PART “A”: SUGGESTED FORMAT TO BE COMPLETED BY INSTRUCTOR

Norco College

A college of the Riverside Community College District

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**Section:**

**Dates:**

**Instructor: Email:**

**Office/Phone: Office Hours:**

**Class Hours: Class Location:**

**Section Code:**

**PREREQUISITE/ADVISORY:**

CIS 5 / CSC 5

**COURSE DESCRIPTION**:

This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Set; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability. 54 hours lecture and 18 hours laboratory.

**STUDENT LEARNING OUTCOMES**:

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| --- |
| * **Describe how formal tools of symbolic logic are used to model real-life situations, including those arising in computing contexts such as program correctness, database queries, and algorithms.** * **Relate the ideas of mathematical induction to recursion and recursively defined structures.** * **Analyze a problem to create relevant recurrence equations.** * **Demonstrate different traversal methods of trees and graphs.** * **Apply the binomial theorem to independent events and Bayes' theorem to dependent events.** |

**TEXTBOOK REQUIREMENTS:**

Gersting, Judith L., *Mathematical Structures for Computer Science: Discrete Mathematics and its Applications 7th Edition*. W.H. Freeman and Company, 2014.

**COURSE POLICIES**

* Course assignments will be done electronically and submitted via GitHub. I will provide a tutorial on the first day of class.
* Remember that the lab PC’s are wiped nightly. Always save your work in the cloud.
* Coding assignments will require Visual Studio. Non coding assignments can be done using a text editor of your choice.
* Late assignments will be accepted but points will be deducted.
* There will be no make-up exams except for extraordinary circumstances

**CLASSROOM POLICIES**

1. be respectful to whoever is speaking
2. Students may discuss assignments and labs amongst each other but be mindful of #1 if I interrupt everyone to make announcements
3. students may use online resources to assist in lab assignments, however make sure you understand the material and don’t just blindly copy code
4. absolutely no misuse of lab equipment will be tolerated. the computers in the lab are for assignments only

**IMPORTANT DATES (check web advisor and select “My schedule/deadlines”)**

|  |  |
| --- | --- |
| Last day to add: | 9/8 |
| Last day to drop with a refund and without a W: | 9/10 |
| Last day to drop with a W: | 11/17 |

**Adding this class**

Students wanting to add this section will need to be provided with a four digit add/authorization code. If you receive an add authorization code, you are responsible for completing the add process ***before*** the deadline to add. This deadline can be found in the Schedule of Classes available online. Add codes can be processed through your WebAdvisor account. **If you fail to add the class by the deadline, you are not officially enrolled and college policy prohibits you from continuing to attend class.**

Be aware that your failure to pay fees/fines, to document prerequisites, to clear academic holds, or to navigate personal problems may hinder you from adding this section. Please allow sufficient time to take care of these issues ***before the deadline to add***. Adding this course after the published deadline will require documented extenuating circumstances involving severe illness, accident, or death.

**The use of an add/authorization code issued to another student violates the Student Code of Conduct and the student will be referred to the Dean of Student Life for disciplinary action**. **The unauthorized use of an add code is grounds for removal from the course.**

**Dropping this class**

You may withdraw from this course by using WebAdvisor prior to the drop deadline. The deadline is available on WebAdvisor by selecting “My Class Schedule/Deadlines” after logging in. If there is a hold restricting use of WebAdvisor for this purpose, you may bring a completed ADD/DROP card to the Admissions counter of the college and complete the process there. It is the student’s responsibility to drop this class should he/she decide no longer to attend.

**ACADEMIC INTEGRITY:**

Norco College is committed to maintaining academic integrity throughout the college community. Academic dishonesty is a serious offense that can diminish the quality of scholarship, the academic environment, the academic reputation and the quality of a Norco College degree. The Student Handbook states:

In cases of academic dishonesty by a student, a faculty member may

1. Reduce the score on test(s) or assignment(s);
2. Reduce the grade in the course;
3. Fail the student in the course if the weight of the test(s) or assignment(s) warrants course failure;
4. Recommend suspension from the course (see further details in Student Handbook).

Academic dishonesty includes but is not limited to:

1. Plagiarism – the intentional presentation of words, ideas or work of others as one’s own. This includes but is not limited to: copying homework, using a work or portion of a work written or created by another but not crediting the source and using one’s own work completed in a previous class for credit in another class without permission. The usual consequence of academic dishonesty is failure of the course and referral of the case to the appropriate dean for additional disciplinary action. Students may discuss assignments but are expected to complete all work independently.
2. Cheating During Examinations – includes, but is not limited to, unauthorized electronic assistance or devices, copying from another, looking at another student’s exam and opening books when not authorized.  
   Any of these practices could result in charges of academic dishonesty.

**Accommodations for Disabilities**

Norco College provides services to students with disabilities through the Disability Resource Center (DRC); located in the Center for Student Success Building. To request academic accommodations due to a disability, please visit the DRC or contact the DRC staff at 372-7070. A DRC staff member will confidentially review your concerns with you to determine any required accommodations. Once your accommodations are approved through DRC, please bring your DRC documentation(s) to me so that we may discuss your accommodations.

**Violence on Campus**

Norco College does not tolerate any violence or implied violence. A threat of violence includes any behavior that by its very nature could be interpreted by a reasonable person as intent to cause physical harm to self, another individual, or property. Violence or the threat of violence against or by any **student** or employee of the District or any other person is unacceptable **and will not be tolerated**. Should an individual on District property, who is not an employee or student, or a student or employee of the District, demonstrate or threaten violent behavior, s/he may be subject to criminal prosecution (AP 3510 Workplace Violence and Safety).

If you are a victim of any violent, threatening, or harassing conduct, any witness to such conduct, or anyone receiving a report of such conduct, [. . .] shall immediately report the incident to his/her supervisor of College Safety and Police (951- 222-8171) (AP 3510 Workplace Violence and Safety).

**Course Schedule**

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| --- | --- | --- | --- |
| **Week** | **Week Start Date** | **Subject Material** | **Chapter Reading/Assignments** |
| Week 1 | 8/28 | Propositional Logic | 1.1 – 1.3 |
| Week 2 | 9/4 | Predicate Logic, Correctness | 1.4 – 1.6 |
| Week 3 | 9/11 | *Programming Exercises* | Chapter 1 “On The Computer” |
| Week 4 | 9/18 | Proofs, Induction | 2.1 – 2.2 |
| Week 5 | 9/25 | Correctness, Number Theory | 2.3 – 2.4 |
| Week 6 | 10/2 | *Programming Exercises* | Chapter 2 “On the Computer” |
| Week 7 | 10/9 | Recursion & Recurrence | 3.1 – 3.2 |
| Week 8 | 10/16 | Analysis of Algorithms | 3.3 |
|  | 10/23 | Holiday | No Classes |
| Week 10 | 10/30 | *Programming Exercises* | Chapter 3 “On the Computer” |
| Week 11 | 11/6 | Sets, Combinatorics & Probability | Chapter 4 |
| Week 12 | 11/13 | *Programming Exercises* | Chapter 4 “On the Computer” |
| Week 13 | 11/20 | Graphs & Trees | 6.1 – 6.3 |
| Week 14 | 11/27 | Graph Algorithms | Chapter 7 |
| Week 15 | 12/4 | Graph Algorithms (cont’d) | Chapter 7 |
| Final | 12/11 |  | Final Exam |