National Tsing Hua University
College of Technology Management
Course Syllabus

科號 Course Number	MPM501100	學分 Credit	3	人數限制 Size of Limit	40
中文名稱 Course Title	大數據與政策專題				
英文名稱 Course English Title	Topics in Big Data and Policy				
任課教師 Instructor	莊彗玲、祁玉蘭、吳世英、林世昌				
教師聯絡方式 Contact Information	slin@mx.nthu.edu.tw				
上課時間 Time	Saturday evening	上課教室 Room	TBA		
先修科目 Prerequisite(s)	MPM 5011				

本課程對應之學習目標與核心能力 Aligned Learning Goals and Learning Objectives

We have entered the era of Big Data in recent years. Big Data has been taken as the savior to troubling business and there are tons of magic applications throughout the private sector. However, the public sector has also been influenced this trend and using Big Data to change the way in which public policy is made. Students will get to know the definition of Big Data and learn how it is utilized to help public policy decision making.

課程目標 Course Objectives

Policy-making takes place in an increasingly rich data environment. MPM students will understand the Big Data analytics and its application on public policy. We will also pose both promises and threats to policy-makers.

課程說明 Course Description

This course will introduce the basic idea of Big Data and its general applications in the private sector. Government has also strived to mitigate fraud, in law enforcement to predict future crimes, in education to improve academic performance, and in infrastructure to monitor the city's usage of precious resources through data mining and other Big Data analytics. We then focus on the public policy discussion and provide Big Data empirical examples adapted from different disciplines/ areas (e.g., taxation, industry, trade, environment, education, and labor), which will be discussed in detail.

指定用書 Textbooks

Lecture notes
TBA

參考書籍 References

TBA

教學方式 Teaching Approach

Invited speakers
Lectures
Class participation
Discussion

評分標準 Grading

[tentative and subject to change]
Participation, assignment, or presentation (term paper) required by each instructor

---

教學進度 Course Schedule

1. Introduction of the basic idea of Big Data
    1) Concepts of data (file, image, video etc)
    2) Concepts of database (relational/ non-relational)
    3) Concepts of AI, deep learning and blockchain

2. Application of the Big Data in Taxation
    1) 所得稅申報公務資料在公共政策的應用
    2) 大數據在租稅政策、福利政策和其他政策的應用
    3) 調查資料、公務資料與公共政策

3. Application of the Big Data in Industry Development
    1. 大數據與產業: Part I
    2. 大數據與產業: Part II
    3. 健康大數據之分析與應用 (預計邀請唐孟祺老師專題演講)

4. Application of the Big Data in Labor Market Policy
    1) 勞動大數據-常用勞動資料庫之簡介
    2) 勞動大數據之應用-失業率與失業保險
    3) 勞動大數據之應用-AI 與職場媒合

5. Application of the Big Data in Business
    1) Dealing with hands-on "huge" data
    2) Google tools introduction
    3) Some business applications

課程相關連接 Course Related Links