

## Course Description

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

## Course Outcomes

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

## Text

Discrete Mathematics and Its Applications, 7th edition by Kenneth H Rosen  
ISBN: 9780073383095

[http://www2.fiit.stuba.sk/~kvasnicka/Mathematics%20for%20Informatics/Rosen\\_Discrete\\_Mathematics\\_and\\_Its\\_Applications\\_7th\\_Edition.pdf](http://www2.fiit.stuba.sk/~kvasnicka/Mathematics%20for%20Informatics/Rosen_Discrete_Mathematics_and_Its_Applications_7th_Edition.pdf)

## BlackBoard

All students are required to monitor the Blackboard site for announcements, class material postings, and updates to the schedule. Grades will be posted on Blackboard. Students are required to participate and contribute in discussion threads as applicable. Frequent, positive contributions to the discussion board will be credited to the participation assessment.

## Attendance

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

The exams and project presentations will be scheduled and announced prior to being administered. Graded exercises missed without prior approval of the instructor will receive a zero. Any late assignments will receive a reduced grade based on discussion with the instructor.

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## Grading

Course grade will be based on assessment in the following areas:

- Homework – 25%
- Mid-term Exam – 20%
- Final Exam – 25%
- Project – 20%
- Class participation – 10%

## Plagiarism and Academic Honesty

At Three Rivers, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

IF IN DOUBT, ASK.

Professionalism and respect is 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 (after class or by appointment)

## Calculator Policy

A scientific or graphing calculator is allowed for all exams, quizzes, and homework as long as the calculator cannot do algebraic manipulation (For instance a TI-84 or equivalent or lower is an acceptable calculator). You may **not** use a tablet, phone, or computer as a calculator. Using these devices on an exam may result in your exam receiving a grade of 0.

## Schedule

Week	Sections
28 Aug	Introductions 1.1, 1.2
4 Sep	1.3, 1.4, 1.5, 1.6
11 Sep	1.7, 1.8
18 Sep	2.1, 2.2, 2.4, 2.6
25 Sep	3.1, 3.2
2 Oct	3.3, 4.1, 4.2, 4.3
9 Oct	4.4, 4.5, 4.6

Week	Sections
16 Oct	<b>Mid-term Exam</b> 17 Oct is a Reading Day
23 Oct	5.1, 5.4, 5.5
30 Oct	6.1, 6.2, 6.3, 6.5
6 Nov	6.6, 8.1, 8.3, 9.2 7 Nov is the last day to select pass/fail option
<b>13 Nov</b>	10.1, 10.3 (adjacency matrix only),
20 Nov	10.5, 10.6 No class 23 Nov - Thanksgiving Break
27 Nov	<b>Final Exam 21 Nov</b>
4 Dec	Project and Presentation Development
11 Dec	Project Presentations

### Disabilities

Three Rivers Community College welcomes students with disabilities. Services for students with disabilities are coordinated through the Counseling Center. In accordance with federal law, students with documented disabilities may request reasonable accommodations. Students are required to submit a Self Disclosure Form, provide documentation, and meet with a Disability Service Provider before the start of the semester, if possible. Please call the Counseling Center at (860) 215-9017 for more information.

### MyCommNet Alert Notification System

MyCommNet is a system that sends text messages and emails to anyone signed up in the event of a campus emergency. The system will also be used to deliver important information to students, faculty, and staff regarding weather-related class cancellations. The system delivers both email messages, and text messages over cellular phones to those individuals who are registered. To register, log on to your myCommnet account at <http://my.commnet.edu/> and follow the link to myCommnet Alert.

### Class Cancellation

Except under rapidly changing conditions, information on the status of day classes will be available and published by 6:30 AM and by 3:00 PM for evening classes starting at 5:00 PM and later.

The College's website will also have announcements regarding any delays, cancellations or closings. This information may be obtained by accessing the [www.threerivers.edu](http://www.threerivers.edu) home page.

**Board of Regents for Higher Education and Connecticut State Colleges and Universities  
Policy Regarding Sexual Misconduct Reporting, Support Services and Processes Policy:**

***Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner  
Violence on Campus:***

“The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring 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 Statement of Policy:***

“Title IX of the Education Amendments Act of 1972 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 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 educational programs and activities.”

Please Report Student Incidents to: Edward A. Derr, Student Diversity and Title IX Coordinator  
Admissions Welcome Center \* Office A116  
[574 New London Turnpike, Norwich CT 06360](#)  
860.215.9255 \* [EDerr@trcc.commnet.edu](mailto:EDerr@trcc.commnet.edu)