DIG5875  Introduction to Modeling and Simulation

Syllabus

Summer 2014

Instructor Contact

Instructor

Dr. J. Peter Kincaid

IST Building, Partnership II

Office

Institute for Simulation and Training

3100 Technology Parkway

Orlando, FL 32826

Office Hours

Please make an appointment for a phone call meeting with me via email. I'll do my best to accommodate your schedule. I am overseas most of the term but will be available here in Orlando at the beginning and end of the course and would be able to meet students in my office or by US phone calls during those periods. Best way to schedule appointments is via course email.

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E-mail  pkincaid@ist.ucf.edu
Course Information

**Course Name**  IDS5717 / DIG5875 Introduction to Modeling & Simulation

**Credit Hours**  3.0

**Semester/Year**  Summer 2014

**Location**  Online

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**Course Description**

This is the introductory course for the M&S Masters program. The course presents an introduction to the theory and practice of modeling and simulation with emphasis on specific applications such as military simulation, medical simulation and virtual environments. The interdisciplinary aspects of modeling and simulation are highlighted.

See President Clinton's comments on the Center of Excellence in Simulation in Orlando--MSNBC interview, 2012.

http://www.youtube.com/watch?v=AplZtbnZFv4

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**Recommended Textbook and Online Course**

- Sokolowski and Banks (editors), 2009, Principles of Modeling and Simulation, Wiley. (This book is available from Amazon.com.) It is only a recommendation as no assignments will require this text.
- Essentials of Modeling and Simulation  [https://nmsnavy.mil/ems/ems02.html](https://nmsnavy.mil/ems/ems02.html)

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**Good References**

Course Requirements

Short Written Assignments

Five assignments will deal with specific issues related to topics covered in the course.

Discussions

Five discussion topics will be posted. You are expected to post your first response within two days of the date on the syllabus and respond two more times during the period indicated on the schedule. Detailed instructions are provided under “discussion”. The discussions, once opened, will remain so for the rest of the term and you are free to continue posting. However, the grading period is 11 days from the date of posting.

Example of Discussion Postings DiscussionPostings-Fall-12.docx

Project or Wikipedia Article

For the project, students are expected to conduct a literature survey and are encouraged to personally interact with experts. The project paper can consist of a case study, an analysis of a technical issue, product, technology, demonstration of cutting edge technology, or research problem, as long as it relates to the field of M&S. The project is reported as a narrated Power Point presentation. The narration can be voice or text.

An alternative assignment is a Wikipedia posting, which would typically consist of an addition to an existing Wikipedia article on a topic related to simulation. The article needs to be in the process of being posted to Wikipedia by the next to the last week of class. Note, the sample Wikipedia article is the result of a whole series of student postings over several years. If you choose this option, your posting would probably be considerably shorter than the example.

Sample Project Presentation Presentation-IDS5717-Summer12.pptx

Sample Wikipedia Topic Description Wikipedia Article-MedSim.docx

Out-of-class Final

This consists of questions relating to course content not covered in the weekly assignments. It will be turned in as a written report.

Evaluation and Grading
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<thead>
<tr>
<th>Letter Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>92-100</td>
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<tr>
<td>B</td>
<td>84-91</td>
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<td>C</td>
<td>72-83</td>
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<td>D</td>
<td>65-71</td>
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<td>F</td>
<td>64 or below</td>
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**Assignment Grading**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Assignments (5 assignments-5 points each)</td>
<td>25</td>
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<tr>
<td>Discussion (5 discussions-5 points each)</td>
<td>25</td>
</tr>
<tr>
<td>Project (narrated Power Point) or Wikipedia Article</td>
<td>25</td>
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<tr>
<td>Out-of-class final exam</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
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**Topics Covered**

- Introduction to course and history of M&S
- M&S as a profession
- M&S as an academic discipline
- Simulation for entertainment and games
- Military simulation applications
- Systems Design: Boeing 777 Case Study
- Simulation for training
- Medical Simulation
- Virtual Environments
- Simulation applications for disaster response
Representative List of Journals

Simulation and Gaming
Simulation
Military Simulation
Human Computer Interaction
Human Factors

Some Applicable Websites

www.ist.ucf.edu (Institute for Simulation and Training)
www.scs.org (Society for Computer Simulation)

Academic Honesty

I expect a high level of integrity and honesty in this course. See UCF Golden Rules for specifics at http://goldenrule.sdes.ucf.edu

Disability Statement

The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.