TextBooks


Office hours

- Mondays from 11:00 a.m. - 12:00 p.m.
- Tuesdays from 1:00 p.m. - 2:00 p.m.
- Wednesdays from 12:00 noon - 1:00 p.m.
- And by appointment. Send email to sushil@cse.unr.edu

Course objectives, structure, requirements, outcomes

I will introduce search in AI, then genetic and evolutionary computing algorithms and their theory in the first five weeks of the course. Students will be presenting selected papers for the next four weeks. You may present an evolutionary computing paper that interests you, but need my prior approval. You can then work in teams on a mutually agreeable research problem or project and are welcome to work on areas that interest you. Again though, you need my approval and a clear understanding of the scope.

This semester I am most interested in evolutionary computing approaches to

- Scientific discovery - model tuning and inversion
- Evolutionary computing in games
- Design and optimization
- Co-evolution
Multi-objective optimization

Please talk to me soon about projects – the sooner you get started the better you will do.

There are several ways to do well in this class.

- **Research:** Do publishable research. If you do not know how to conduct research this course will also teach you how. You will investigate a research problem that I think understand and to which I am reasonably sure a solution exists.

- **Development:** Develop an industrial strength interactive (over the web) prototype of an evolutionary computing algorithm that solves scheduling, TSP, or other broadly interesting problem. Your code will implement the best known evolutionary algorithm for the problem at hand and will be runnable over the web.

- **Research and Development:** Attack a well defined sub-problem (I know this problem can be solved and probably how to solve it) and distribute a demo of your work on the web.

Groups are encouraged but need my permission. Project presentations will be at the end of the semester. While working on your problem, you will be asked to find, read, and present early papers that helped define the field, papers pertaining to your problem, and/or papers that you find interesting. Become familiar with library and internet resources. In addition to your presentations, there will be research presentations from graduate students, faculty, and other speakers.

Finally, you will learn how to efficiently read technical papers, write technical reports, present technical work, and perform scientific research and development. I encourage and require enthusiastic class participation.

Please look in [http://www.cse.unr.edu/~sushil](http://www.cse.unr.edu/~sushil) for pointers to papers and other information useful for this course. I would like each of you to set up a web page and keep a pointer to your work (graphical and textual) there. Do not, DO NOT, email me your assignments. You may use resources in the ECC ([https://www.unr.edu/engineering/student-resources/engineering-computing-center](https://www.unr.edu/engineering/student-resources/engineering-computing-center)) when you need extensive computing resources.

Your grade will depend on assignments, presentations, and project reports and we will use the +/- grading system. I will expect to see you after each presentation to discuss the presentation and assign you a grade. Any person or group producing publishable work gets an automatic A. Assignments are due every week for the first four weeks of the course. Late assignments are not accepted.

Your grade will be calculated from the following table.

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>15%</td>
</tr>
<tr>
<td>Presentations</td>
<td>15%</td>
</tr>
<tr>
<td>Project and Report</td>
<td>70%</td>
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</tbody>
</table>

**Communications**

If I need to communicate with the class as group I’ll email you through canvas. You are required to check the class website and your UNR email every day. Make sure your email information in MyNevada is up to date and implement mail forwarding if you need to. Other resources can be found on the class web page.
This is a research oriented class. Research projects or research and development projects that you start in this class will usually constitute the bulk of a Master’s or Ph.d. thesis or professional paper.

**Academic Success Services**

Your student fees cover usage of the Math Center (784-4433 or [www.unr.edu/mathcenter/](http://www.unr.edu/mathcenter/)), Tutoring Center (784-6801 or [https://www.unr.edu/tutoring-center](https://www.unr.edu/tutoring-center)), and University Writing Center (784-6030 or [http://www.unr.edu/writing_center](http://www.unr.edu/writing_center/)). These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

**Statement on Academic Dishonesty**

Cheating, plagiarism or otherwise obtaining grades under false pretenses constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated and penalties can include canceling a student’s enrollment without a grade, giving an F for the course or for the assignment. For more details, see the University Administrative Manual 6,502. Computer science and engineering has a special policy for academic honesty with respect to code. Read this document.

**Statement of Disability Services**

Any student with a disability needing academic adjustments or accommodations is requested to speak with the Disability Resource Center (Pennington Student Achievement Center, Suite 230) as soon as possible to arrange for appropriate accommodations.

**Statement on Audio and Video Recording**

Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University’s Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit the Equal Opportunity and Title IX page.