VIETNAM GENERAL CONFEDERATION OF LABOUR
TON DUC THANG UNIVERSITY

Faculty of Information Technology
Department of Computational Intelligence

DISCRETE STRUCTURES
501044

ThS. Phạm Ngọc Nam

INTRODUCTION

DISCRETE STRUCTURES
501044

COURSE DESCRIPTION

- Module's name: Discrete Structures
- Code: 501044
- Modular Credits: 4 (3.1)
- Prerequisite: None
- Lecturers:

COURSE OBJECTIVES

- Provide students basic knowledge of mathematic: Logic and proof techniques, Relations and Functions, Mathematical formulation of data models (linear model, trees, graphs), Counting and Combinatoric.

- Provide students understanding mathematical tools required in the study of computer science

LEARNING OUTCOMES

- Understanding knowledge of Mathematical concepts: Logic, Statement, Relations, Sets, Counting, Trees and Graphs...

- Ability to analyze basic (or more complex) Special problems of mathematic.

- Ability to apply analyzing skills in practical problems

SYLLABUS OUTLINE

Chapter 1: Propositional Logic

Chapter 2: Predicate Logic

Chapter 3: Methods of Proof

Chapter 4: Number Theory

Chapter 5: Sequences

Chapter 6: Recurrences and recursion

SYLLABUS OUTLINE(Cont.)

Chapter 7: Sets

Chapter 8: Functions

Chapter 9: Relations
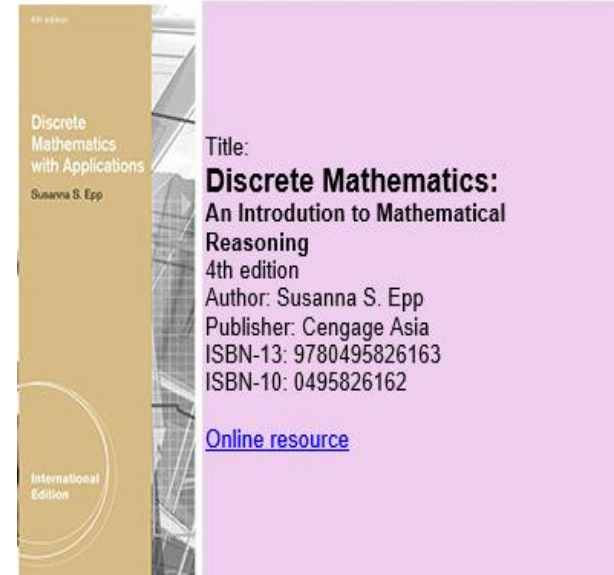
Chapter 11: Infinite Set
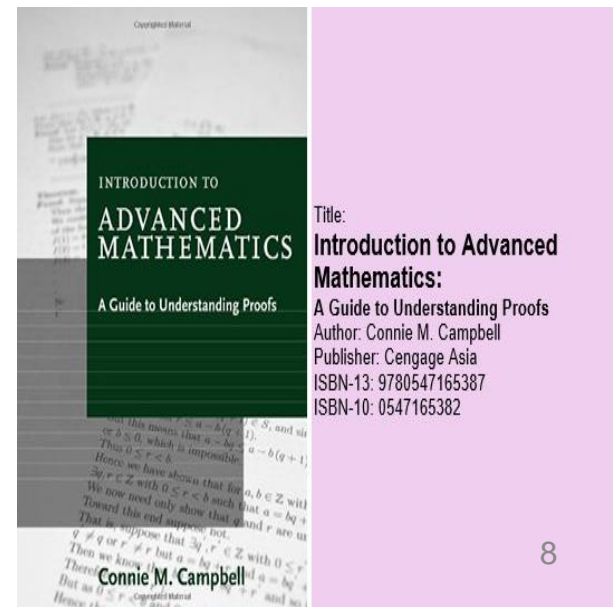
Chapter 12: Counting

Chapter 13: Graphs

Chapter 14: Trees

TEXTBOOKS & REFERENCES

[1] Susanna S.Epp, [2011], Discrete Mathematics with applications, 4th edition, Brooks Cole

Title:
Discrete Mathematics:
An Introdution to Mathematical Reasoning
4th edition
Author: Susanna S. Epp
Publisher: Cengage Asia
ISBN-13: 9780495826163
ISBN-10: 0495826162

Online resource

[2] Connie M. Campbell, [2012], Introduction to Advanced Mathematics a Guide to Understanding Proofs, 1st edition, Brooks Cole.

Title:
Introduction to Advanced Mathematics:
A Guide to Understanding Proofs
Author: Connie M. Campbell
Publisher: Cengage Asia
ISBN-13: 9780547165387
ISBN-10: 0547165382

TEXTBOOKS & REFERENCES

[3] Kenneth H. Rosen, [1999], Discrete mathematics and its applications, 7th edition, McGraw-Hill Education.

[4] R. P. Grimaldi, [2004], Discrete and Combinatorial Mathematics an Applied Introduction, 5th edition, Pearson.

[5] Rowan. Garnier and John. Taylor, [2002], Discrete Mathematics for New Technology, 2nd Edition, Taylor & Francis.

COURSE MATERIALS

You can find all lectures, tutorials, labs and solutions on Sakai:

sakai.it.tdt.edu.vn

GRADING POLICY

- Tutorials and labs will start in week 3

ASSESSMENT:

- Labs : 10%
- Mid-term exam: 20%
- Projects / Assignments: 20%
- Final exam: 50%

Q&A