

# CISC 2210 – Introduction to Discrete Structures

## Syllabus, Prerequisite Courses, and Resources

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TR11: 11:00am–12:15pm

TR2: 2:15pm–3:30pm

<http://www.sci.brooklyn.cuny.edu/~amotz/discretemath.html>

**Scope:** CISC 2210 is required for the major and introduces important mathematics frequently used in computer science.

**Syllabus:** Proofs; Sets; Logic; Induction; Recursion; Counting; Combinatorics; Probability; Algorithms; Graphs; Number Theory.

### Prerequisite courses:

- Computer and Information Science 1.10, or 1.20, or 1110 [1.5], or 1115, or both of 1113 and 1114, or 1170, or 1180, or 1215.
- Mathematics 1011 [2.9] or 1012 or 2.92 or assignment to Mathematics 3.20, 1201 [3.3], or 4.10 by the Dept. of Mathematics.

### Books:

- A book with an online tutorial (see below): “Discrete Mathematics An Open Introduction,” by Oscar Levin (3rd Edition).  
– <http://discrete.openmathbooks.org/pdfs/dmoi-tablet.pdf>
- A “good fit to this course” text book: “Discrete Mathematics for Computer Science,” by Bogart, and Stein. and Drysdale.  
– [https://www.google.com/books/edition/Discrete\\_Mathematics\\_for\\_Computer\\_Science/N-tyQgAACAAJ?hl=en](https://www.google.com/books/edition/Discrete_Mathematics_for_Computer_Science/N-tyQgAACAAJ?hl=en)
- A “popular” BC-CIS text book: “Discrete Mathematics and its Applications,” by Kenneth H. Rosen (any edition).  
– <https://www.mheducation.com/highered/product/discrete-mathematics-applications-rosen/M9781259676512.html>
- A free online book:  
– <https://richardhammack.github.io/DiscreteWSP/>
- A book with Problems and Solutions by Schaum:  
– <https://quizlet.com/explanations/textbook-solutions/schaums-outline-of-discrete-mathematics-3rd-edition-9780071511018>
- An in-depth and advanced book from MIT:  
– <https://courses.csail.mit.edu/6.042/spring18/mcs.pdf>
- A list of books on “Discrete mathematics for Computer Science” from Google:  
– [https://www.google.com/search?q=list+of+books+on+discrete+mathematics+for+computer+science&rlz=1C1CHEF\\_enUS762US762&source=univ&tbm=shop&tbo=u&sa=X&ved=0ahUKEwiEk5HHiKdfAhUIm-AKHVYIAGgQsxlzAE](https://www.google.com/search?q=list+of+books+on+discrete+mathematics+for+computer+science&rlz=1C1CHEF_enUS762US762&source=univ&tbm=shop&tbo=u&sa=X&ved=0ahUKEwiEk5HHiKdfAhUIm-AKHVYIAGgQsxlzAE)

### Online Resources:

- Text tutorial: “Discrete Mathematics An Open Introduction” by Oscar Levin:  
– <http://discrete.openmathbooks.org/dmoi2/frontmatter.html>
- Text tutorial: “Discrete Mathematics Tutorial” by tutorialspoint:  
– [https://www.tutorialspoint.com/discrete\\_mathematics/index.htm](https://www.tutorialspoint.com/discrete_mathematics/index.htm)
- Introduction to Higher Mathematics (First 12 of the 19 video lectures):  
– [https://www.youtube.com/playlist?list=PLZzHxk\\_TPOSTgPtqRZ6KzmkUQBQ8TSWVX](https://www.youtube.com/playlist?list=PLZzHxk_TPOSTgPtqRZ6KzmkUQBQ8TSWVX)
- Trevtutor: Discrete Math 1 and Discrete Math 2 (video lectures and exercise sessions):
  - Part 1: <https://www.youtube.com/playlist?list=PLDDGPdw7e6Ag1EIznZ-m-qXu4XX3A0cIz>
  - Part 2: [https://www.youtube.com/playlist?list=PLDDGPdw7e6Aj0amDsYInT\\_8p6xTSTGE12](https://www.youtube.com/playlist?list=PLDDGPdw7e6Aj0amDsYInT_8p6xTSTGE12)