

## Agile and Extreme Project Management MBA 6298C Summer 2011

<b>Professor</b>	Stéphane Gagnon, Ph.D.
<b>Office</b>	TBD
<b>Telephone</b>	N/A
<b>E-Mail</b>	Sgagno3@uottawa.ca
<b>Office Hours</b>	By appointment
<b>Class Location</b>	DMS 4170
<b>Class Hours</b>	Tuesdays, 19:00-22:00

### Course Description:

This third project management course addresses ill-defined projects. The limits of standard-based project management methods are discussed. Approaches to deal with ill-defined projects are presented.

Students will learn how iterative and adaptive project management approaches such as Agile Project Management can be used to deal with projects having incomplete, unclear and / or unstable requirements such as IT projects or software development projects. The course also covers approaches to deal with projects having vague goals and solutions such as R&D and innovation projects. Students will learn how Extreme Project Management approaches such as the Japanese Project Management - KPM - Innovation, Development and Improvement can be used to foster innovation and creativity.

With the addition of this third course, students will be able to learn how to manage projects that have yet to even be defined by the unit or client. Topics covered include: managing projects in the face of volatility; managing complex projects; adaptive product and project team; new product development project management and innovation.

### Student Deliverables:

#	Activity	Type	Value	Deliverable Format	Deadline
1	Roundtables	Individual	25%	Lead 1, Participate in 4	Sessions 2-3-4-5-6
2	Case Study	Individual	25%	3-pages Case Analysis	Session 6
3	Report	Team	25%	10-pages report	Session 7
4	Presentation	Team	25%	10-slides presentation	Session 7

## Pedagogical Approach:

1. We will follow a seminar approach where students are expected to participate actively.
2. Except for session 1 which is a lecture with dynamic introduction to several agile methods.
3. Sessions 2-6 will start with a 40-minutes lecture by the instructor to introduce key topics.
4. We will then spend the rest of the session to lead 3 roundtables of about 40 minutes each.
5. Each student will be asked to lead 1 of 15 roundtables, and be asked to participate in 4 others.
6. Deliverables are expected to show a critical mindset and ability to adapt theory to practice.
7. Readings focus on IT PM but student deliverables must apply lessons to their own PM domains.

## Class Schedule:

Date	Theme	Topics	Readings
Tuesday, June 28	1.0. Introduction	1.1. Programming	Methods 1, 2
		1.2. Innovation	Methods 3, 4
		1.3. Modeling	Methods 5, 6
Tuesday, July 5	2.0. Foundations	2.1. Overview	Articles [1; 2]
		2.2. Agility	Articles [3; 4]
		2.3. Innovation	Articles [5; 6]
Tuesday, July 12	3.0. Implementation	3.1. Factors	Articles [7; 8]
		3.2. Change	Articles [9; 10]
		3.3. Deploy	Articles [11; 12]
Tuesday, July 19	4.0. Teams	4.1. Interactions	Articles [13; 14]
		4.2. Learning	Articles [15; 16]
		4.3. Distributed	Articles [17; 18]
Tuesday, July 26	5.0. Requirements	5.1. Elicitation	Articles [19; 20]
		5.2. Refinement	Articles [21; 22]
		5.3. Architecture	Articles [23; 24]
Tuesday, August 2	6.0. Tools	6.1. Knowledge	Articles [25; 26]
		6.2. Configure	Articles [27; 28]
		6.3. Planning	Articles [29; 30]
Tuesday, August 9	Team Deliverables	Report & Presentation	

## Recommended Readings - Books:

1. DeCarlo, Doug, (2004), *Extreme Project Management: Using Leadership, Principles, and Tools to Deliver Value in the Face of Volatility*, Jossey-Bass, 560 pages, ISBN: 0787974099
2. Highsmith, Jim, (2009), *Agile Project Management: Creating Innovative Products*, 2nd edition, Addison-Wesley, 432 pages, ISBN: 0321658396
3. Larman, Craig, (2004), *Agile and Iterative Development: A Manager's Guide*, Addison-Wesley, 368 pages, ISBN: 0131111558
4. Ohara, Shigenobu, and Takayuki Asada, (2008), *Japanese Project Management: KPM - Innovation, Development and Improvement*, World Scientific, 500 pages, ISBN: 981277873X

## Required Readings - Methods:

#	Title	URL
1	Agile Manifesto	<a href="http://agilemanifesto.org">http://agilemanifesto.org</a>
2	Extreme Programming	<a href="http://www.extremeprogramming.org">http://www.extremeprogramming.org</a>
3	Scrum	<a href="http://www.scrum.org">http://www.scrum.org</a>
4	Dynamic Systems Development Method	<a href="http://www.dsdm.org">http://www.dsdm.org</a>
5	Agile Modeling	<a href="http://www.agilemodeling.com">http://www.agilemodeling.com</a>
6	Open Unified Process (OpenUP)	<a href="http://epf.eclipse.org/wikis/openup">http://epf.eclipse.org/wikis/openup</a>

## Required Readings - Articles:

- [1] Hunt, J., (2006), "Agile Methods and the Agile Manifesto", *Agile Software Construction*, Springer London, 9-30.
- [2] Rico, D. F., (2010), "Lean and Agile Project Management: For Large Programs and Projects", In P. Abrahamsson, & N. Oza (Eds.), *Lean Enterprise Software and Systems*, Vol. 65, Springer Berlin Heidelberg, 37-43.
- [3] Conboy, K., (2009), "Agility from first principles: Reconstructing the concept of agility in information systems development", *Information Systems Research*, 20 (3): 329-354.
- [4] Kettunen, P., (2009), "Adopting key lessons from agile manufacturing to agile software product development--A comparative study", *Technovation*, 29 (6-7): 408-422.
- [5] Fogelström, N. D., Svahnberg, T. G. M., & Olsson, P., (2010), "The impact of agile principles on market-driven software product development", *Journal of Software Maintenance and Evolution*, 22 (1): 53-80.
- [6] Mohan, K., Ramesh, B., & Sugumaran, V., (2010), "Integrating software product line engineering and agile development", *IEEE Software*, 27 (3): 48-55.
- [7] Chan, F. K. Y., & Thong, J. Y. L., (2009), "Acceptance of agile methodologies: A critical review and conceptual framework", *Decision Support Systems*, 46 (4): 803-814.
- [8] Chow, T., & Cao, D.-B., (2008), "A survey study of critical success factors in agile software projects", *Journal of Systems and Software*, 81 (6): 961-971.
- [9] Misra, S. C., Kumar, V., & Kumar, U., (2010), "Identifying some critical changes required in adopting agile practices in traditional software development projects", *International Journal of Quality and Reliability Management*, 27 (4): 451-474.
- [10] Tolfo, C., & Wazlawick, R. S., (2008), "The influence of organizational culture on the adoption of extreme programming", *Journal of Systems and Software*, 81 (11): 1955-1967.
- [11] Layman, L., Williams, L., & Cunningham, L., (2006), "Motivations and measurements in an agile case study", *Journal of Systems Architecture*, 52 (11): 654-667.
- [12] Qumer, A., & Henderson-Sellers, B., (2008), "A framework to support the evaluation, adoption and improvement of agile methods in practice", *Journal of Systems and Software*, 81 (11): 1899-1919.
- [13] Lee, G., & Xia, W., (2010), "Toward agile: An integrated analysis of quantitative and qualitative field data on software development agility", *MIS Quarterly: Management Information Systems*, 34 (1): 87-114.

- [14] Moe, N. B., Dingsøy, T., & Dybå, T., (2010), "A teamwork model for understanding an agile team: A case study of a Scrum project", *Information and Software Technology*, 52 (5): 480-491.
- [15] McAvoy, J., & Butler, T., (2009), "A Failure to Learn in a Software Development Team: The Unsuccessful Introduction of an Agile Method", In W. Wojtkowski, G. Wojtkowski, M. Lang, K. Conboy, & C. Barry (Eds.), *Information Systems Development*, Springer US, 1-13.
- [16] Whitworth, E., & Biddle, R., (2007), "Motivation and Cohesion in Agile Teams", *Lecture Notes on Computer Science*, Vol. 4536 LNCS, Como, Springer, 62-69.
- [17] Lee, S., & Yong, H. S., (2010), "Distributed agile: Project management in a global environment", *Empirical Software Engineering*, 15 (2): 204-217.
- [18] Paasivaara, M., Durasiewicz, S., & Lassenius, C., (2008), "Using scrum in a globally distributed project: a case study", *Software Process: Improvement and Practice*, 13 (6): 527-544.
- [19] Conboy, K., & Morgan, L., (2011), "Beyond the customer: Opening the agile systems development process", *Information and Software Technology*, 53 (5): 535-542.
- [20] Hoda, R., Noble, J., & Marshall, S., (2011), "The impact of inadequate customer collaboration on self-organizing Agile teams", *Information and Software Technology*, 53 (5): 521-534.
- [21] Adikari, S., McDonald, C., & Campbell, J., (2009), "Little Design Up-Front: A Design Science Approach to Integrating Usability into Agile Requirements Engineering", In J. Jacko (Ed.), *Human-Computer Interaction. New Trends*, Vol. 5610, Springer Berlin / Heidelberg, 549-558.
- [22] Vlaanderen, K., Jansen, S., Brinkkemper, S., & Jaspers, E., (2011), "The agile requirements refinery: Applying SCRUM principles to software product management", *Information and Software Technology*, 53 (1): 58-70.
- [23] Abrahamsson, P., Babar, M. A., & Kruchten, P., (2010), "Agility and architecture: Can they coexist?", *IEEE Software*, 27 (2): 16-22.
- [24] Madison, J., (2010), "Agile architecture interactions", *IEEE Software*, 27 (2): 41-48.
- [25] Rech, J., & Bogner, C., (2010), "Qualitative analysis of semantically enabled knowledge management systems in agile software engineering", *International Journal of Knowledge Management*, 6 (2): 66-85.
- [26] Sharp, H., & Robinson, H., (2008), "Collaboration and co-ordination in mature eXtreme programming teams", *International Journal of Human-Computer Studies*, 66 (7): 506-518.
- [27] Christou, I. T., Ponis, S. T., & Palaiologou, E., (2010), "Using the agile unified process in banking", *IEEE Software*, 27 (3): 72-79.
- [28] Pino, F. J., Pedreira, O., García, F., Luaces, M. R., & Piattini, M., (2010), "Using Scrum to guide the execution of software process improvement in small organizations", *Journal of Systems and Software*, 83 (10): 1662-1677.
- [29] Miranda, E., & Bourque, P., (2010), "Agile monitoring using the line of balance", *Journal of Systems and Software*, 83 (7): 1205-1215.
- [30] Port, D., & Bui, T., (2009), "Simulating mixed agile and plan-based requirements prioritization strategies: Proof-of-concept and practical implications", *European Journal of Information Systems*, 18 (4): 317-331.

## Important Notice

On a number of occasions over past years students have requested that we videotape lectures in circumstances where they unavoidably have to be absent from class. While there are a number of issues associated with undertaking such an approach (availability of technology, cost, IP issues with the professors, and privacy issues for the students), we have reached the point where *technologically* we have the capability to fulfill such requests on an exceptional basis.

### Acceptable reasons to request the videotaping of a course:

A student may make a request that a course be videotaped on any of the following grounds:

1. Illness or other medical condition:
  - ✓ Students should obtain a medical certificate from the University Health Service (located at 100 Marie-Curie, (564-3950));
2. Religious holidays;
3. Death in the immediate family;
4. Business trip or other unavoidable constraints related to work (part-time students) :
  - ✓ Students should provide a letter from the employer, and a copy of their plane ticket;
5. Other compassionate grounds, with justifying documents.

The request should be made at least 48 hrs in advance (2 business days) to the professor. The professor reserves the right to refuse such a request based on IP or other pedagogical considerations.

If for any reason you object to a class in which you participate being videotaped, please inform the professor as soon as possible. For further information, please contact us by e-mail at [mba@telfer.uottawa.ca](mailto:mba@telfer.uottawa.ca) (MBA) and [mha@telfer.uottawa.ca](mailto:mha@telfer.uottawa.ca) (MHA).

## Beware of Academic Fraud

Academic fraud is an act committed by a student to distort the marking of assignments, tests, examinations and other forms of academic evaluation. Academic fraud is neither accepted nor tolerated by the University. Anyone found guilty of academic fraud is liable to severe academic sanctions.

Here are a few examples of academic fraud:

- engaging in any form of plagiarism or cheating;
- presenting falsified research data;
- handing in an assignment that was not authored, in whole or in part, by the student;
- submitting the same assignment in more than one course, without the written consent of the professors concerned

In recent years, the development of the Internet has made it much easier to identify academic plagiarism. The tools available to your professors allow them to trace the exact origin of a text on the Web, using just a few words.

In cases where students are unsure whether they are at fault, it is their responsibility to consult the University's Web site at the following address, where you will find resources, tips and tools for writing papers and assignments:

<http://web5.uottawa.ca/mcs-smc/academicintegrity/home.php>

Persons who have committed or attempted to commit (or have been accomplices to) academic fraud will be penalized. Here are some examples of the academic sanctions, which can be imposed:

- A grade of "F" for the assignment or course in question;
- An additional program requirement of between three and thirty credits;
- Suspension or expulsion from the School.

Please be advised that professors have been formally advised to report every suspected case of academic fraud. In most cases of a first offence of academic fraud, the sanction applied to students who have been found guilty is an "F" for the course with an additional three credits added to their program requirements. Repeat offenders are normally expelled from the School of Management.

Finally, the Telfer School of Management asks that students sign and submit with their deliverables the Personal Ethics Agreement form. Two versions of this form exist: one for individual assignments, and one for group submissions. **Assignments will not be accepted or marked if this form is not submitted and signed by all authors of the work.** We hope that by making this personal commitment, all students will understand the importance the School places on maintaining the highest standards of academic integrity. The forms are accessible on doc-depot:

En français: <http://doc-depot.gestion.uottawa.ca/> (et suivez le lien 'Intégrité Académique')

In English: <http://doc-depot.management.uottawa.ca/> (then click on 'Academic Integrity')