Nova Southeastern University
Graduate School of Computer and Information Sciences

Course Syllabus

DISS 825
The System Development Process (Project) (4 credits)
Winter Institute 2004
January 4, 2004 to June 3, 2004

Professor:
Frank J. Mitropoulos, Ph.D.
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Class Location and Format:
Winter Institute. Please refer to schedule.

Class Web Site:
http://leo.scis.nova.edu/~mitrof

Course Description:
This course will extend the students knowledge of the software development process by implementing a system prototype and composing a research paper. The research paper will provide a starting point for dissertation work in the area of software engineering. The project will involve the application of the concepts covered in the course.
Required Textbook(s):

<table>
<thead>
<tr>
<th>Title:</th>
<th>Software Engineering: Theory and Practice - Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author:</td>
<td>Pfleeger, S</td>
</tr>
<tr>
<td>ISBN:</td>
<td>0130290491</td>
</tr>
<tr>
<td>Edition:</td>
<td>2nd</td>
</tr>
<tr>
<td>Publisher:</td>
<td>Prentice Hall</td>
</tr>
</tbody>
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Requirements:

The student must have an understanding of basic data structures and programming competency in a high-level programming language such as Java, C++, or C#.

Grading Criteria:

The final grade will be based on the following criteria:

<table>
<thead>
<tr>
<th>Assignment #</th>
<th>Deliverable</th>
<th>Weight (%)</th>
<th>Due Date (subject to change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Prototype</td>
<td>25</td>
<td>May 30, 2004</td>
</tr>
<tr>
<td>3</td>
<td>Research Paper Final Report</td>
<td>50</td>
<td>June 3, 2004</td>
</tr>
</tbody>
</table>

Final Course Grade Scale:

<table>
<thead>
<tr>
<th>Rounded %</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>94 - 100</td>
<td>A</td>
</tr>
<tr>
<td>90 - 93</td>
<td>A-</td>
</tr>
<tr>
<td>87 - 89</td>
<td>B+</td>
</tr>
<tr>
<td>83 - 86</td>
<td>B</td>
</tr>
<tr>
<td>80 - 82</td>
<td>B-</td>
</tr>
<tr>
<td>77 - 79</td>
<td>C+</td>
</tr>
<tr>
<td>73 - 76</td>
<td>C</td>
</tr>
<tr>
<td>70 - 72</td>
<td>C-</td>
</tr>
<tr>
<td>0 - 69</td>
<td>F</td>
</tr>
</tbody>
</table>
Assignments:
Assignments must be submitted electronically via the SCIS ES/ET system. Late assignments will not be evaluated and will result in a grade of zero. Assignment specifics can be found on the class website.

System Prototype Implementation:
This assignment involves the implementation of a fully functional prototype of the system designed for the DISS 725 course. Please refer to the course website for further details.

Research Paper:
This assignment will provide students with the experience of writing a research paper in the field of software engineering.

Initial Report:
This submission is in the form of a research plan or idea paper.

1. Goal
This contains a concise statement of the problem to be addressed and a concise definition of the goal of the work. The point of a goal is to establish a measurable entity that is used in evaluating your work, in other words did you accomplish the task.

2. Prior Research
Briefly discuss the literature that is used to formulate the research. In this section you discuss the underlying problems and issues and the expected degree of difficulty of the solution.

3. Relevance and Significance
This section contains a brief description of the relative value of the work you have proposed. Include a brief discussion of key work related to your topic.

4. Approach
State how you intend to accomplish the stated goal. Include a sequence of major steps you believe must be taken to accomplish the goal.

5. Resources
Provide a preliminary description of the facilities to be used to accomplish the stated goal. You may begin to list references used in developing the initial paper, which will form the content of the working proposal.

Make sure you cite all relevant articles that are references. Please refer to the SCIS Dissertation guide for form and style issues.
Final Report:
This is the final manuscript. Following is an outline of the format for this submission. More details will be provided on the course website.

1. Introduction
2. Review of the Literature
3. Methodology
4. Results
5. Conclusion

Online Activities:
- Email
  You may send me electronic mail at any time at mitrof@nsu.nova.edu. I will make every effort to respond promptly within 48 hours, but be aware that I am not online on holidays and most weekends.
- Assignment Submission (ES/ET)
  Assignments must be submitted via the ES/ET system. The URL for the ES/ET system is http://eset.scis.nova.edu. If you have difficulties using the ES/ET system, please send email to scisweb@nsu.nova.edu. I will not accept any assignments that are sent via email.
- Forums Bulletin Board System (BBS)
  The forums BBS is an asynchronous bulletin board system where you may post questions, issues, etc. The forums BBS is available to all students registered in this course. I will regularly participate in the forums and it will be a valuable resource for this course. Please check the forums regularly and feel free to post anything you like regarding the course content.

The URL for the forums BBS is: http://forums2.scis.nova.edu/

Class/Course Rules:
- Assignments must be submitted via the SCIS ES/ET system.
- Every assignment submitted must include your name, username, assignment title and a certificate of authorship.
- It is your responsibility to make sure that submitted files are readable and virus-free.
- Check your Email on the SCIS UNIX server regularly.
- Students are encouraged to discuss the course contents with colleagues in order to gain a better understanding of the various issues covered. However, all work that you submit must reflect your individual effort. Any help that you receive must be explicitly acknowledged and all reference material must be cited. Team projects and team collaboration will not constitute a violation of the above policy.
- All system-generated email will be sent to your SCIS user account.
- If you send me email from a non-SCIS account, please make sure that you identify yourself in the email. Ex). Cb103@aol.com ???
Incomplete grades will be assigned only in exceptional cases for reasons such as health problems and emergencies – please refer to the SCIS Incomplete Policy.

**Coding/Development Skills:** The professor will not provide remedial help concerning coding problems that you might have. Students are responsible for the setup of their own development environment.

Please refer to the SCIS Graduate Student Handbook for other policies.

**Policy Paragraphs:**

1. **Standards of Academic Integrity** For the university-wide policy on academic standards, see the section Code of Student Conduct and Academic Responsibility in the **NSU Student Handbook**. Also see the section Student Misconduct in the SCIS catalog.

Each student is responsible for maintaining academic integrity and intellectual honesty in his or her academic work. It is the policy of the school that each student must:

- Submit his or her own work, not that of another person
- Not falsify data or records (including admission materials)
- Not engage in cheating (e.g., giving or receiving help during examinations; acquiring and/or transmitting test questions prior to an examination; and using unauthorized materials, such as notes, during an examination)
- Not receive or give aid on assigned work that requires independent effort
- Properly credit the words or ideas of others according to accepted standards for professional publications (see *Crediting the Words or Ideas of Others*)
- Not use term paper writing services or consult such services for the purpose of obtaining assistance in the preparation of materials to be submitted in courses or for theses or dissertations
- Not commit plagiarism (*Merriam-Webster’s Collegiate Dictionary* (1996) defines plagiarism as “stealing or passing off ideas or words of another as one’s own” and “the use of a created production without crediting the source.”) (see *Crediting the Words or Ideas of Others* below)

**Crediting the Words or Ideas of Others**

*When using the exact words of another, quotation marks must be used for short quotations (fewer than 40 words), and block quotation style must be used for longer quotations. In either case, a proper citation must also be provided. The Publication Manual of the American Psychological Association, Fifth Edition, (2001, pp. 117 and 292) contains standards and examples on quotation methods.*

When paraphrasing (summarizing, or rewriting) the words or ideas of another, a proper citation must be provided. (*Publication Manual of the American Psychological Association, Fifth Edition* (2001) contains standards and examples on citation methods (pp. 207–214) and reference lists
2. Writing Skills

Each student must demonstrate proficiency in the use of the English language in all work submitted for this course. Grammatical errors, spelling errors, and writing that does not express ideas clearly will affect your grade. The professor will not provide remedial help concerning writing problems. Students who are unable to write correctly and clearly are urged to contact the program office for sources of remedial help.

3. Form and Style Requirements for Student Work

For an individual course, the course professor will specify form and style requirements in the course syllabus. There are several books that provide general guidelines for form, style, and general writing principles in the preparation of papers, assignments, and reports. *On Writing Well* (Zinsser, 2001) is an excellent guide to clear, logical, and organized writing. *Bugs in Writing* (Dupré, 1998) contains valuable guidance on professional writing and is oriented to the computer and information sciences. The *Publication Manual of the American Psychological Association, Fifth Edition* (2001) addresses editorial style, grammar, and organization, and its use is often required by course professors. Master’s students may find the school’s *Dissertation Guide* (2003) helpful in the preparation of theses. Students must comply with the university’s *Policy on the Use of Material in Web Pages* (see NSU Student Handbook).

4. Communication by Email

Students must use their NSU email accounts when sending email to faculty and staff and must clearly identify their names and other appropriate information, e.g., course or program. When communicating with students via email, faculty and staff members will send mail only to NSU email accounts using NSU-recognized usernames. Students who forward their NSU-generated email to other email accounts do so at their own risk. SCIS uses various course management tools that use private internal email systems. Students enrolled in courses using these tools should check both the private internal email system and NSU’s regular email system. NSU offers students web-based email access. Students are encouraged to check their NSU email account daily.

5. The Temporary Grade of Incomplete (I)

The temporary grade of Incomplete (I) will be granted only in cases of extreme hardship. Students do not have a right to an incomplete, which may be granted only when there is evidence of just cause. A student desiring an incomplete must submit a written appeal to the course professor at least two weeks prior to the end of the term. In the appeal, the student must: (1) provide a rationale; (2) demonstrate that he/she has been making a sincere effort to complete the assignments during the term; and (3) explain how all the possibilities to complete the assignments on time have been exhausted. Should the course professor agree, an *incomplete contract* will be prepared by the student and signed by both student and professor. The
incomplete contract must contain a description of the work to be completed and a timetable. The completion period should be the shortest possible. In no case may the completion date extend beyond 30 days from the last day of the term for master’s courses or beyond 60 days from the last day of the term for doctoral courses. The incomplete contract will accompany the submission of the professor’s final grade roster to the program office. The program office will monitor each incomplete contract. If a change-of-grade form is not submitted by the scheduled completion date, the grade will be changed automatically from I to F. No student may graduate with an I on his or her record.

6. Grade Policy Regarding Withdrawals

Course withdrawal requests must be submitted to the program office in writing by the student. Requests for withdrawal must be received by the program office at least three weeks prior to the last day of the term. Withdrawals sent by email must be sent from the student’s assigned NSU email account. Requests for withdrawal received after 11:59 p.m. EST on the withdrawal deadline date will not be accepted. Failure to attend class or participate in course activities will not automatically drop or withdraw a student from the class or the university. Students who have not withdrawn by the withdrawal deadline will receive letter grades that reflect their performance in the course. When a withdrawal request is approved, the transcript will show a grade of W (Withdrawn) for the course. Students with a history of withdrawals risk dismissal. Depending on the date of withdrawal, the student may be eligible for a partial refund. For a complete list of withdrawal deadline dates, please see the academic calendars published in the catalog and program brochures or at: http://www.scis.nova.edu/NSS/pdf_documents/AcadCal.pdf

7. Acceptable Use of Computing Resources

Students must comply with the university’s Policy on Acceptable Use of Computing Resources (see NSU Student Handbook).

8. Academic Progress, Grade Requirements, and Academic Standing

Students must be familiar with the school’s policy which is contained in the catalog.

9. Other Policies and Procedures

Students must comply with policies published in the school’s catalog and in the NSU Student Handbook that pertain to them.
Bibliography:

Software Engineering, General


**Ethics**

ACM Communications 1995, December. Special issue on ethics and computer use


**Formal Specification**


**Implementation**


**Measurements and Metrics**


**Multimedia**

Object Orientation


Patterns and Software Architecture

ACM Communications 1996, October. Special issue on Software Patterns


**Process**


**Project Management**


**Quality Assurance**

ACM Communications 1997, June Focus on the Quality Approach


**Requirements Definition**

ACM Communications 1998, December Focus on Requirements Tracing


Reuse

IEEE Software 1994, September. Theme Issue


Risk Assessment and Management


Structured Analysis and Design


General Textbooks


Unified Modeling Language


Validation and Verification


