

科號 Course Number	HBA500900	學分 Credit	3	人數限制 Size of Limit	15			
中文名稱 Course Title	AI 與健康大數據							
英文名稱 Course English Title	Big Data Analytics in Healthcare							
任課教師 Instructor	簡禎富、桑慧敏、林世昌							
教師聯絡方式 Contact Information	slin@mx.nthu.edu.tw							
上課時間 Time	S2S3S4	上課教室 Room	428					
先修科目 Prerequisite(s)	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 healthcare has also been influenced this trend and using Big Data to change the way in which health policy is made. Students will get to know the definition of Big Data, related statistical tools, and learn how they are utilized to help health policy decision making.								
課程目標 Course Objectives	Policy-making takes place in an increasingly rich data environment. HBA students will understand the Big Data analytics and its application on health 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
<b>教學方式</b> Teaching Approach
Invited speakers Lectures Class participation Discussion
<b>評分標準</b> Grading
[tentative and subject to change] Participation, assignment, or presentation (term paper) required by each instructor
<b>教學進度</b> Course Schedule
<ol style="list-style-type: none"><li>1. Introduction of the basic idea of Big Data<ol style="list-style-type: none"><li>1) Concepts of data (file, image, video etc)</li><li>2) Concepts of database (relational/ non-relational)</li><li>3) Concepts of AI, deep learning and blockchain</li></ol></li><li>2. Analytical tools of health outcomes<ol style="list-style-type: none"><li>1) Review statistical/econometric concepts</li><li>2) Google tools introduction</li><li>3) Tools specific to health applications</li></ol></li><li>3. Application of the Big Data in general business<ol style="list-style-type: none"><li>1) Dealing with hands-on “huge” data</li><li>2) Some business applications</li></ol></li><li>4. Application of the Big Data in healthcare/health policy<ol style="list-style-type: none"><li>1) Evaluating health policy with artificial/real data</li><li>2) Interpreting empirical results and findings</li></ol></li></ol>
<b>課程相關連接</b> Course Related Links