Logic Synthesis and Verification

National Taiwan University, Fall 2024

Syllabus

September 3, 2024

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Course Webpage
https://cool.ntu.edu.tw/courses/42077
Course materials are available on the webpage.
Please look up the webpage frequently to stay updated.

Email Communication
Your NTU email accounts will be used for communication.

Grading Policies
30% Homework
10% Programming assignments
25% Midterm
5% Final quiz
30% Project

No plagiarism!

Homework

- Six homework assignments with peer-reviewed grading.
- Discussions are encouraged, but solutions should be written down independently.

- Solutions are usually due one week after the problem set is announced (the due date will be specified with a problem set).
- Late homework is subject to downgrading (20% off per day delay).

Midterm and Final Quiz

Exams are in class. (Note that exam dates might differ from the university schedule.)

Project

Presentation and report are expected.

Tentative Course Outline

Week	Date	Topic	Assignment
01	09/03	Introduction; ABC Tutorial	PA1
02	09/10	Boolean Algebra	HW1
			project announcement
03	09/17	Mid-Autumn Festival	
04	09/24	Representations of Boolean Functions (1/2)	
05	10/01	Representations of Boolean Functions (2/2)	HW2
06	10/08	SOPs and Incompletely Specified Functions	project decision
07	10/15	Two-level Logic Minimization	HW3
08	10/22	Midterm Exam	PA2
09	10/29	Multi-level Logic Minimization (1/2)	
10	11/05	Multi-level Logic Minimization (2/2)	HW4
11	11/12	Don't Cares and Logic Flexibility	
12	11/19	Technology Mapping	HW5
13	11/26	Timing Analysis and Optimization	
14	12/03	Sequential Circuit Optimization	HW6
15	12/10	Equivalence and Property Checking	
16	12/17	Final Quiz; Project Presentation	
17	12/24	Project Presentation	