CSC 9000 – Guided Study: Topics in Network Management and Performance
Syllabus

Instructor
Dr. Thomas Way
Mendel Science Center 160A
thomas.way@villanova.edu

Prerequisites
CSC 8400, CSC 8560

Course Description
The main goal of this course is to establish an understanding of the science of network management and performance, including both theoretical and practical aspects. Towards this goal, each student will perform a guided study of selected topics within the area of network management and performance, and complete a number of guided research and/or development projects on topics that build upon this background. Students will be required to prepare a report for each completed task, which may also include software demonstrations or presentations to other students. Additional assignments will include participating in weekly research meetings with the instructor and other students performing research in this area, if any, and creating a personal research website which includes a research plan and regular progress reporting. The final project of the semester will be treated as a final exam, and will be graded for breadth and depth of topic coverage and quality of the work done, and will include an oral examination to assess the student’s mastery of the subject.

Student Learning Outcomes

1. The student will demonstrate an ability to formulate research questions.
2. The student will successfully develop and write a research plan and maintain a research website.
3. The student will demonstrate an ability to critically read and synthesize research papers and other written material of an advanced level in the area of network management and performance.
4. The student will demonstrate an ability to perform guided study and research in an advanced computing topic relating to the area of network management and performance.
5. The student will demonstrate a breadth and depth of knowledge in network management and performance as it relates to computing, and to the specific topics within this area covered during the course of the semester.
Course Requirements

1. **Research Website.** The student will prepare a research website containing a description of their research project, an initial research plan, and a collection of annotated links to relevant online resources such as websites and research papers.

2. **Background Study/Progress Reviews.** After identifying, in collaboration with the instructor, one or more suitable research or development areas, the student will perform a guided study of relevant research and material in the areas. The instructor will assist in providing required reading material from online resources, but it is ultimately the responsibility of the student to pursue the topic with interest and vigor. Weekly meetings with the instructor will include an oral examination and review of student materials to assess student progress and learning.

3. **Research & Development Plan.** As part of the background study, the student will refine the research plan to incorporate a list of reasonable goals, milestones and deliverables that will enable the student to complete the goals of the course by the end of the semester. The instructor will work closely with the student to keep the scope and scale of the various projects reasonable for one semester.

4. **Research & Development Projects.** Once one or more area of study are identified (likely by the 2nd or 3rd week of the semester), the student will perform one or more focused research/development project tasks. The results of these projects will be written up in brief reports, and presented to the instructor along with any required software or system demonstrations. The final project of the semester will serve as a final exam, and will include an oral examination to assess the student’s learning throughout the semester.

Tentative Grading Procedure

The following allocation of points is tentative and may change during the semester:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Website</td>
<td>10%</td>
</tr>
<tr>
<td>Background Study/Progress Reviews</td>
<td>10%</td>
</tr>
<tr>
<td>Research/Devel Plan</td>
<td>10%</td>
</tr>
<tr>
<td>Research/Devel Projects</td>
<td>50%</td>
</tr>
<tr>
<td>Final Project</td>
<td>20%</td>
</tr>
</tbody>
</table>

Academic Integrity

The student is responsible for and will be expected to follow standard industry, academic and University guidelines for academic integrity. Any deviation from these policies will be dealt with accordingly.