Course Title: Research Methods in Computer Science

Course Description: This course interweaves three distinct themes (investigation, experimentation, and technical writing), that culminate in a comprehensive research project, presentation, and oral defense. First, the students are immersed into the research process within Computer Science. This includes an understanding of the role, ethics, and responsibility of researchers in Computer Science. The second focus is on rigorous design of experiments for the purpose of testing research hypothesis, simulations, and models, and interpreting the results of those experiments. Finally, proficiency in communication of scientific ideas and findings will be addressed, from intensive reading, critiques, technical writing and oral presentations. 3 hours discussion.

Prerequisites: Candidate status.

Course Times and Location: TR 2:00pm – 3:15pm in OCNL 241

Instructor: Dr. Elena Harris
E-mail: eyharris@csuchico.edu
Website: http://www.cs.ucr.edu/~elenah/
Office Phone: (530) 898-4304
Office: OCNL 221

Office Hours:
MW 1:00pm-2:00pm and 3:00pm-3:45pm
TR 12:30pm-1:30pm
Or by an appointment

Recommended Textbooks:

Each week, the next week’s readings will be announced on the Blackboard.

Course objectives:

- To conduct a research project
- To do a literature review
- To do a critical review
- To write a technical paper
- To become familiar with the research process in Computer Science
Attendance and Department Policy: Lecture attendance is mandatory. **Failure to attend less than 80% of lectures will result in an F in the course** (unless serious illness or other excused absences merit allowances in the judgment of the instructor.) Positive professional attitude and interaction are mandatory. You are expected to actively participate during lecture and discussions. It is required that you show up to class on time.

Course Assignments: Each student is required to complete a research project on a topic provided by the instructor (each student will be working on a different topic). Each student is required to meet with the instructor weekly outside of the class to provide a weekly progress updates. At the end of the semester, each student will submit (1) a software tool and (2) a research report on his/her research project. In addition, each student will give an oral presentation about the results of his/her research project. Other assignments include literature review(s) and critical review(s).

Policy on Turning in Assignments: Due dates are firm. **No late assignments will be accepted unless serious illness or other excused absences merit allowances in the judgment of the instructor.**

Grade Evaluation Procedures: Students will be graded based on their performance in the following course components:

- Literature Review 10%
- Critical Review 10%
- Research Project 60%
  - Weekly Progress Reports (20%)
  - Software (20%)
  - Research Report (20%)
- Oral Presentation 10%
- Class Discussions 10%

**An incomplete software submission will result in an F for the course.**
**Failure to attend less than 80% of lectures will result in an F in the course.**

Final Grades: An incomplete software submission will result in an F for the course. Failure to attend less than 80% of lectures will result in an F in the course. Otherwise, the final grade will be expressed as a percentage of the maximum possible score of all evaluated materials. I will round up decimal points to the nearest integer. Letter grades will be given according to the following:

<table>
<thead>
<tr>
<th>Scale (inclusive)</th>
<th>Letter Grade</th>
<th>University Definition</th>
</tr>
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<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>Superior Work</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
<td></td>
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<tr>
<td>87-89</td>
<td>B+</td>
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</tr>
<tr>
<td>83-86</td>
<td>B</td>
<td>Very Good Work</td>
</tr>
<tr>
<td>80-82</td>
<td>B-</td>
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<tr>
<td>77-79</td>
<td>C+</td>
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<tr>
<td>73-76</td>
<td>C</td>
<td>Adequate Work</td>
</tr>
<tr>
<td>70-72</td>
<td>C-</td>
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</tr>
<tr>
<td>67-69</td>
<td>D+</td>
<td></td>
</tr>
<tr>
<td>60-66</td>
<td>D</td>
<td>Minimally Acceptable Work</td>
</tr>
<tr>
<td>0-59</td>
<td>F</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>
**Plagiarism/Cheating Policy:** Students who are in violation of the University’s policy on academic honesty and integrity will be reported to the Campus Student Judicial Affairs. All your written materials (literature review, critical review, and research report) will be scrutinized for plagiarism. Papers having more than 10% of copied material will receive an F.

**University Policies and Campus Resources**

**Academic integrity**

Students are expected to be familiar with the University’s Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University’s Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: [http://www.csuchico.edu/sjd/integrity.shtml](http://www.csuchico.edu/sjd/integrity.shtml)

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability. Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

**Student Computing**

Computer labs for student use are available [http://www.csuchico.edu/stcp](http://www.csuchico.edu/stcp) located on the 1st floor of the Merriam Library Rm 116 and 450, Tehama Hall Rm.131 and the BMU Rm 301.

**Student Services**

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. Student services information can be found at: [http://www.csuchico.edu/5.-studentservices.html](http://www.csuchico.edu/5.-studentservices.html).

**Disability Services**

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please also contact the Disability Support Services office to coordinate reasonable accommodations for students with documented disabilities. Disabilities Support Services online: [http://www.csuchico.edu/dss/studentServices/](http://www.csuchico.edu/dss/studentServices/).

**Student Learning Center**

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and
community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at http://www.csuchico.edu/slc/. The University Writing Center has been combined with the Student Learning Center.