may appeal to the Dean's Office. Complaints must be presented in writing to the Dean within 20 business days of the Chair's decision. The written statement should describe the complaint, indicate how it affects the individual or unit, and include the remedy sought from the Dean. The decision of the Dean is the final step and shall be made within 20 business days. The University Ombudsman is available at any stage for advice or assistance in resolving academic complaints. At the branch campuses, the procedure is identical except that the academic area coordinator shall substitute for the department chair and the campus dean shall substitute for the college dean.

#### **Policy Prohibiting Discrimination and Sexual Harassment** (*Faculty Manual*, p. 30).

This policy expresses WSU's commitment to maintaining an environment free from discrimination, including sexual harassment. This policy applies to all students, faculty, staff, or others having an association with the University. The faculty manual is located at: [http://facsen.wsu.edu/faculty\\_manual/](http://facsen.wsu.edu/faculty_manual/)

Additional information may be found in the Code WAC 504-26-220,-222, and -227. In addition, complaints about discrimination/sexual harassment can be directed to WSU's Office for Equal Opportunity <https://oeo.wsu.edu/file-a-complaint/>. For WSU graduate students, procedures can be found at <https://gradschool.wsu.edu/documents/2017/07/gs-grievance-procedures.pdf/>

Online students also have protections and processes specific to their state of residence. See: <http://online.wsu.edu/nonResidentComplaintProcess.aspx> for links to State Grievance Processes. Visit the Office for Equal Opportunity

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(<https://oeo.wsu.edu>) for more information.

### Reasonable Religious Accommodation

Washington State University reasonably accommodates absences allowing for students to take holidays for reasons of faith or conscience or organized activities conducted under the auspices of a religious denomination, church, or religious organization. Reasonable accommodation requires the student to coordinate with the instructor on scheduling examinations or other activities necessary for course completion. Students requesting accommodation must provide written notification within the first two weeks of the beginning of the course and include specific dates for absences. Approved accommodations for absences will not adversely impact student grades. Absence from classes or examinations for religious reasons does not relieve students from responsibility for any part of the course work required during the period of absence. Students who feel they have been treated unfairly in terms of this accommodation may refer to Academic Regulation 104 - Academic Complaint Procedures. See also Rule 82.

### Academic Calendar

Students should refer to the academic calendar to be aware of critical deadlines throughout the semester. The WSU Online academic calendar can be found at <http://registrar.wsu.edu/academic-calendar/>.