Syllabus (Fall 2019)

**MAT K210 – Discrete Math**

**Tues./Thu. 2:00 – 3:15, Room D212**

**Course Information**

* **Instructor Information**

|  |  |
| --- | --- |
| Chris Kmiecik  Office: C126  Phone: (860)215-9507  Email: ckmiecik@trcc.commnet.edu | Office Hours: MW: 3:00-4:00  TR: 12:00-1:00  F: By Appointment |

* **Course Description**

Prerequisite: MAT\* K186 or permission of the instructor.

This course provides an introduction to set theory, logic and number theory. The ideas of algorithms and proof will be developed through the content.

* **Required Materials**
* Text: *Discrete Mathematics & Its Applications* – 7th Edition -- Rosen.
* **Learning Outcomes**

At the completion of MAT K210, the student will be able to do the following:

1. Understand and write basic proofs (direct, contradiction, exhaustion, induction, etc.);
2. Explain and solve problems involving logic, Boolean algebra, sets, relations, functions, and recurrence relations;
3. Explain and solve problems involving counting techniques including permutations, combinations, binomial theorem, and probability;
4. Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, functions, and integers;
5. Evaluate elementary mathematical arguments and identify fallacious reasoning as well as fallacious conclusions; and
6. Prove elementary properties of modular arithmetic and explain their applications in Computer Science, for example, in cryptography and hashing algorithms.

**Grading**

* **Methods of Evaluation**
* Homework/Assignments – 25%
* Mid-term Exam – 20%
* Final Exam – 25%
* Project – 20%
* Class participation – 10%
* **Grading Policies**
* **Late Work**: No late work will be accepted. Written homework that is due on a day you do not attend class cannot be turned in late. If you send a clear picture of the homework via email before the beginning of class, that will be sufficient.
* **Missed Work Make-Up Policy:** If you miss a class, you are responsible for getting the class notes, homework, and any other assignments from another student and completing that work by the next class.

Make-up exams may be given *with my prior consent*. If you must miss a test/exam, please speak with me before the date of the exam so that arrangements can be made for you to take the exam before the scheduled date of the exam.

* **Letter Grade Equivalents**

|  |  |
| --- | --- |
| **Grade** | **Percent of  Points Earned** |
| A | 94-100 |
| A- | 90-93 |
| B+ | 87-89 |
| B | 84-86 |
| B- | 80-83 |
| C+ | 77-79 |
| C | 74-76 |
| C- | 70-73 |
| D | 64-69 |
| D- | 60-63 |
| F | Below 65 |
|  |  |

**Classroom Policies**

* **Attendance:** Attendance and participation in classwork is required to be successful in this class. Students with a known conflict with class will make the instructor aware of such conflict prior to missing a class. Accommodations will be made for students with a reasonable excuse (e.g., religious holidays, extra-curricular activities, and emergencies). If the instructor is not notified in advance, it will be treated as an absence.
* **Communication:** All communication will occur by email. Please make sure that you check your TRCC email or set it up to forward to another account. Check your email regularly to be informed of any changes in schedule.
* **Class Cancellation:**

**If school is cancelled**, notification of cancellation due to inclement weather will be available by telephone by 6:00 am for daytime classes and by 2:30 pm for evening classes by calling the College's main telephone at (860) 215-9000, pressing 1, and listening to the taped announcement. The College’s website will also have announcements available by accessing the www.threerivers.edu home page. The myCommnet Alert Notification System will also be used to deliver important information regarding weather-related class cancellations, via both email messages and text messages, to registered individuals. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

**If class is cancelled by the instructor**, a notice will be placed on the classroom door. If time permits, students may be notified by a message via email.

* **Withdrawal Policy:** You may withdraw from this class any time up to and including November 5 and you will receive a W grade on your transcript. However, you must complete a withdrawal form in the Registrar’s Office at the time of withdrawal; *if you merely stop attending classes you will be assigned a grade of F*. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.  
    
  If you decide to withdraw, it is highly recommended you continue to participate in class to get some exposure to the material and be that much further ahead the next time you take this course. The instructor will continue grading your work, but that grade will not count. It is a no-stress way for you to take away more of the class.
* **Academic Integrity:** The effective operation of any organization is dependent on the honesty and goodwill of its members. In an organization devoted to the pursuit of knowledge, acting with integrity is essential to effective teaching and learning. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. To emphasize the importance of academic integrity, Three Rivers Community College adheres to the Student Code of Conduct and Discipline Policy, as provided by the Connecticut State Colleges and Universities (CSCU) - Board of Regents for Higher Education. (Please refer to BlackBoard for the complete statement.)

**Some** of the behaviors that will be considered cheating are:

* + Communicating with another student during a quiz or exam
  + Copying material from another student during a quiz or exam or from any assignment being graded
  + Allowing another student to copy from your quiz, exam, or any assignment being graded
  + Use of unauthorized assistance on any assignment being graded
  + Use of unauthorized notes or books during a quiz or exam
  + Providing or receiving a copy of a quiz or exam used in the course
  + Use of a cell phone or pager to transmit information during a quiz or exam

**IF IN DOUBT, ASK.**

Professionalism and respect are demonstrated through a clear understanding of what is yours and what you learned from others. Be proud for your accomplishments; respect those of others.

**Getting Help**

* Tutoring and Academic Support Center
* Peer tutoring
* Extra help from the instructor (before or after class or by appointment)

**School Policies**

Please refer to BlackBoard or the TRCC website for a link to the entire policy.

* **Digication:** All students are required to maintain an electronic portfolio using the College template within Digication. Digication can be accessed at https://threerivers.digication.com.
* **Disability:** Three Rivers Community College (TRCC) is committed to the goal of achieving equal educational opportunity and full participation for individuals with disabilities. To this end, TRCC seeks to ensure that no qualified person is excluded from participation in, is denied the benefit of, or otherwise is subjected to discrimination in any of its programs, services, or activities.   
    
  Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at mliscum@trcc.commnet.edu. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at ewillcox@trcc.commnet.edu to facilitate accommodations.   
    
  All testing accommodations MUST be discussed with the instructor at least one to two class meetings prior to any scheduled test for which accommodations are needed.
* **Non-discrimination:** Three Rivers Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression, or genetic information in its programs and activities.
* **Sexual Misconduct:** The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to ensuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking.
* **Title IX clause:** “Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.  
    
  Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient’s educational programs and activities.”   
    
  If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact the Diversity Officer and Title IX Coordinator: 860-215-9208 (mkrug@trcc.commnet.edu)

**Tentative Schedule**

This is the tentative schedule – instructor reserves the right to change dates throughout the semester. Specific homework will be assigned in class.

| **Week** | **Sections** |
| --- | --- |
| 26 Aug | Introductions  1.1, 1.2 |
| 2 Sep | 1.3, 1.4, 1.5 |
| 9 Sep | 1.6, 1.7, 1.8  9 Sep: Last day to drop class and partial tuition refund |
| 16 Sep | 2.1, 2.2, 2.4, 2.6 |
| 23 Sep | 3.1, 3.2 |
| 30 Sep | 3.3, 4.1, 4.2, 4.3 |
| 7 Oct | 4.4, 4.5, 4.6 |
| 14 Oct | **Mid-term Exam 17 Oct** |
| 21 Oct | 21 Oct: Mid-term grades due  22 Oct: Reading Day  5.1, 5.4, 5.5 |
| 28 Oct | 6.1, 6.2, 6.3, 6.5 |
| 4 Nov | 6.6, 8.1,  5 Nov is the last day to withdraw |
| 11 Nov | 8.3, 9.2 |
| 18 Nov | 10.1, 10.3 (adjacency matrix only) |
| 25 Nov | **Final Exam 26 Nov**  27 Nov: Thanksgiving Break |
| 2 Dec | Project and Presentation Development |
| 9 Dec | Project Presentations |