BUS. MGT. 7223: Project Management

Spring Term 1, 2016

Class times: MW 6:00 – 9:15 p.m.
Classroom: 305 Gerlach
Office hours:
1. MW 5:15 – 5:45 p.m. (in 658 FH).
2. By e-mail appointment (in 658 FH).
Software support: Mr. Somak Paul (.865).

Professor Nicholas G. Hall
658 Fisher Hall
2100 Neil Avenue
Columbus, Ohio 43210-1144
Telephone: 614-292-9216
E-mail: hall.33@fisher.osu.edu

Required Course Materials
1. A sense of humor, an interest in learning and a sharp pencil.
3. A coursepack containing copyrighted case materials: available through Uniprint.
4. Registration for the project management simulation exercise ($15.00 registration) at: https://cb.hbsp.harvard.edu/cbmp/access/42992638.
5. A variety of required materials posted on the course website: https://carmen.osu.edu

Course Description
The global trend towards shorter life cycles for products and services has led many companies to focus on improving their approaches to change management. Organizations that want to change their focus or direction increasingly recognize that introducing new products, processes, or programs in a timely and cost effective manner requires professional project management.

This course examines the management of complex projects and the tools that are available to assist managers with such projects. Some of the specific activities and topics within the course include a critical problem solving skills evaluation, project selection, project teams and organizational issues, project scheduling, cost and budget issues, managing task time uncertainty, agile project management, project risk management, two project management simulation exercises, resource management in projects, monitoring and control of projects, and a multiple projects management game. Both “traditional” applications of project management (such as engineering and construction projects) and “modern” applications (such as information technology projects and new product development) will be discussed.

Course Prerequisites
The only formal prerequisite is good standing in a graduate program. However, the course is designed for students who enjoy solving business problems with decision models and spreadsheets. The course makes use of formulation of optimization models, and their solution using Excel software.

Class Materials
Ideally, students should bring the lecture notes in their preferred format to class every day. Also, as indicated by the instructor, there are several class days on which the coursepack and/or a notebook computer will be useful. The “Commentaries” document may be helpful.
during several classes when videos are shown.

**Case Studies**
For each case study, each study group should complete a written report that *thoroughly but concisely* responds to the questions accompanying the case. Advice about case report writing appears on page 6. In addition, each study group will give one presentation. Advice about case analysis presentations appears on page 7.

**Evaluation of Performance**

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<thead>
<tr>
<th>Evaluation</th>
<th>Points</th>
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<tr>
<td>Case reports (by study groups): 2 @ 40</td>
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<tr>
<td>Case presentation (by study groups): 1 @ 40</td>
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<td>Project management simulation exercises (individually): 2 @ 20</td>
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<td>Class participation (individually): 1 @ 40</td>
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<tr>
<td>Final exam (individually): 1 @ 100</td>
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<td><strong>Total</strong></td>
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**General Procedures**
1. The rules of the course do not allow you to share information regarding assignments with other study groups.
2. All case reports must be submitted at the start of class on their due date to receive credit, since the case solution will be discussed in class. You may wish to keep a second copy to help with the discussion.

**Academic Misconduct**
It is the policy of Fisher College that all incidents of apparent academic misconduct are forwarded to the university’s Committee on Academic Misconduct. Specifically, you are warned not to share information with other study groups, violate standard exam procedures, or sign for class attendance on behalf of another student.

**Special In-Class Events**
The course includes six special in-class events – three presentations by guest speakers, a creative problem solving skills assessment exercise, a project management “big data” performance analysis exercise, and a multiple projects management game. Students are expected:
(a) to attend these events and sign in, and
(b) to participate professionally, actively and constructively in them.

**Final Comment**
The maximum benefit to everyone will occur if the instructor and students all work together to enrich the learning experience.
# Detailed Course Outline

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Important Class Events and Dates

**Case Reports and Deadlines** (see the assigned questions on the course website)
1. “Oakville Hydro Optimum Engine Selection” – **February 10**.
2. “Niagara Falls Construction Project: Scheduling, Resources, Costs and Bureaucracy” – **February 24**.

**Creative Problem Solving Skills Exercise (CPSSE)** **
January 13.

**Project Management “Big Data” Performance Analysis Exercise (PAE)** **
January 27.

**Multiple Projects Management Game (MPMG)** **
February 24.

**Guest Speaker Presentations** **
The dates are subject to changes in guest speakers’ schedules, but planned for **January 20, February 3, and February 17**.

**Software Tutorials (T0, T1, T2, T4, T5)**
These are not formal or submitted assignments. The dates shown indicate when working the tutorial would be most useful to you. The tutorials are intended to help you develop spreadsheets for case analysis and for the final exam.

**Final Exam**
**February 29, 1:00–4:00 or 6:00–9:00.** A later makeup final exam may be scheduled for students who have a verified professional reason to miss the main exam times. No earlier final exams will be given under any circumstances.

**Attendance in class is expected and evaluated at these six events.**
Instructor’s Background

- Ph.D. in Management Science, University of California, Berkeley.
- The only multiple time winner of the Fisher College’s Pacesetters’ faculty research award.
- Former President of national society of 1,200 operations management academics and professionals.
- Former Treasurer of INFORMS, the leading academic and professional society for business, with 11,300 members.
- Ranked 13th among 1,376 operations management professors in the U.S. (2008 survey).
- Served as one of two consultants on a project selection problem for the National Institutes of Health, and developed a model that saved 43,500 lives.
- Current research includes several topics on project management: robust schedule optimization, project selection, design of incentives, and net present value optimization.
- Currently consulting on projects with companies on intellectual property, project selection, project scheduling, marketing planning, logistics, and cutting stock applications.
- Developed teaching materials for this course that are in use at Columbia University, UCLA, London Business School, Washington University, University of Virginia, Case Western Reserve University, University of Minnesota, University of Pittsburgh, University of Oregon, National University of Singapore, Hong Kong Polytechnic University and more than 10 other universities worldwide.
- Teaching Executive Education courses in project management at Fisher.
- Teaching another MBA elective at Fisher: modeling (spring, term 1).
- LinkedIn status: not a member, and not interested.
Case Report Writing

The following format has evolved over time as being most suitable for the integration of technical analysis and business insights in MBA case reports. This format provides a very effective, concise, logical and high impact written presentation. Each student group is assumed to be a team of consultants addressing the consulting task(s) described in the case. Examples of excellent case reports are posted on the course website.

1. Executive Summary
Purpose: present detailed recommendations without supporting information. Give enough details to permit implementation of your recommendations. Use of tabular format is encouraged. Try to make a strong first impression.

2. Background
One sentence describing the consulting task(s). One sentence describing the consultants.

3. Assumptions
a. Assumptions of the problem itself, extracted from case information.
b. Assumptions of the model used (where applicable), each first briefly explained and then justified by practical comments.
Use of tabular format is encouraged in both items 3a and 3b.

4. Analysis
Purpose: convincingly justify the recommendations in the Executive Summary. Describe the model(s) used. Descriptions need to be detailed enough to permit verification. Lengthy material may be placed in an Appendix, but requires a citation here.

5. Other Recommendations
Include one or more unique extensions or analyses that go beyond answering the case question. Creativity, when combined with relevance, is strongly encouraged.

Items 1 through 5 should not be more than 3 single spaced pages in 12 point font, with conventional margin spacing. A 2 page report that has the same content as a 3 page report is better.

6. Appendix (not included in page limit)
Where applicable: printouts, charts and figures. All items must have a citation in the body (items 1 through 5) of the report.

Overall Advice
Consider how a senior manager in the client organization would react to your report. Is it well organized? Is it convincing, in that all the recommendations are well supported? Are all the necessary definitions given? Is the report interesting to read? Is it impressive and "high impact"? Considering asking a friend who is in business (but not in the class) for comments.
In-Class Presentations of Case Analysis

The most important thing is to give the necessary information and enjoy yourself giving it. If you enjoy it, the audience probably will also. I base the following comments on my experiences listening to about 300 MBA presentations at OSU, and another 50 at Wharton, Kellogg and Berkeley. The expectations for the presentations are high, as in a top 10 MBA program.

1. Your presentation is evaluated on its “client-impact”, which is a combination of content and style. Obviously, you would like a second consulting contract. Consider whether your presentation is convincing and impressive enough to earn it.

2. The only really bad outcome would be to fail to cover all the main points in 15 minutes. While your presentation itself will not be terminated at 15 minutes, the evaluation of it will be. Therefore, it is important to practice your timing. You may want to ask the audience to defer their questions to the end, so as not to lose time.

3. All students are expected to attend the presentations and participate by asking questions. If your answer differs significantly from that of the presenting group, this needs to be addressed during the discussion, not later.

4. At the start of your presentation, you will need to submit a hard copy of your Powerpoint handout (usually 4-to-1). I will write on it some comments which I hope will be helpful to you in the future.

5. For the purposes of the presentation, you are consultants and your classmates are your clients. Therefore, don’t refer to “the case” or “the professor”.

6. Either one or two speakers is probably most effective. Having three or more speakers in a 15 minute presentation loses too much time in the transitions. Moreover, it stresses the audience, since they need to keep adjusting to different speaking styles.

7. Starting with your Executive Summary often works best.

8. Your presentation can be as informal, humorous, offbeat and irreverent as you like. (I may regret this comment later 😊.) But you need to treat comments and questions from the audience seriously, and address them professionally.

9. It is your responsibility to ensure that there are no hardware / software problems.

10. Comments on a rehearsal presentation are available; this can usually be arranged for the Sunday before your presentation, or after an earlier class.

11. There is absolutely no obligation to dress more formally than usual while giving your presentation. However, if you feel that it enhances your presence, then go ahead.
Class Attendance and Participation

1. MBA program admission decisions are based substantially on business experience. A major reason is that MBA program courses expect active participation by students, so that students can share and learn from others’ experiences and insights.
2. In the context of the previous point, merely attending class does not constitute “active participation”. More is expected, especially in elective classes which presumably match students’ long term career interests and plans.
3. Students who consistently answer questions, ask interesting questions or contribute good ideas to class discussion can expect to receive between 30/40 and 40/40 points, depending on the quality of participation. A good rule of thumb is that each student should participate actively at least every third lecture class. Quality of ideas is more important than quantity. Class participation is definitely expected and more highly valued during guest speaker presentations and discussions of case analysis.
4. Nonetheless, regular class attendance has some value. Therefore, students who attend all classes, and maintain a professional attitude (such as would be expected in a business meeting), but do not participate actively, can expect to receive 24/40 points.
5. Attendance at the seven special events earns several participation points each time.
6. Students whose classroom activities would be inappropriate in a business meeting, even on one occasion, can expect to receive 0/40 points. Examples of inappropriate activities include reading e-mail, surfing the www, or working on assignments during class time. Please note that this policy applies to all classes, but most strictly during guest speaker presentations. If this point needs clarification, please ask the instructor.
7. If (probably due to some emergency) you need an exception to the above policies, please justify this to the instructor before class.

Final Exam

1. Exam Philosophy
In an MBA program, an exam should measure how much a student has learned about solving business decision problems which is exportable to the workplace. It follows that the exam needs to simulate the workplace as closely as possible. In a project management course, this means that the exam should (a) allow open access to all materials, and (b) be computer based.

2. Testable Materials (possibly subject to minor change, as notified)
   Chapter 2: Selection
   -- Use of binary optimization and linear programming models to make project selection decisions, under resource and other constraints.
   Chapter 3: Project organization and teams
   -- All concepts studied in class, for example autonomy and communication.
   Chapter 4: Project Scheduling
   -- Use of MS Project to draw AON networks and find critical paths, critical activities, and related information including slack.
   Chapter 5: Cost and Budget Issues
   -- Use of linear programming models to evaluate time / cost tradeoffs in setting delivery times and making optimal decisions about crashing.
Chapter 6: Uncertainty in Task Times
-- Use of Monte Carlo simulation models to estimate expected critical path lengths and related information, and comparison with classical PERT estimates.

Chapter 7: Risk Management
-- Use of spreadsheet models to evaluate direct and indirect costs under various outcomes involving risk.

Chapter 8: Resource Management
-- Use of MS Project, including setting priorities, to perform both automatic and manual resource leveling.

Chapter 9: Monitoring and Control
-- Use of spreadsheet models to compute a variety of cost and time performance measures.

3. Advice and Procedures
a. Bring to the exam all materials related to the course.
b. Ideally, bring to the exam a notebook computer loaded with MS Excel with the relevant Add-Ins, and (if you like) @Risk. If you cannot bring a notebook computer, a desktop computer with the required software loaded will be provided for you. In either case, you will probably need to print your solutions from the desktop computer.
c. Your solution should be a brief Executive Summary which contains the key decisions and numbers in your solution, typed in MS Word. You can attach standard printouts from the software. Please label the printouts clearly and refer to them in the text.
d. If necessary, adjust the default settings on your software to provide the best possible results. An example is the “Tolerance” setting in Excel, which should be set to 0%.
e. Give as much information as possible about how your solutions were developed. For example, if using linear programming, provide the full details of your formulation.
f. For the period of the exam, you should not communicate with others.

4. Exam Labs in Fisher
a. The labs are usually kept locked, but will be opened 15 minutes before the start of the exam. In view of the information that follows, there should be no need to visit the lab beforehand.
b. The desktop computers don’t have floppy disk or CDRom drives. If you need to transfer information to the desktop computer, you have two options:
   - use a USB-accessible storage device.
   - mail the file to yourself, and open up your e-mail on the desktop computer (note that your computer needs to be registered in order to access the College’s wireless network).
c. Here is how to access the various programs:
   - MS Excel is on the desktop (at the bottom).
   - The Excel spreadsheets that accompany the textbook are on the desktop.
   - To access MS Project, click on Start → Programs → Microsoft Project.
   - To access @Risk, click on Start → Programs → Palisade Decision Tools → @Risk.
For the First Class on 1/11/16

1. It is strongly recommended that you read the frequently asked questions document for the course.
2. You need to purchase and bring the textbook.
3. You need to purchase and bring the coursepack containing case materials.
4. You need to read thoroughly and bring this syllabus. We will not spend class time going over the syllabus, but there will be a chance to ask questions about it.
5. You need to access the course website, briefly survey all the materials posted, and bring any questions about them to the class.
6. You need to bring the lecture notes in whatever format you prefer for convenient note taking. For the first day of class, 50 pages will be enough.
7. You need to bring the discussion points document for the videos.
8. You need to plan a study group. Study groups will be finalized in the first or second class.
9. You do not need to bring any of the software tutorials to the first class, but there will be several later classes where you will need them.
10. You do not need to bring your notebook computer to the first class, but there will be several later classes where you will need it.