

Basic Concepts in Mathematics I (数学通論 I)

Textbook and References

“Mathematical Proofs, A Transition to Advanced Mathematics, Second Edition” by Gary Chartrand, Albert D. Polimeni, Ping Zhang, Pearson International Edition (ISBN13: 978-0-321-52673-1, ISBN10: 0-321-52673-2, 2008)

For other references, please refer to the list in BCMI homepage at subsite.

Schedule

DATE	TITLE	ASSIGNMENTS
April 11	1. Sets 2. Logic (2 periods) Recitation 1 (1 period), Chapter 1	Read Chapters 0, 1, 2 1.31, 33, 47, 49, 53, 2.5, 13, 19, 27, 51
April 18	3. Direct Proof and Proof by Contrapositive Recitation 2, Chapters 1 and 2	Read Chapters 3, 4 3.3, 11, 15, 25, 27, 4.3, 15, 25, 27, 45
April 25	4. Existence and Proof by Contradiction Recitation 3, Chapters 3 and 4	Read Chapters 5, 6 5.11, 17, 23, 29, 35, 6.1, 5, 11, 13, 17
May 2	5. Mathematical Induction Recitation 4, Chapters 5 and 6	Read Chapters 6, 7 6.19, 23, 33, 35, 37, 7.7, 29, 57, 65, 67
May 9	6. Equivalence Relations Recitation 5, Chapters 6 and 7	Read Chapter 8 8.1, 5, 17, 23, 29, 35, 41, & 3 other odd in 1-41
May 16	7. Functions Recitation 6, Chapter 8	Read Chapter 9 9.5, 15, 17, 19, 21, 23, 29, 35, 37, 39
May 23	8. Cardinality of Sets (i) Recitation 7, Chapter 9	Read Chapter 10 10.1, 3, 5, 7, 9, 11, 17, 19, 23, 25
May 30	9. Cardinality of Sets (ii) Recitation 8, Chapter 10	Extra Reading Extra Problems of Cardinality
June 6	10. Proofs in Number Theory Recitation 9, Extra Problems of Cardinality	Read Chapter 11 11.1, 9, 11, 13, 15, 25, 26, 27, 29, 47
June 13	11. Review Recitation 10, Chapter 11	Read Chapters 10 and 11

All assignments are, in principle, due next Monday at 1:00 p.m. Please submit your homework in No.11 of Report Box in front of Science Hall N201.

The BCMM I final will be given during the term exam week. The schedule above is subject to change.

Grading Policy

1. Recitation — 30%: by assignment, volunteer welcom.
2. Homework — 20%: See above. The other homework will be announced later.
3. Final Examination — 50%

Home Page

1. <http://subsite.icu.ac.jp/people/hsuzuki/science/class/bcmm1/>
Schedule, references, old quizzes, old finals, old midterms and their solutions, and much more.
2. Moodle (<http://olcs.icu.ac.jp/moodle/>) will be used (Enrollment Key: BCMI2012)
Handouts, responses to comment sheet, BBS for questions and communication, and other information.