Department of Information Systems and Technology
Volgenau School of Engineering
AIT 685: DL1 Spring 2018
AIT Capstone

Syllabus

Syllabus is available to registered students at Blackboard Learning Systems, version 9.1(http://mymason.gmu.edu/).

Faculty
Instructor: Billy “Skip” Powers, PhD; bpowers7@gmu.edu; (703) 919-1403. To schedule a private appointment by phone, email me your preferred mode, date and time (include course number on all communications).
Office Hours: Virtual. Email bpowers7@gmu.edu or call/text (703) 919-1403.

Textbooks

Course Description
IT 685 Capstone (3:3:0)

Prerequisite: Completion of at least eight (8) of all other course requirements for this degree program or, permission of the Instructor.

This course is a blended team-based (Weeks 1-8) AND individual project analysis (Weeks 9-14) grounded on a solid understanding of the coursework mastered in each of the degree program’s three areas of study. Teams will research and analyze business cases of systems-of-system programs, “mega-systems.” Students will develop critical skills for preparing and delivering effective, verbal briefings and presentations as well as scholarly research of mega/complex systems analysis. Teams will be assigned randomly at beginning of the class.

Students will prepare a Capstone Paper* that focuses on system-of-system programs (APA format, 10-pages (maximum) excluding Title, Abstract and References, with no less than 5 scholarly references).
**Exceptions may be granted for students who wish to collaborate/co-author journal submissions on the use of analytics in mega-systems program management. See Professor for further information.
Delivery Method
This course will be delivered using an asynchronous (online/not live) format. Because asynchronous formatted courses do not have a fixed meeting day, our week will start on Monday and finish on Sunday’s. The Instructor will establish individual Team Space in Collaborate for each team to rehearse, at their own schedule, in preparation for online presentations. See Technical Requirements below for the equipment and configuration required for both Asynchronous and Synchronous formats.

Learning Objectives
The class provides an opportunity to explore how the IT professional engages all three areas of study to conceive, design, implement and sustain a system-of-systems program in the federal sector.

Specific learning objectives include:
1. Analyze multi-faceted, systems-of-systems program business cases in terms of their IT, Management and Leadership elements.
2. Prepare a publish-ready research paper that analyzes management of mega-systems projects in the 21st Century including the use of analytics as the primary mitigation strategy.
3. Create and deliver effective, engaging verbal stakeholder briefings.
4. Participate as Leader AND Follower on a team to accomplish a case analysis briefing(s).

Outcomes
Expected outcomes include:
- Understand the complex dynamics imposed by programs of very large scope and scale:
  (a) Understand the ramifications of leading change to a place no one has gone before
  (b) Understand the interdependencies of the three areas of study in defining any one
- Plan for and then successfully lead organizations through change:
  (a) Time-limited stress compresses the team’s work
  (b) Insight and innovation often come from unusual sources
  (c) Managing through the daunting and often conflicting oversight imposed by the federal sector is part of the environment that must be understood not endured.

Technical Requirements
To participate in this course, students must have the following resources:
- Personal computer with at least 1.0 GHz speed, 250 Mb RAM;
- Microphone/speakers or USB headset compatible with the computer used for the course;
- Video camera compatible with the computer used for the course;
- High-speed Internet access with a standard, up-to-date browser, either Internet Explorer or Mozilla Firefox. Opera and Safari are not compatible with Blackboard.
- Consistent, reliable access to Mason email and Blackboard, the official methods of communication for this course, and;
- Java software plug-in for PCs and Macs respectively, is available for free downloading.

For technical questions regarding Blackboard, see Courses Support for Students and Blackboard Tutorials. If you still have questions, email courses@gmu.edu for assistance. For technical questions regarding computer networking, see ITU Support for Students. If you still have questions, email support@gmu.edu or call (703) 993-8870.
Student Roles and Responsibilities
Students in this class are considered to be adults completing the Master of Science degree program; they are expected to have read and are accountable for all details of this syllabus. Capstone is a synthesis course that will engage all previous MS Applied IT courses.

Team Work (Weeks 1-8)
Capstone project work is done in teams. Your participation in the team’s work is among the most critical factors of your class grade and your team’s success. Instructor will assign team members.

Questions
All questions should be asked and resolved via Mason email or by appointment with the Instructor.

Assignments
Written work should be the product of your best critical thinking. Proper spelling, syntax, sentence structure and vocabulary are the marks of an educated scholar; they should be evident in your work. “IM-speak” is inappropriate for this class. Digital copy of each assignment (1 per team for team assignments) is due to Instructor, via Mason email (bpowers7@gmu.edu), not later than 5PM Sunday of the week it is assigned, unless otherwise directed by Instructor. Assignments are due as published here; late work is not accepted. Collateral materials, such as templates and forms that support assignments and other course content, are available in Course Contents folder in Blackboard. There are eight (4) weighted Group and (1) Individual Assignments:

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<thead>
<tr>
<th>ASSIGNMENT</th>
<th>GRADE WEIGHT</th>
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<tr>
<td>1. Team Roster Group</td>
<td>5%</td>
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<td>2. Team Presentation #1 Group</td>
<td>15.0%</td>
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<td>3. Team Presentation #2 Group</td>
<td>15.0%</td>
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<tr>
<td>4. Team Presentation #3 Group</td>
<td>15.0%</td>
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<tr>
<td>5. Capstone Paper Individual</td>
<td>50.0%</td>
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Grades
Grades will be awarded in accordance with the Mason Grading System for graduate students (http://catalog.gmu.edu/content.php?catoid=5&navoid=104&bc=1#grad_poli). Raw scores may be adjusted by the Instructor to calculate final grades. Final grades will be posted to (https://patriotweb.gmu.edu/), which is the only vehicle for students to obtain those grades by the last day of the Term (December 20, 2017). Grades will be composed of the following items and weights:

- **Individual Items: 45%**
  - Capstone Paper: 50%
- **Group Items: 55%**
  - Team Roster: 5%
  - Presentation #1: 15%
  - Presentation #2: 15%
  - Presentation #3: 15%

Mason Policies and Resources for Students
a. Students must adhere to the guidelines of the George Mason University Honor Code (see: http://oai.gmu.edu/honor-code).
b. Students must follow the university policy for Responsible Use of Computing (see: http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).
c. Students are responsible for the content of University communications sent to/from their George Mason University email account and are required to activate their account and check it regularly. All communication from the program will be sent to students solely through their Mason email account.

d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students’ personal experience and academic performance (see: http://caps.gmu.edu/).

e. Students with disabilities who need accommodations in a course must register with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester (see: http://ods.gmu.edu/).

f. University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see: http://writingcenter.gmu.edu/).


h. Student Privacy (https://registrar.gmu.edu/students/privacy/).


SCHEDULE: Class schedule for this semester includes: (Jan 22 – May 14, 2018)

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<tr>
<th>WEEK</th>
<th>Topics</th>
<th>Assignments</th>
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<tr>
<td>1</td>
<td><strong>1.22.18</strong>&lt;br&gt;<strong>INTRODUCTION</strong>&lt;br&gt;Welcome &amp; Introductions&lt;br&gt;Blackboard Orientation&lt;br&gt;Syllabus Review and Group Assignments</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;Organize into assigned Team(s)/Group(s) <strong>Optional Read:</strong> Meadows – “Thinking in Systems”</td>
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<td>2</td>
<td><strong>1.29.18</strong>&lt;br&gt;PPT: IT Analyses&lt;br&gt;PPT: Management Analyses&lt;br&gt;PPT: Leadership Analyses</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Photo Rosters Due</td>
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<td>3</td>
<td><strong>2.5.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)&lt;br&gt;Storyboard #1</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Storyboard Presentations: <strong>20 Minutes Per Group</strong></td>
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<td>4</td>
<td><strong>2.12.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)&lt;br&gt;Storyboard #2</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Storyboard Presentation #2: <strong>20 Minutes Per Group</strong></td>
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<td>5</td>
<td><strong>2.19.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)&lt;br&gt;Storyboard #3</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Storyboard Presentation #3: <strong>20 Minutes Per Group</strong></td>
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<td>6</td>
<td><strong>2.26.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)&lt;br&gt;<strong>IT Presentation</strong></td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Presentation #1: <strong>30 Minutes Per Group (IT)</strong></td>
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<td>7</td>
<td><strong>3.5.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”</td>
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<td>8</td>
<td><strong>3.12.18</strong>&lt;br&gt;<strong>SPRING BREAK</strong></td>
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<td>9</td>
<td><strong>3.19.18</strong>&lt;br&gt;Group SITREP (Due each Sunday)&lt;br&gt;<strong>Leadership/Management Presentation</strong></td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;Presentation #2: <strong>30 Minutes Per Group (LDR/MGMT)</strong></td>
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<td>10</td>
<td><strong>3.26.18</strong>&lt;br&gt;Individual SITREP (Due each Sunday)&lt;br&gt;Begin Capstone Paper Outline</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;<strong>Research Collaboration / Capstone Paper Research</strong></td>
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<td>11</td>
<td><strong>4.2.18</strong>&lt;br&gt;Individual SITREP (Due each Sunday)&lt;br&gt;Capstone Paper Outline Due</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;<strong>Research Collaboration / Capstone Paper Research</strong></td>
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<td>12</td>
<td><strong>4.9.18</strong>&lt;br&gt;Individual SITREP (Due each Sunday)&lt;br&gt;Capstone Paper Literature Review</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;<strong>Research Collaboration / Capstone Paper Research</strong></td>
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<td>13</td>
<td><strong>4.16.18</strong>&lt;br&gt;Individual SITREP (Due each Sunday)&lt;br&gt;Capstone Paper Literature Review Due</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;<strong>Research Collaboration / Capstone Paper Research</strong></td>
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<td>14</td>
<td><strong>4.23.18</strong>&lt;br&gt;Individual SITREP (Due each Sunday)&lt;br&gt;Capstone Paper Research Week</td>
<td>Read Hughes – “Saving Prometheus”&lt;br&gt;<strong>Optional Read:</strong> Meadows – “Thinking in Systems”&lt;br&gt;<strong>Research Collaboration / Capstone Paper Research</strong></td>
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<td>15</td>
<td><strong>4.30.18</strong>&lt;br&gt;Final Capstone Papers Due NLT May 6, 2018</td>
<td>Discussion: Cross Analysis&lt;br&gt;Complete AIT Course Evaluations (auto generated)</td>
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<td>16</td>
<td><strong>5.7.18</strong>&lt;br&gt;Capstone Paper Feedback&lt;br&gt;Conclusion</td>
<td>Capstone Paper Feedback sent to students&lt;br&gt;<strong>Final Grades prepared/submitted by 05.14.18</strong></td>
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