SYLLABUS (preliminary)

CEN 3913 - Computer & Information Science & Engineering Design 1 – Spring 2019

1. **Catalog Description** – (3 credits) Preparatory skills are developed for Senior Design (CEN 4914). Student teams design, produce and report on a software prototype, meeting defined specifications and using a structured design methodology and project management.

2. **Prerequisites** – CEN 3031

3. **Course Objectives** – Students will reinforce basic software design methodology to support development of a software project or software-mostly project. At the middle of the semester, a design project is selected by students working in groups of two to five, which uses the modules taught earlier in the semester.

4. **Contribution of course to meeting the professional component** (ABET only – undergraduate courses) – 3 hours of engineering design

5. **Relationship of course to program outcomes**: Skills student will develop in this course (ABET only undergraduate courses) – Outcomes c, e, and g

6. **Instructor** – Dr. Mark Schmalz
   a. Office location: CSE/E446
   b. Telephone: 352-505-1561
   c. E-mail address: mssz@cise.ufl.edu
   d. Class Web site: [http://www.cise.ufl.edu/~mssz/Design1/Top-Level.html](http://www.cise.ufl.edu/~mssz/)
   e. Office hours: Posted on Instructor Website: [http://www.cise.ufl.edu/~mssz/](http://www.cise.ufl.edu/~mssz/)

7. **Teaching Assistant** – None
   a. Office location:
   b. Telephone:
   c. E-mail address:
   d. Office hours:

8. **Meeting Times** – Tue Period 7, Thu Periods 7-8

9. **Class/laboratory schedule** - 3 class periods consisting of 50 minutes each

10. **Meeting Location** – Room CSE/E220

11. **Material and Supply Fees** – None; if you plan to use hardware, you must purchase parts for your project from your personal account.

12. **Textbooks and Software Required** - NONE
   a. Title: None
   b. Author:
   c. Publication date and edition:
   d. ISBN number:
   e. Software: SQL, MySQL, Java, JavaScript, C++, Flash
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13. **Recommended Reading** – To Be Assigned by Instructor
   a. Title:
   b. Author:
   c. Publication date and edition:
   d. ISBN number:

14. **Course Outline**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Introduction to Design I</strong> – Coverage, Requirements, Evaluation, Overview of Project Selection Protocol</td>
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<tr>
<td>2</td>
<td><strong>Review of Tools</strong>: Java and JavaScript, C++, Web Programming Languages, How to Integrate Audio and Video with Webpages</td>
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<tr>
<td>3</td>
<td><strong>Review of Tools</strong>: SQL, MySQL, Flash, OpenGL, Other graphics protocols and languages</td>
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<tr>
<td>4</td>
<td><strong>Overview</strong>: Software Engineering Principles – Agile Development, Rapid Prototyping and Version Control</td>
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<tr>
<td>5</td>
<td><strong>Overview</strong>: Testing and Analysis of Software and Experimental Prototypes – Correctness of Operation, Complexity Analysis and Performance Profiling</td>
</tr>
<tr>
<td>6</td>
<td><strong>Project Selection</strong>: Choosing or Originating a Project and Recruiting a Project Advisor</td>
</tr>
<tr>
<td>7</td>
<td><strong>Project Design</strong>: Preparing a Project Plan with Task/Subtask Decomposition and Preliminary GANTT Chart</td>
</tr>
<tr>
<td>8</td>
<td><strong>Project Registration for Senior Design (CEN4924)</strong>: Preparing the Registration Form, Preparing a more Detailed Project Plan</td>
</tr>
<tr>
<td>9</td>
<td><strong>Project Initiation</strong>: Literature Research, Marshalling and Formatting your Citations, Preparing a Literature Summary</td>
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<tr>
<td>10</td>
<td><strong>Documentation</strong>: Preparation of a Design Report and Concept Presentation</td>
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<tr>
<td>11</td>
<td><strong>Documentation</strong>: Preparation of an Interim Report, Design Presentation, and Performance Analysis Report</td>
</tr>
<tr>
<td>12</td>
<td><strong>Documentation</strong>: Preparation of a Final Report and Presentation Preliminary Design Presentation <em>(10 min, individual presentation)</em></td>
</tr>
<tr>
<td>13</td>
<td><strong>Time Management</strong>: What to Do when Things Go Wrong – Modifying your GANTT and PERT Charts</td>
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<tr>
<td>14</td>
<td><strong>Time Management and Reporting</strong>: Refining Your GANTT Chart with MS-Project and Integrating your GANTT Chart with Microsoft Office Products</td>
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<tr>
<td>15</td>
<td><strong>Resource Management</strong>: Resource Leveling and Optimization</td>
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</tbody>
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15. **Attendance and Expectations** - In general, class attendance is mandatory, especially for specified guest lectures. All classes are important. Missing a class may be hazardous to your grade. If you fail to attend classes without prior approval, your course grade will suffer. Turn off all cell phones, beepers, laptop sound effects, and other noise making devices **before entering** our classroom. If a noisemaking
device goes off during class, I reserve the right to lower your course grade. If a noise-making device
goes off during an exam, you will lose a significant number of points on this exam.

16. **Grading** – Grades are determined by the quality of work with the following items. In order to pass the
class, students must finish their design projects and show a working demonstration. Therefore the last
two items on the below list will be emphasized.
- Project Documentation (25%)
  - Project Abstract and Planning Document
  - GANTT and PERT Charts
  - Preliminary Design Presentation
  - Ongoing Project Documentation (Abstract, Design)
  - Experimental Plans/Prototype Test Plan
- Video Design Report (YouTube, live demo, or .avi file played back during Final Presentation) (25%)
- Final Design Presentation with Video Design Report (25%)
- Final Design Report (25%)

17. **Grading Scale** – Standard University of Florida Grading Scale Applies:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>63-66</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
</tr>
<tr>
<td>E</td>
<td>0-59</td>
</tr>
</tbody>
</table>

A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students
must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C-
average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation
requirement. For more information on grades and grading policies, please visit the following
UF website:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

18. **Make-up Policy** – If you have a University-approved excuse and arrange for it in advance, or
in case of documented emergency, make-up for a scheduled item (e.g., presentation or
demonstration) will be allowed. For information on UF policies concerning attendance, please
visit:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx#absences

19. **Honesty Policy** – All students admitted to the University of Florida have signed a statement of
academic honesty committing themselves to be honest in all academic work and understanding
that failure to comply with this commitment will result in disciplinary action. This statement is
a reminder to uphold your obligation as a UF student and to be honest in all work submitted and
exams taken in this course and all others.

20. **Accommodation for Students with Disabilities** – Students Requesting classroom
accommodation must first register with the Dean of Students Office. That office will provide
the student with documentation that he/she must provide to the course instructor when requesting accommodation.

21. **UF Counseling Services** – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling & Wellness Center, http://www.counseling.ufl.edu, 3190 Radio Road, (352) 392-1575.
- SHCC Mental Health, Student Health Care Center. shcc.ufl.edu/, Infirmary Bldg., 1 Fletcher Drive, 392-1161.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161.
- Career Resource Center, www.crc.ufl.edu/, Reitz Union, 392-1601, career development assistance and counseling

22. **Software Use** – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

23. **Course Evaluations** – Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at [https://evaluations.ufl.edu](https://evaluations.ufl.edu). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [https://evaluations.ufl.edu/results/](https://evaluations.ufl.edu/results/).