國立中正大學企業管理研究所課程教學大綱
109 學年度第 2 學期

編　　號：5206213_01　　授課老師：黃正魁
科目名稱：大數據分析與管理專題研討　　研究室：管院 4563
英文譯名：Seminar on big data analysis and management
網站：http://140.123.169.58:88/　　電話：34319
修別 / 學分數：選修 / 3　　E-mail：bmahck@ccu.edu.tw

這是一門結合問題邏輯思考訓練、商業數據分析、電腦套裝軟體運用，進行了資訊技能與理論的結合，並且以授課老師協助許多企業輔導、產學合作實際解決問題的經驗，所規劃出來的課程，且也以管理人思維所設計出來的教材 (非資訊工程導向的教學)。修習完本課後，同學們將獲得實戰能力、動手做的一技之長，對未來職場、繼續自我學習與鬼殺職場惡人將有助益。

Instructional objective:

Big data recently becomes a popular interest, bringing the tremendous impact on the inside and outside of enterprises. There is no buzz word like big data, which is such popular after another buzz work, cloud computing. As is implied by its name, big data is data which is exceeding the processing capacity of traditional database systems. Among these data, we are able to employ data (business) analytics to discover unknown correlation, hidden patterns, and market trend. The origin of data is not only coming from the structured database of firms, but can be from unstructured data or outside datasets. Therefore, the way of data collection is not just from enterprises themselves, but can be from social network platforms, sensors of Internet of Things, and open data of governments. The term, big data, is probably originating from Silicon Graphics Inc. in 1998, in which John Mashey mentioned prominently. In 2010, big data received tremendous attention from managers and researchers, and the column of the New York Times in 2012, titled the age of big data, proclaimed the coming of the big data era. In this course, I will teach students who are interesting on understanding the big data from the analysis (technique) and management perspectives. They will not only learn how to analyze the data with the data mining algorithms and statistic approaches, but how to analyze the data significance from the business need.

Course introduction with YouTube video:

https://www.youtube.com/watch?v=saH9KV289CM

Syllabus:

The course is going to discuss the following topics for studying big data:

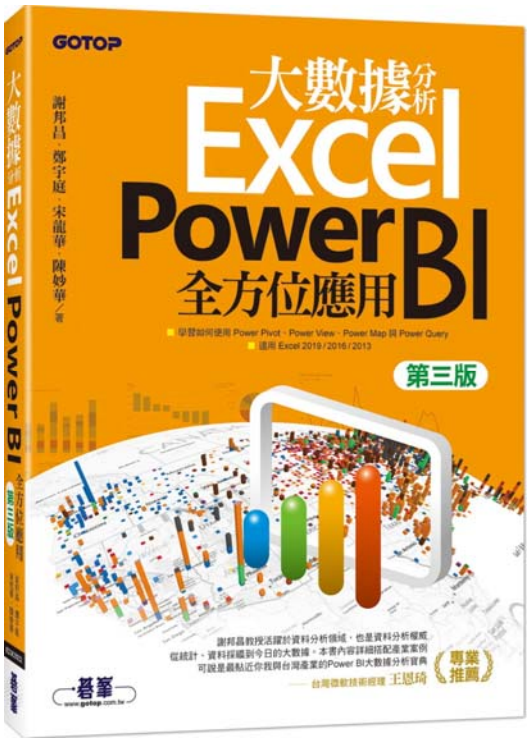
1. Introduction to big data
2. Introduction to machine learning
3. Visualization from the discovery of big data

4. How to manage data from the business perspective
5. Big data analysis in practice
6. Research papers with respect to big data and business analytics
7. Practice part 1: Information demonstration with Microsoft Excel Power BI
8. Practice part 2: data mining algorithms and statistic approaches with SPSS Clementine:
   (1) Association rules;
   (2) Classification;
   (3) Clustering;
   (4) Artificial neural network (Deep learning);
9. In addition, the expert(s) of big data will be invited to share their big data experience on this course.
10. We are going to have capstone projects for big data with enterprise cooperation to complete two assignments: (1) presentation for the study of practical issues and (2) draft of the study of practical issues.

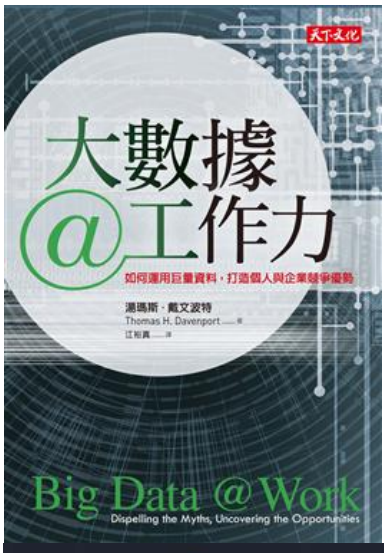
The grading breakdown of this course is as follows:

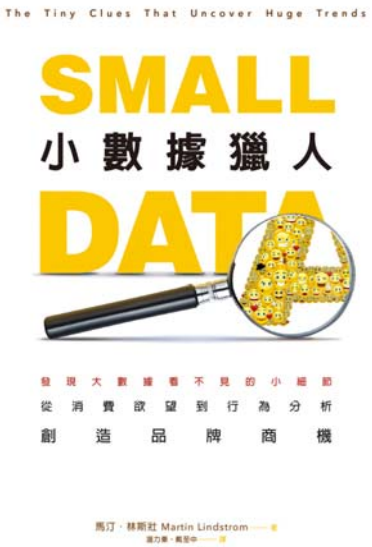
Class participation 10%, reflection of book reading 20% (see the list of reading books and choose one of them), Presentation for the study of practical issues + Draft 40%, final examination with watching documentary 30%

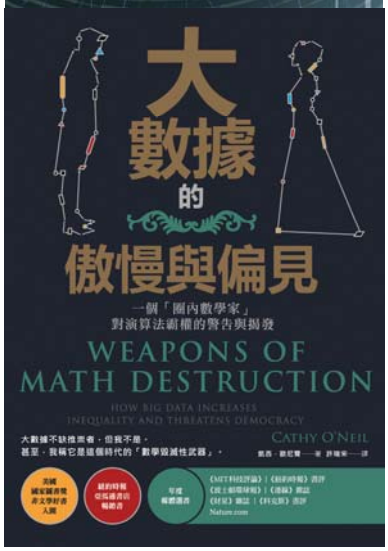
Textbooks:

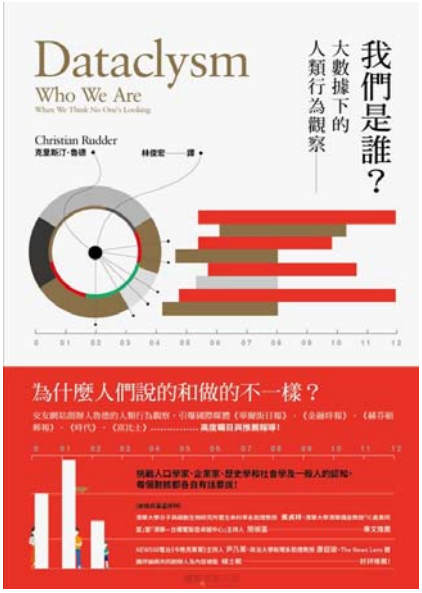


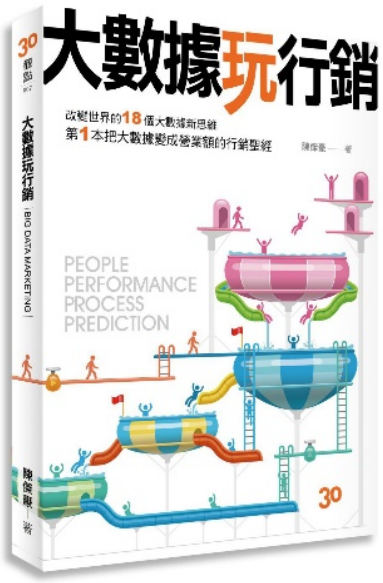
Reading books:

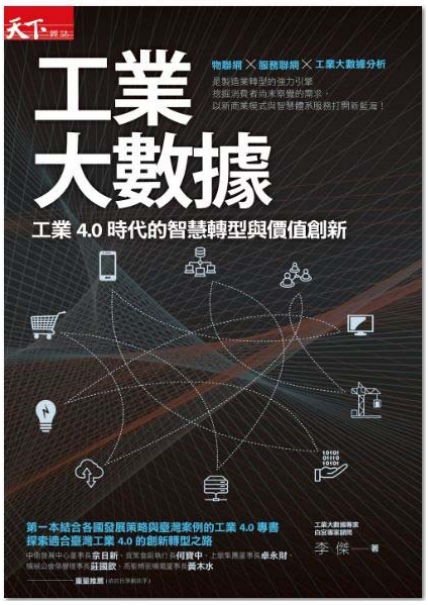









大數據玩行銷
改變世界的18個大數據奇思維
第1本把大數據變成營業額的行銷聖經
PEOPLE
PERFORMANCE
PROCESS
PREDICTION


工業大數據
工業 4.0 時代的智慧轉型與價值創新
物聯網×服務聯網×工業大數據分析

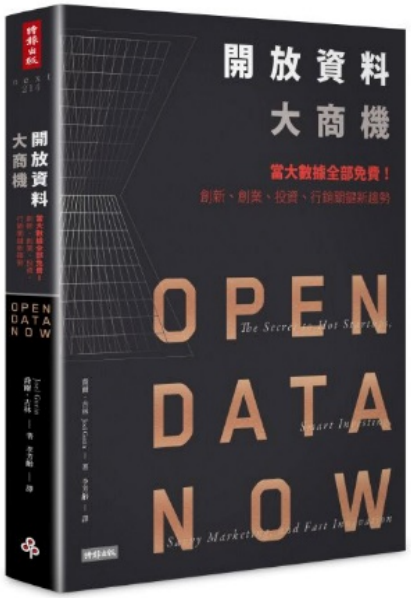

醫療大數據
Big Data and Health Analytics
Edited by
Katherine Marconi and Harold Lehmann


城田真琴
大數據的獲利模式
圖解・案例・策略・實戰
BIG DATA
ビッグデータの衝撃
分析現狀還不夠，預測未來更重要！


找出資料的價值、萃取可用的資訊，
就能將大數據化為商業智慧（BI）！
與其相信一個人的直覺，不如相信數千萬人的數據。
Facebook、Google、Amazon都在用的資料淘金術！


輕鬆搞懂
數字爆的料
不需統計背景，也能練就數據解讀力
Eureka!!
Keeping Up with the Quants
Your Guide to Understanding and Using Analytics


Competing on Analytics
魔鬼都在數據裡
成功獲利的秘密：檢視分析法
把紅海變藍海的世紀競爭策略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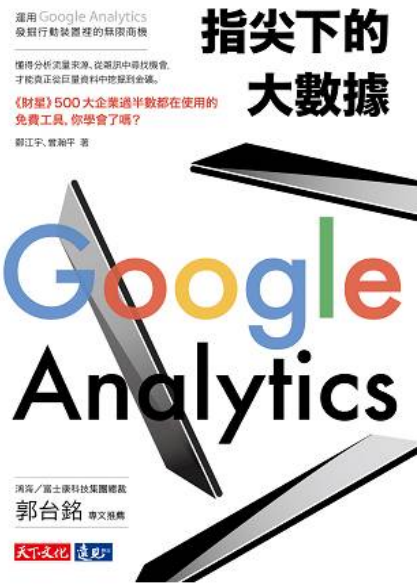
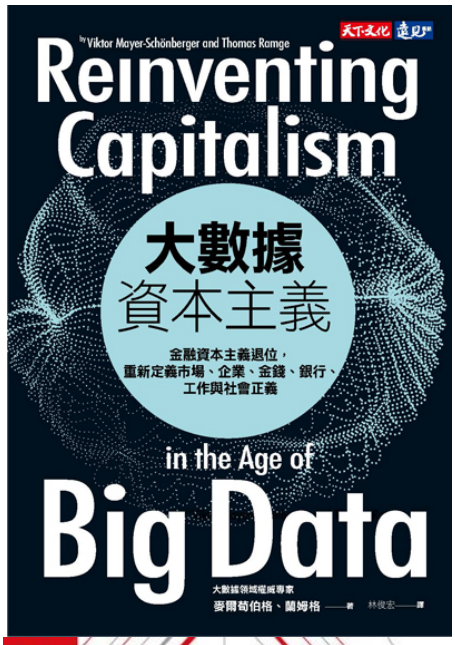

運用Google Analytics
發掘行動裝置裡的無限商機
指尖下的
大數據
《財星》500大企業過半數都在使用的
免費工具，你學會了嗎？
Google
Analytics
郭台銘 專文推薦


by Viktor Mayer-Schönberger and Thomas Ramge
Reinventing
Capitalism
大數據
資本主義
金融資本主義退位，
重新定義市場、企業、金錢、銀行、
工作與社會正義
in the Age of
Big Data


數據的
商戰策略
建立以數據驅動為核心的營運關鍵
從行動網路到5G時代，
企業欠缺的再也不是數據，
而是一套符合商業目標的大數據策略，實現數據變現。


增訂版
大數據的
關鍵思考
行動×多螢×碎片化時代的商業智慧
數據力決定競爭力！
進入數據驅動的商業世界，
「數據思考」是每個工作人的必備能力！
增訂3萬字全新內容，揭示大數據近未來的6大趨勢與5大觀戰重點

CLASS SCHEDULE

(Tentative and might be adjusted depending on the course progress)

Week	Date	Lecture Topic	Text	Reading	Case
1.	02/24	1. Introduction to the course 2. My course design idea of big data analysis and management is from the movie, Moneyball (Watch it to understand my reason!)		My slide Moneyball	
2.	03/03	Introduction to Microsoft Excel Power BI (1/5)		Textbook + My slide	
3.	03/10	Introduction to Microsoft Excel Power BI (2/5)		Textbook + My slide	
4.	03/17	Introduction to Microsoft Excel Power BI (3/5)		Textbook + My slide	
5.	03/24	Introduction to Microsoft Excel Power BI (4/5)		Textbook + My slide	
6.	03/31	Introduction to Microsoft Excel Power BI (5/5)		Textbook + My slide	
7.	04/07	No class (校際活動)			
8.	04/14	Overview of big data		My slide	
9.	04/21	Understanding business value of big data		My slide	
10.	04/28	How to manage data from the business perspective		My slide	
11.	05/05	Introduction to association rules and use SPSS Clementine		My slide	
12.	05/12	Introduction to classification and use SPSS Clementine		My slide	
13.	05/19	Introduction to clustering and use SPSS Clementine		My slide	
14.	05/26	Introduction to Artificial neural network (Deep learning) and use SPSS Clementine		My slide	
15.	06/02	Presentation for the study of practical issues			
16.	06/09	Presentation for the study of practical issues			

17.	06/16	Final examination with watching documentary			
18.	06/23	Will arrange a speech (Flexible arrangement)			

ASSURANC OF LEARNING

學習目標與目的

Learning Goal and Objective
目標 3: 研究能力-學生具進階研究能力 3.1 具進行進階研究所需之必備方法論知識 3.2 將方法論應用在主修研究領域

為配合教育部針對保護智慧財產權觀念之宣導，課程大綱內容請加註警語「請尊重智慧財產權，不得非法影印教師指定之教科書籍」。