



# Orientation to CS2351-2023

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# About Instructor

陳宜欣 Yi-Shin Chen

## ■ Currently

- Professor at NTHU CS
- Director of IDEA Lab
- Leader for MOE Artificial Intelligence Talent Cultivation Project – Subproject 1: AI Techniques and Applied Courses
- Chair of International Bachelor Degree Program of NTHU
- Director of International Master Program of ISA

## ■ Courses (*all in English*)

- Logical Thinking of Informatics
- Data Structures
- Data Mining: Concepts, Techniques, and Applications
- Advanced Database Systems
- Research and Presentation Skills

# About Teaching Assistants

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Ricky Hsu  
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# Course Objectives

- This course provides a solid training for understanding various data structures, which can be considered as essential building blocks in modern computer science.
- The concepts covered in this course include:
  - Introduction to Algorithm
  - Arrays
  - Stacks and Queues
  - Linked lists
  - Trees
  - Graphs
  - Sorting
  - Hashing
  - And other advanced topics

# General Information

- Lectures:
  - Mondays 10:00-12:00PM
  - Wednesdays 9:00PM-10:00PM
- Lab and Quiz time:
  - Mondays 18:30-20:30PM
- The course web page is located
  - <http://www.cs.nthu.edu.tw/~yishin/courses/CS2351/CS2351-2023.html>
- Locations, simultaneously in
  - Delta Building 105 (Main classroom)
  - Delta Building 107
  - Delta Building 104
  - Microsoft Teams

# Reading Materials

## ■ Text Book:

- Fundamentals of Data Structures in C++, 2nd ed., by Horowitz et al.

## ■ Additional Reading:

- Check course group website regularly

## ■ Handouts:

- Will be available at least one day before the class

# Activities

- Orientation quiz for deciding the grading policy
  - Should taken before 3/1/2023
- Several previewing quizzes
- Five assignments
  - Pick the highest four
- Five Online Judge quizzes
  - Pick the highest four
- Two closed-book exams
  - You can bring one A4 page paper

# Grading Policies

- Who fails orientation quiz should come to class on time
  - Or receives 3% deduction for every late record
- Policy:
  - Online judge exams : 20%
  - Preview quizzes: 10%
  - Assignments: 20%
  - Two exams: 45%
  - Participation: 5%



# Offered in English

## ■ Why?

- The school asked for such courses

## ■ Obstacles:

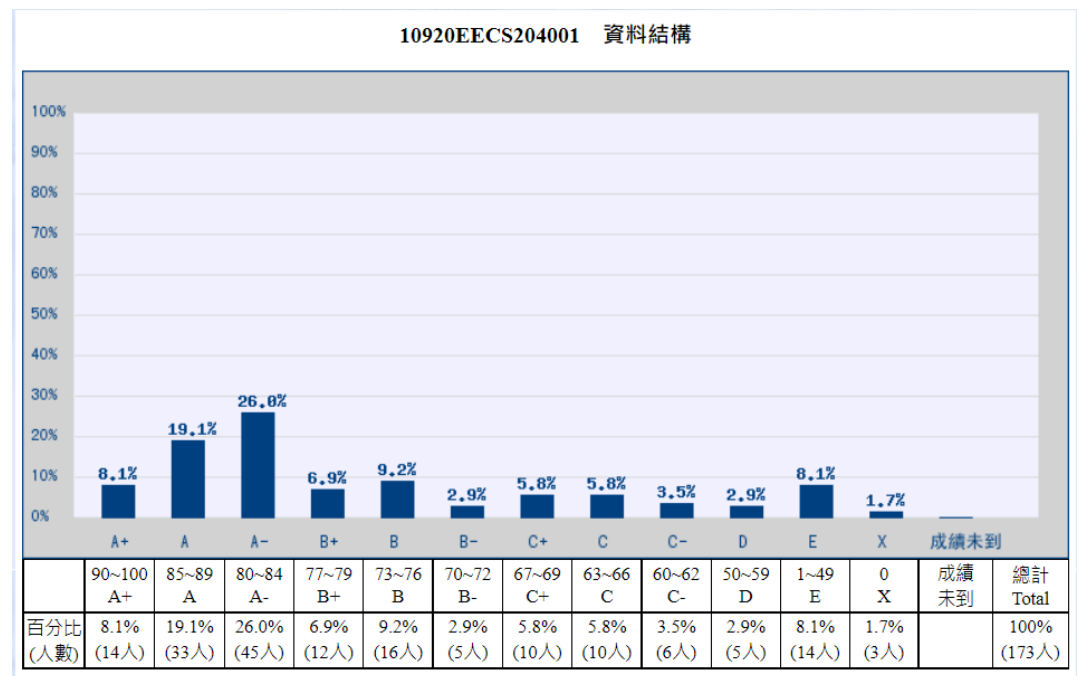
- Do you believe in yourself?
- Can you work hard?
- Can WE work together?

## ■ Why do we have the orientation quiz

- To understand yourself
- To know my accent (Can you get used to it?)
- To know how much we can improve

# Letter-based Grades

- Grades are transformed based on the grading distribution
- Each grading policy will be based on its corresponding grading distribution
  - A+: top 5 % and above 90
  - A: top 15 %
  - A-: Top 25%
  - B+: Top 40%
  - B: Top 55 %
  - B-: Top 70%
  - C+: Top 80%
  - C: Top 90%
  - C-: Original grades above 60
  - D/F: Lower Outlier



# Course Academic Integrity Policy

- Assignments should be written without referencing others' codes
- You are not allowed:
  - Copying all or part of someone else's (including any AI-model) work
  - Giving other students in the class a copy of your work
  - Consulting with others during an exam
- Students who violate this policy
  - In the quizzes/assignments: **negative credit**
  - In the exams: **final score will be ZERO**

# Schedule

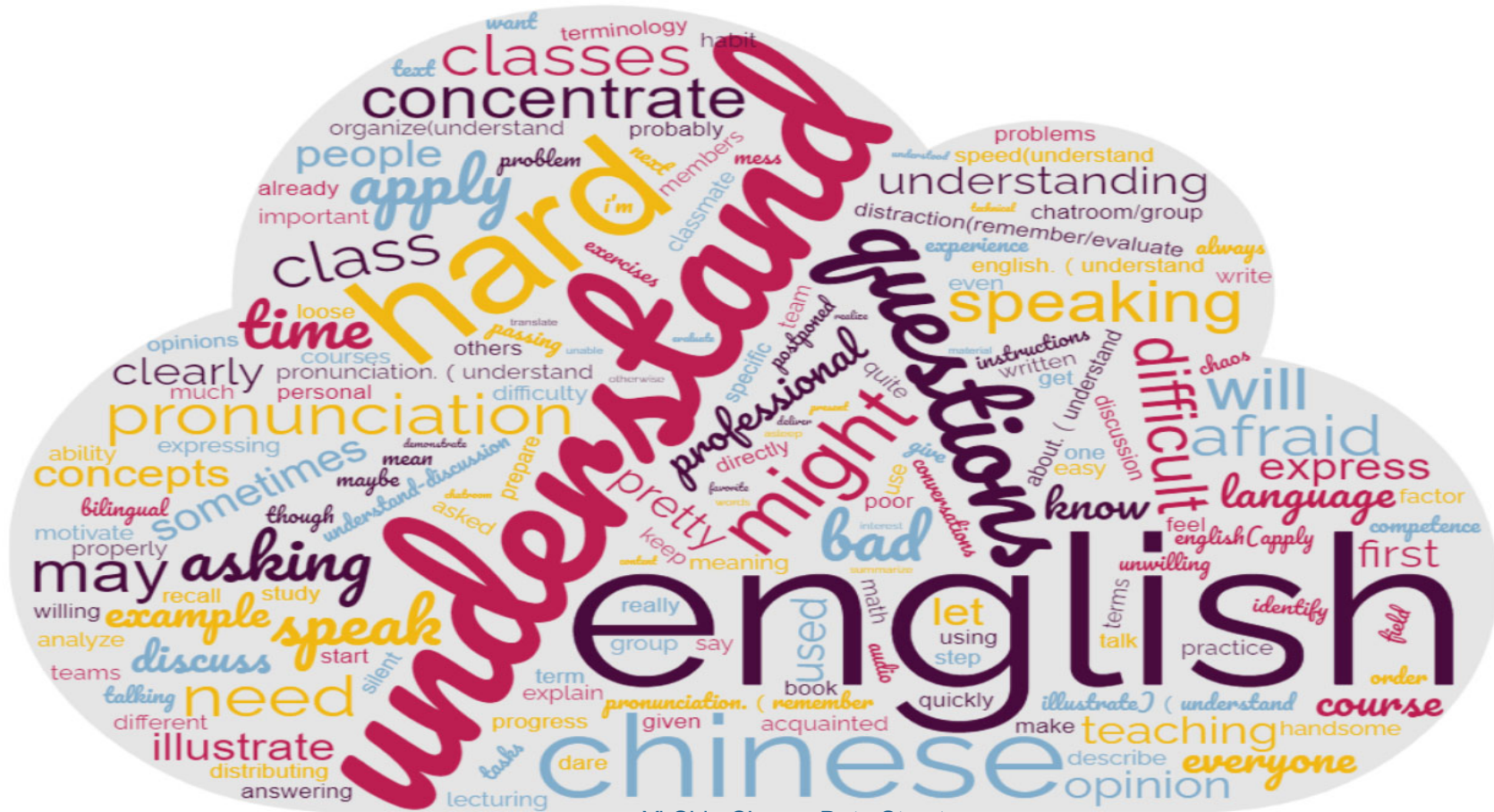
## ■ The dates without classes

Date	Reasons
2/27/2023	Holiday-228 Peace Memorial Day
4/3/2023	Holiday-Tomb Sweeping Festival and Children's Day
4/5/2023	Holiday-Tomb Sweeping Festival and Children's Day
4/19/2023	Break after Midterm Exam
6/7/2023	Break after Final Exam

A photograph of the interior of a dome, looking up at the ceiling. The ceiling is composed of many small, colorful stained glass panels in shades of red, blue, yellow, and green, arranged in a circular pattern. The walls of the dome are dark, and the overall lighting is dim, with the light from the stained glass panels illuminating the interior. The text "EMI Classes" is overlaid in the center of the image.

# EMI Classes

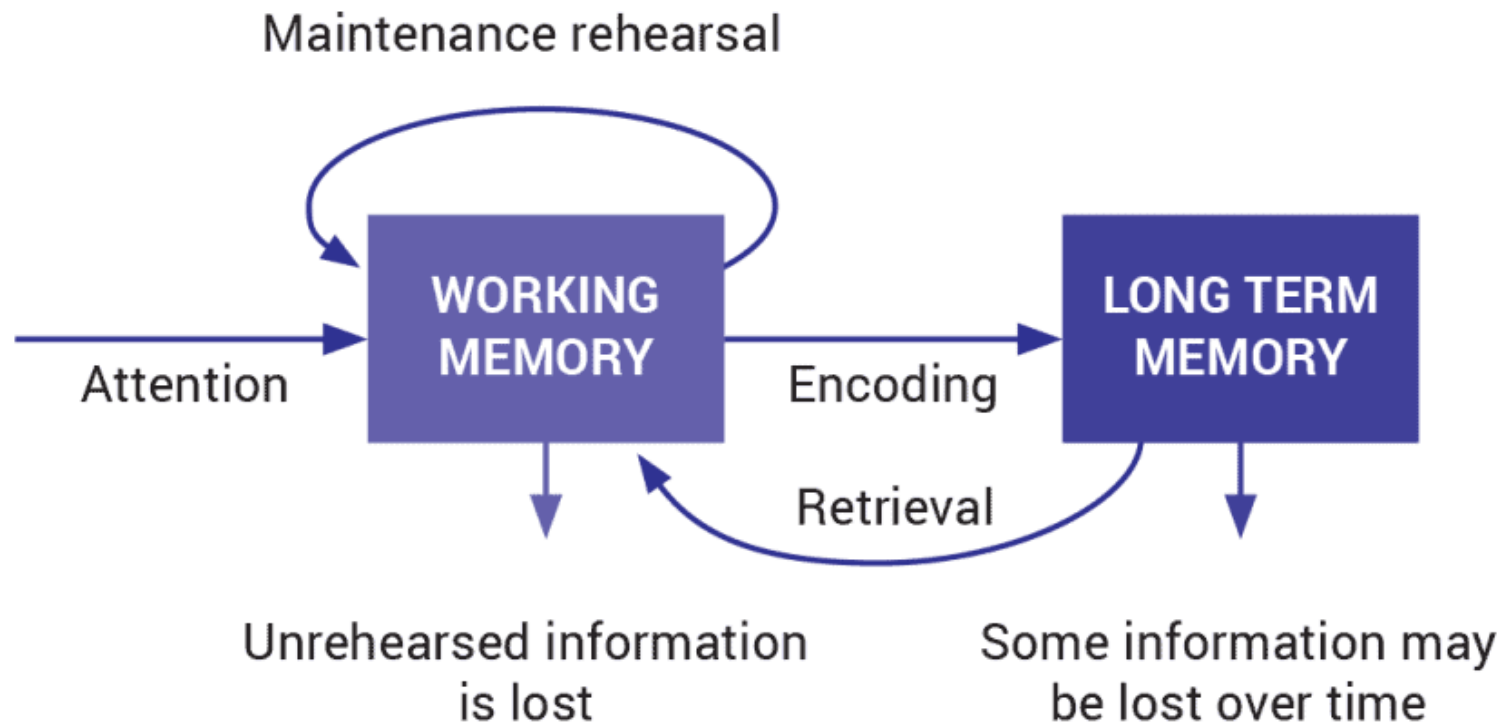
# Problems You Might Encounter in EMI Classes





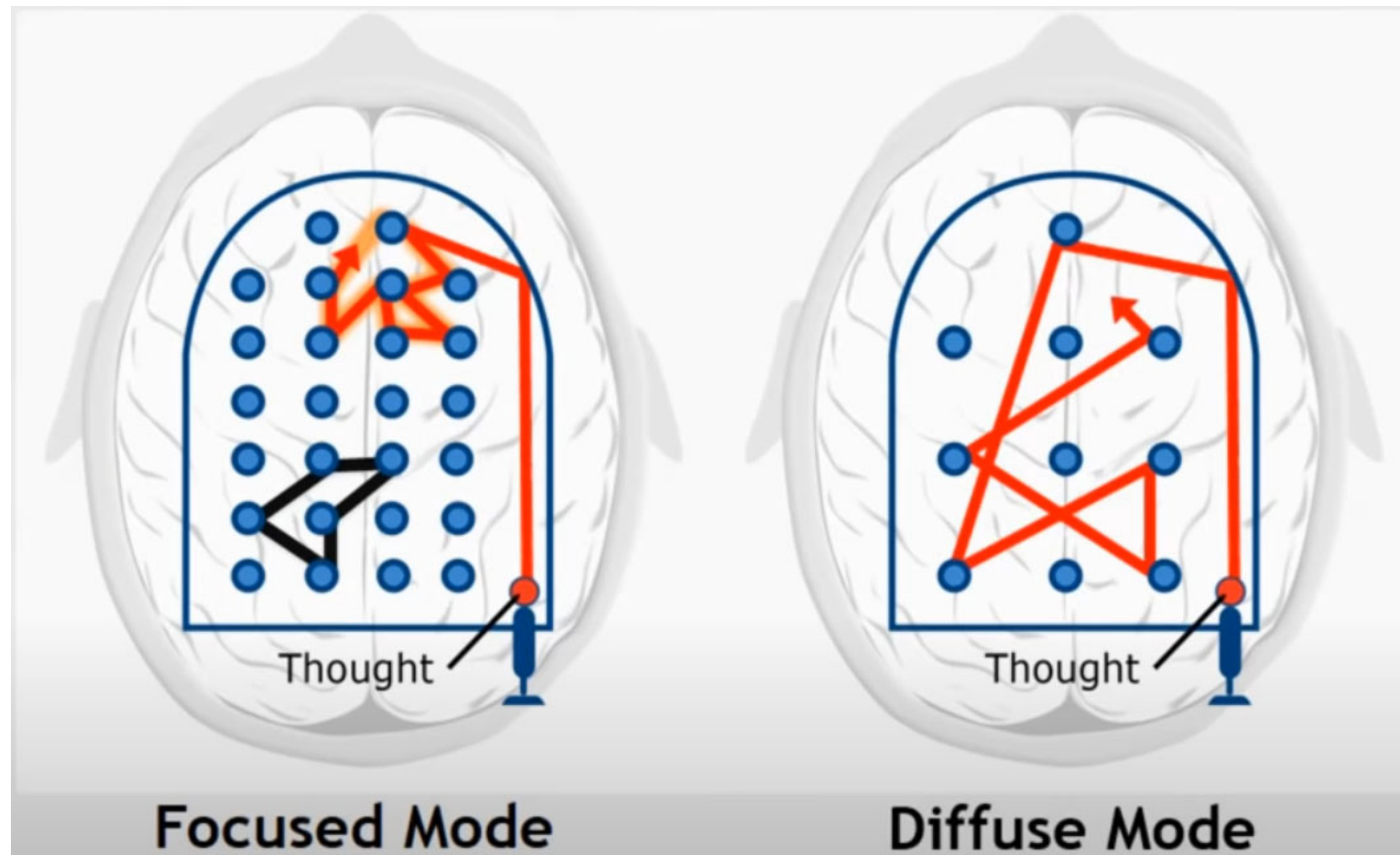
# Effective Learning in EMI

# Cognitive Load Theory





# Focused Attention vs. Diffuse Mode



Extracted from [Learning how to learn | Barbara Oakley | TEDxOaklandUniversity - YouTube](#)

Yi-Shin Chen -- Data Structures

# Quotes

- “The capacity to learn is a gift; the ability to learn is a skill; the willingness to learn is a choice.” – Brian Herbert
- “Learning is not the product of teaching. Learning is the product of the activity of learners.” – John Holt



# NTHU Mottos

Book of Changes

# NTHU Motto



- 天行健，君子以自強不息；地勢坤，君子以厚德載物
- The sky is healthy, the gentleman **always strives for self-improvement**; the terrain is good, the gentleman **carries his virtues**

# Schedule

Date	Topics	Assignment/ Quizzes
2/15, 2/20, 2/22	Introduction to Algorithm	2/20 Lab
3/1, 3/6	C++ Review	
3/8, 3/13	Arrays	3/6:Quiz0
3/15,3/20	Stacks & Queues	
3/22, 3/27, 3/29, 4/10	Linked Lists	3/26: HW1; 3/27: Quiz1
4/17	Midterm	
4/10, 4/12, 4/24, 4/26	Trees	4/9: HW2; 4/10: Quiz2

## Schedule (Contd.)

Date	Topics	Assignment/ Quizzes
5/1, 5/3, 5/8	Graphs	4/30: HW3 ; 5/1: Quiz3
5/10, 5/15, 5/17	Sorting	5/14: HW4; 5/15: Quiz4
5/22, 5/24	Hashing	5/28: HW5; 5/29: Quiz5
5/29, 5/31	Advanced Topics	
6/5	Final Exam	

# What Attitude/Virtues?

- 盡世所有樂，悉從利他生，
- 盡世所有苦，皆從自利起。
- 此何須繁說，凡愚作自利，
- 能仁行利他，觀此二差別。
- 若不能真換，自樂及他苦，
- 非僅不成佛，生死亦無樂。

- Do all the happiness in the world, live from altruism,
- All suffering in the world starts from self-interest.
- Why do you have to talk about it, if you are foolish and self-interested,
- Being able to do altruistic behaviors, observe these two differences.
- If you can't really change, self-joy and suffering,
- It's not just that you don't become a Buddha, but there is no happiness in life and death.

# Activities in Classes

- Some lectures
  - The lecture handouts are not complete
  - Each lecture is associated with several videos
    - You need to see them first
  - One quiz will be given at the each session
- Preview quizzes
- Many group discussions (with shared contents)
- One-minute personal reflections