



Parallel Programming

National Tsing Hua University
2019, Summer Semester

Instructor & TA Information

■ Instructor: 周志遠教授 (Jerry)

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■ TA: 尤立宇

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- Office/phone: 資電836 / 33538 (台灣)
- Office hour: email for appointment
- Lecture & Demo for Programming homework

Course Website

■ Website: <https://lms.nthu.edu.tw/course/40233>

- Announcement
- Materials (lecture/project slides)
- Discussion forums



The screenshot shows the NTHU iLMS interface. At the top, there's a navigation bar with links to LMS, Knowledge Community, My Home, and Logout. Below this, the course is identified as 'Parallel Programming' (課程: 平行程式Parallel Programming). The left sidebar contains various course functions like announcements, materials, discussions, and assessments. The main content area displays course information in a table format.

國立清華大學
iLMS數位學習平台

► LMS | 知識社群 | 我的首頁 | 登出(b14732)
English | Q&A | 線上人數:26

課程: 平行程式Parallel Programming ▼

瀏覽模式 [切換]
您現在的瀏覽模式為 [老師]

課程功能 [管理]
課程活動(公告)
上課教材
課堂整理
課程說明
課程行事曆
討論區
小組專區
隨堂筆記 (共享的筆記)
作業
問卷
線上測驗
出缺勤 (統計)
成員 (60)
成績計算
設定

最新討論

課程資訊 [報表]

位置: 平行程式Parallel Programming > 課程說明

課程資訊 ✓編輯

項目	內容
課程名稱	平行程式Parallel Programming (1021, 10210CS542200, 資工系, 碩士班)
閱讀權限	開放旁聽
課堂整理權限	不開放
老師	周志遠
助教	無
學分	3
課程大綱	<p>一、課程說明(Course Description) 熟悉平行程式語言及平行程式設計</p> <p>二、指定用書(Text Books)</p> <p>1. Parallel Programming – Techniques and applications Using Networked Workstations and Parallel Computers, Barry Wilkinson and Michael Allen, Prentice Hall, 1999.</p> <p>2. Parallel Programming in C with MPI and OpenMP, Michael J. Quinn, McGraw-Hill, 2003.</p> <p>3. Intel Multi-Core Programming</p> <p>三、參考書籍(References)</p> <p>1. Documentation (PVM, MPI, Cilk, Pthread, TreadMark, SAM).</p>

Course Contents

- Introduction to Parallel Computers and Computing
- Programming Languages
 - Message Passing Interface (MPI)
 - Thread Programming: Pthread
 - OpenMP
 - GPU Programming: CUDA
- Parallel Computing Algorithm & Techniques
 - Embarrassingly computing
 - Divide & Conquer
 - Pipeline 、 Synchronous computing
 - Load balancing

Grading Information

- 3 Programming Assignment: **82%, individually**
 - Parallel Odd-Even Transposition Sort (MPI): 25%
 - Mandelbrot Set (MPI + OpenMP, Pthread): 27%
 - Blocked All-Pairs Shortest Path (CUDA, Pthread) : 30%
- 6 Labs: **18%, individually**
- **0 will be given to cheater (copying code)**
 - but, discussion on code is encouraged
- **Any late submission is allowed**
 - But 3 days will be given for correction after demo

Course Agenda & Classroom Location

Date	Time	Topic	Location	Time	Topic	Location
7/2	9:00~12:00	Lecture1	六教6A207	13:30~16:00	Lab1	東主樓9區223室
7/3	9:00~12:00	Lecture2	六教6A207	13:30~16:00	Lab2	東主樓9區223室
7/4	9:00~12:00	Lecture3	六教6A207	13:30~16:00	Lab3	東主樓9區223室
7/9	9:00~12:00	Lecture4	六教6A207	13:30~16:00	TA Session	東主樓9區223室
7/10	9:00~12:00	HW1 Demo	東主樓9區 223室	13:30~16:30	HW1 Demo	東主樓9區223室
7/11	9:00~12:00	Lecture5	六教6A207	13:30~16:00	Lab4	東主樓9區223室
7/18	13:30~16:30	Lecture6	台達館105	19:00~22:00	HW2 Demo	資電館836
7/22	9:00~12:00	Lecture7	台達館105	13:30~16:00	Lab5	資電館323
7/23	9:00~12:00	Lecture8	台達館105	13:30~16:00	Lab6	資電館323
7/25	10:00~12:00	TA session	資電館836	13:30~16:30	Lecture9	台達館105
7/30				13:30~16:30	HW3 Demo	資電館836
8/1	10:00~12:00	TA Session	台達館105			

Reminder

- It will be in a FAST pace
 - **5 weeks** to cover the load of a whole semester
 - Learn by **doing**
- It will be dynamic
 - Pay attention to the announcement for the time of our **lectures, labs, and demo**
 - In principal, **morning session 9am-noon, afternoon session 1:30pm-4:30pm**
 - **Detailed agenda will be announced on iLMS**