DEPARTMENT OF COMPUTER INFORMATION SYSTEMS
Robinson College of Business
Georgia State University

CIS 9220: Topics in Information Systems Technology
Spring 2011 (CRN: 17961)

The course syllabus provides a general plan for the course; deviations may be necessary

INSTRUCTOR:
Name: Vijay Vaishnavi
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Phone: 404-413-7381 (office)
Office Hours: By appointment
E-Mail: vvaishna@gsu.edu

COURSE:
Time: Thursdays, 2:30 p.m.- 5 p.m.
Location: RCB 900
URL: http://www3.cis.gsu.edu/vvaishnavi/9220Sp11/9220index.html

CATALOG DESCRIPTION
This is a research seminar that focuses on research issues and methods in one or more areas having to do with the technology of information systems. Topics include: software engineering, communications systems, and database/knowledgebase systems. The area of focus will change in each offering of the course. The focus of the course will be announced in advance and the course syllabus will be made available for student review.

DETAILED COURSE DESCRIPTION
The overall theme the current offering of this course will be design science research. The course will build on the design research methods course (CIS 9320) and reinforce as well as expand the understanding of this type of research using research patterns. Based on this underlying theme, the course will provide opportunity for writing a research proposal and conducting research in an information systems technology topic. The course expects individual thinking, preparedness for participation in discussions, and willingness to take a position and defend it.

The course develops skills for implementing and evaluating the techniques and methods that are used in the various phases of design science research. After an exposure to the characteristics that differentiate design science research from other types of research, research methods and techniques used in the various phases of such research will be discussed in the context of exemplars of such research. The exemplars will be from a number of information technology areas. Potential topics that will be covered in the course
- Understanding Design Science Research
- Using Patterns to Illuminate Research Practice
- Creativity Patterns
LEARNING OBJECTIVES
At the conclusion of the course, student should be able to:
• Define and describe the essential characteristics of the theme of the course;
• Discuss in oral and written form the key ideas and intellectual currents underlying the theme of the course;
• Present a well-developed argument, in written and oral forms, for the importance of a selected research topic within the theme of the course and articulate a proposal for studying the research area.
• Conduct design science research and write a paper that with refinement could be submitted to a scholarly conference;

CONDUCT OF THE COURSE
The course will be conducted as a seminar. Each student is expected to participate in every class and read the assigned material before the class. The grade will be determined in part, on the basis of the quality of the student's preparation and participation (short presentations, leadership of class discussion, and participation in class discussions).

COURSE REQUIREMENTS AND GRADING
Class participation and discussion: 15%
Take home test: 25%
Team project: 20%
Research proposal and paper: 40% (proposal: 5%)

The final grade will be determined by computing your total weighted score out of 100, rounding off to the nearest integer value according to the following scale. A+: 99 or above, A: 94 to 98, A-: 90 to 93, B+: 87 to 89, B: 83 to 86; B-: 80 to 82; C+: 77 to 79; C: 73 to 76, etc.

CLASS ATTENDANCE AND PARTICIPATION
Students are expected to attend all classes (and to arrive on time!), except when precluded by emergencies, religious holidays, or other extenuating circumstances. If you will be absent from class for any reason, please notify the instructor in advance whenever possible.

In evaluating class participation, both the quantity of comments (i.e. how many times a student speaks) and, more importantly, the quality of the comments will be taken into account. The quality of the students’ comments will be evaluated using the following criteria:
• Does the comment demonstrate that the student is ready to contribute to the discussion or does the comment show that the student is unprepared for the discussion?
• Is the point made concisely, or is it buried in a long, rambling, diatribe?
• Does the comment move the discussion to an important area or does it just rephrase what has already been said?

TAKE HOME TEST
The take home test will be similar to the design research proposal portion of comprehensive exams. The students will be given an existing paper, and then have one week to develop a design science research proposal that is related to and extends on the research presented in the paper.

The proposal should include a description of the problem, research issues and/or questions, the importance of the problem and the research questions/issues, the approach to be followed in conducting the research, the methodology to be used and its appropriateness, and the expected significance of the research. The proposal should include literature review in the context of the problem description and its importance, or in other contexts.

Students will be evaluated on their ability to make a reasonable case for the importance of the research proposed, the thinking that is exhibited in advancing an approach for the problem, justification for the appropriateness of the approach and the methodology, and the intellectual and broad contribution that the research is expected to make. Students will also have to show that the proposed research will make a contribution to knowledge.

INDIVIDUAL RESEARCH PROPOSAL AND PAPER
Each student will develop an actual design science research paper in an IT area of interest. This paper, after some refinement, should be suitable for submission to an IT conference such as WITS (Workshop on Information Technology & Systems) or DESRIST (International Conference on Design Research in Information Systems and Technology), and the expanded version of the paper should have the potential for submission to a scholarly journal.

As a first step toward carrying out the research project, a short research proposal needs to be written. A template for this proposal as well as a sample proposal will be made available. You should adhere to the 6-page limit and format of the sample proposal. Any additional material can be attached if needed as an appendix to the proposal.

Progress of the research paper needs to be communicated to the instructor on a regular basis through e-mail and in person when needed. In addition each student may be asked to discuss the progress of the project in class.

TEAM PROJECT
The focus of the team project is:
• Justify why each of the five sample design science research exemplars (papers) and each of the new design science research exemplars (papers) among the new research papers should be treated as research projects and why they should be considered as
design science research projects. (The papers have been selected such that not all the papers are can necessarily be considered as design science research papers.)

- For each of the new design science research exemplars, identify and justify in detail the research patterns that were used (or could have been used) in conducting the research. This part of the project should follow the structure used for each of the sample cases in Part III of the text (Vaishnavi and Kuechler, 2008).
- Please see the Schedule of Lectures section for deadlines on submissions of different parts of the team project. The final revised report for the entire project is due on April 7.

**COURSE READING MATERIALS**

**Text**


**Session 1: Introduction and Course Overview**

[1.1] Text (Chapter 1).


**Session 2: Understanding Design Science Research**

[2.1] Text (Chapters, 2 and 3).


**Session 3: Sample Design Science Research Exemplars**


**Session 4: Proposal Writing; Using patterns to illuminate research practice**

[4.1] Text (Chapters, 4 and 5).


[4.3] RCB Research Proposal Guidelines


**Session 5: Creativity**

[5.1] Text (Chapter 6).


**Session 6: Problem Selection and Development; Literature Search**

[6.1] Text (Chapters, 7, 8, and 12).

**Session 7: Suggestion and Development**

[7.1] Text (Chapters, 9 and 12)

**Session 8: Evaluation and Validation; Publishing**

[8.1] Text (Chapters, 10, 11, and 12)

**Session 9: Design Research Dissertation Exemplars**


**New Design and Non-Design Science Research Exemplars**


**SCHEDULE OF LECTURES:**

The following scheduled list of topics is subject to change.

<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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| 1       | January 13 | Introduction and Course Overview  
(http://www3.cis.gsu.edu/vvvaishnavi/9220Sp11/Design%20Science%20Research%20I.pdf) | [1.1], [1.2], [1.3], [1.4] |                           |
| 2       | January 20 | Understanding Design Science Research | [2.1], [2.2], [2.3], [2.4], [2.5] |                           |
| 3       | January 27 | Sample Design Science Research Exemplars  
Research and Design Science Research Justification: Submission* 
and presentation | [3.1], [3.2], [3.3], [3.4] | Team Submission |
| 4       | February 3 | Proposal Writing  
Using patterns to illuminate research practice | [4.1], [4.2], [4.3], [4.4] |                           |
| 5       | February 10 | Creativity                     | [5.1], [5.2] | Short Research Project Proposals Due |
| 6       | February 17 | Problem Selection and Development; Literature Search  
Patterns: Submission** | [6.1] | Team Submission |
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Pattern Notes</th>
<th>Reference(s)</th>
<th>Notes</th>
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<tr>
<td>7 February 24</td>
<td>Suggestion and Development Patterns: <strong>Submission</strong> and presentation</td>
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<td>[7.1]</td>
<td><strong>Team Submission</strong></td>
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<td>March 3</td>
<td><strong>Spring Break</strong></td>
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<tr>
<td>8 March 10</td>
<td>Verification and Validation; Publishing Patterns: <strong>Submission</strong> and presentation</td>
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<td>[8.1]</td>
<td><strong>Team Submission</strong></td>
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<td>9 March 17</td>
<td>Design Science Research Dissertation Exemplars</td>
<td>[9.1], [9.2]</td>
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<td>10 March 24</td>
<td>Overview of some current research</td>
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<td><strong>Take Home Test Due</strong></td>
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<td>11 March 31</td>
<td>Take Home Test Research Proposal Presentations</td>
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<td>12 April 7</td>
<td>Review of Design Science Research Patterns</td>
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<td><strong>Team Project Reports Due</strong></td>
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<td>13 April 14</td>
<td>Individual Research Project Presentations</td>
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<tr>
<td>14 April 21</td>
<td>Course Review and Discussion</td>
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<td></td>
<td>Research Papers Due</td>
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*See Course Reading materials
†For **sample** as well as **new** Design Research Exemplars
** For **new** Design Science Research Exemplars

OFFICIAL CIS DEPARTMENT CLASS POLICIES

1. Prerequisites are strictly enforced. Students failing to complete any of the prerequisites with a grade of “C” or higher will be administratively withdrawn from this course with *loss of tuition fees.* **There are no exceptions.**

2. Students are expected to attend all classes and group meetings, except when precluded by emergencies, religious holidays, or bona fide extenuating circumstances.

3. Students who, for non-academic reasons beyond their control, are unable to meet the full requirements of the course should notify the instructor, by email, as soon as this is known and prior to the class meeting.

4. A “W” grade will be assigned if a student withdraws before mid-semester if (and only if) he/she has maintained a passing grade up to the point of withdrawal.
Withdrawals after the mid-semester date will result in a grade of “WF”. See the GSU catalog or registrar’s office for details.

5. Spirited class participation is encouraged and informed discussion in class is expected. This requires completing readings and assignments before class.

6. All exams and assignments are to be completed by the student alone with no help from any other person.

7. Collaboration within groups is encouraged for project work. However, collaboration between project groups will be considered cheating.

8. Copying work from the Internet without a proper reference is considered plagiarism and subject to disciplinary action as delineated in the GSU Student Handbook.

9. Any non-authorized collaboration will be considered cheating and the student(s) involved will have an Academic Dishonesty charge completed by the instructor and placed on file in the Dean’s office and the CIS Department. All instructors regardless of the type of assignment will apply this Academic Dishonesty policy equally to all students. See excerpt from the Student Handbook below on Academic Honesty: (Abstracted from GSU’s Student Handbook Student Code of Conduct “Policy on Academic Honesty and Procedures for Resolving Matters of Academic Honesty” - http://www.gsu.edu/~wwwreg/ugcat2000/academic/honesty.htm)

As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The University assumes as a basic and minimum standard of conduct in academic matters that students be honest and that they submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for fairness require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable or unethical conduct related to their academic work.

Students are expected to discuss with faculty the expectations regarding course assignments and standards of conduct. Here are some examples and definitions that clarify the standards by which academic honesty and academically honorable conduct are judged at GSU.

**Plagiarism.** Plagiarism is presenting another person’s work as one’s own. Plagiarism includes any paraphrasing or summarizing of the works of another person without acknowledgment, including the submitting of another student’s work as one’s own. Plagiarism frequently involves a failure to acknowledge in the text, notes, or footnotes the quotation of the paragraphs, sentences, or even a few phrases written or spoken by someone else. The submission of research or completed papers or projects by someone else is plagiarism, as is the unacknowledged use of research sources gathered by someone else when that use is specifically forbidden by the faculty member. Failure to indicate the extent and nature of one’s reliance on other sources is also a form of plagiarism. Any work, in whole or part, taken from the Internet or other computer based resource without
properly referencing the source (for example, the URL) is considered plagiarism. A complete reference is required in order that all parties may locate and view the original source. Finally, there may be forms of plagiarism that are unique to an individual discipline or course, examples of which should be provided in advance by the faculty member. The student is responsible for understanding the legitimate use of sources, the appropriate ways of acknowledging academic, scholarly or creative indebtedness, and the consequences of violating this responsibility.

**Cheating on Examinations.** Cheating on examinations involves giving or receiving unauthorized help before, during, or after an examination. Examples of unauthorized help include the use of notes, texts, or “crib sheets” during an examination (unless specifically approved by the faculty member), or sharing information with another student during an examination (unless specifically approved by the faculty member). Other examples include intentionally allowing another student to view one’s own examination and collaboration before or after an examination if such collaboration is specifically forbidden by the faculty member.

**Unauthorized Collaboration.** Submission for academic credit of a work product, or a part thereof, represented as its being one’s own effort, which has been developed in substantial collaboration with another person or source or with a computer-based resource is a violation of academic honesty. It is also a violation of academic honesty knowingly to provide such assistance. Collaborative work specifically authorized by a faculty member is allowed.

**Falsification.** It is a violation of academic honesty to misrepresent material or fabricate information in an academic exercise, assignment or proceeding (e.g., false or misleading citation of sources, the falsification of the results of experiments or of computer data, false or misleading information in an academic context in order to gain an unfair advantage).

**Multiple Submissions.** It is a violation of academic honesty to submit substantial portions of the same work for credit more than once without the explicit consent of the faculty member(s) to whom the material is submitted for additional credit. In cases in which there is a natural development of research or knowledge in a sequence of courses, use of prior work may be desirable, even required; however the student is responsible for indicating in writing, as a part of such use, that the current work submitted for credit is cumulative in nature.

Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which an accommodation is sought.

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take the time to fill out
the online course evaluation.