

Introduction

Discrete Mathematics

Ms.c Nguyen Thi Huong
Faculty of Information Technology
Hanoi University
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The module description

- For students
 - Learning plan (topics, agenda, assessments)
 - For instructors
 - Teaching plan
 - For FIT
 - Quality assurance
 - Available at FIT E-learning website
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Learning Objectives

- To understand the fundamental ideas in computer science
 - Towards solid foundation of IT, IS, SE, CS
- To have teamwork, presentation, self-study skills
 - Towards soft-skills
- To develop strict discipline
 - Towards soft-skills
- To develop self-motivation and time management skills
 - Towards entrepreneurship

Module Delivery

- 12 Weeks
 - Lectures
 - 12 topics
 - 7404D_2
 - Tutorials
 - In class discussion
 - In class presentation
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Assessment

- Attendance 10%
 - Discussion 10%
 - Midterm 20%
 - Final Exam 60%
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Attendance (5%)

- Students must participate in at least 80% of classes to get full mark for attendance. The algorithm can be described as follows:

Switch absence

Case ≤ 4 : attendance = 5;

Case 5,6: attendance = 4;

Case 7: attendance = 3;

Otherwise: attendance = 0; call `retake_the_course()`

End switch

Discussion (5%)

- In tutorial classes.
 - List of problems is released before class.
 - Students have to show their answers.
 - Students have to answer questions.
 - Students have to submit their answers before tutorial classes.
 - If your discussion mark is maximum, then bonus mark will be applied.
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Discussion (10%)

- There are 12 problem sets in tutorial classes.
 - Each small group (2-3 students) will present to get discussion mark on tutorial class.
 - All groups must be submit at least 80% homework before tutorial class.
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Midterm & Final Exam

- Midterm

- ☐ Week 7
- ☐ Paper based.
- ☐ 20%

- Final Exam

- ☐ After week 12
 - ☐ Paper based.
 - ☐ Closed book.
 - ☐ 60%
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Pass Criteria

- You are not qualified to take the final exam (both first and second) if one of the following happens:
 - Your attendance mark is zero.
 - Internal mark is less than 20% of the overall grade
 - To obtain a grade of pass or higher in this unit student must score 5 or more at Final Exam.
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List of topics

- Discrete Mathematics
 - Statements & Propositions
 - Method of Proofs & Induction
 - Set Theory & Groups, Rings, Fields
 - Modular Arithmetic
 - Polynomials
 - Error Correcting Codes
 - Graphs (3 parts)
 - Trees
 - Relations
 - Recent Advances

Academic Honesty and Misconduct

- Hanoi University expects all students and staff to act with honesty and integrity with all matters
 - Homework
 - Presentation (material)
 - Examination
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Learning resource

- Rosen, K.H, Discrete Mathematics and its Applications, 8th edition, McGraw-Hill, Inc., 2011
 - FIT E-learning: <http://fit.hanu.edu.vn>
 - MATLAB.
 - Google
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