

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	大数据管理与应用前沿讲堂 Lectures on the Frontiers of Big Data Management and Applications
2.	授课院系 Originating Department	商学院 School of Business
3.	课程编号 Course Code	EBA103
4.	课程学分 Credit Value	2
5.	课程类别 Course Type	专业选修课 Professional Elective Courses
6.	授课学期 Semester	春季 Spring
7.	授课语言 Teaching Language	中英双语 English & Chinese
8.	授课教师、所属学系、联系方式 (如属团队授课, 请列明其他授课教师) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	黄伟, 商学院, hw-feba@sustech.edu.cn 江俊毅, 商学院, jiangjy@sustech.edu.cn 何翹楚, 商学院, heqc@sustech.edu.cn 李少波, 商学院, lisb3@sustech.edu.cn 郭悦, 商学院, guoy@sustech.edu.cn 雷洋, 商学院, leiy@sustech.edu.cn 李媛媛, 商学院, liyy3@sustech.edu.cn 顾里一, 商学院, guly@sustech.edu.cn Moris Strub, 商学院, strub@sustech.edu.cn 叶茂亮, 商学院, maoliang.ye@xmu.edu.cn
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 NA
10.	选课人数限额(可不填) Maximum Enrolment (Optional)	

11. 授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
学时数 Credit Hours	32				32
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无 None				
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 None				
14. 其它要求修读本课程的学系 Cross-listing Dept.	无 None				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

本课程旨在向对大数据管理与应用专业感兴趣的学生介绍大数据管理最前沿的研究，分享业界最新的应用；培养数据管理和商务分析人才。通过本课程，有助于学生了解大数据行业和研究的趋势，对自身未来的学科发展进行初步规划。

This course aims to introduce the cutting-edge research of big data management and share the latest applications of the industry to students who are interested in big data technology and management. With the help of this course, our final goal is to cultivate data management and business analysis talents. Through this course, students can understand industry and research trends and make preliminary plans for future development.

16. 预达学习成果 Learning Outcomes

通过对本课程的学习，学生将对大数据管理与应用相关前沿研究产生一个整体认知，对于行业内著名企业在大数据上的应用有一定了解，启发学生对未来发展进行规划。

Through the study of this course, students will have an overall understanding of the cutting-edge research related to big data, have a brief understanding of the applications of big data by famous enterprises in the industry. And this course will inspire students to plan their future development.

17. 课程内容及教学日历（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人） Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

星期 Week	主题 Topic	主讲人 Speaker	简介 Brief Introduction
1	“顶天立地”——大数据研究方向的确定 (The Determination of the Research Direction of Big Data)	黄伟	<p>大数据是交叉学科研究领域（跨管理科学和工商管理等领域），涉及的研究问题和方向多且广，不易确定具体的研究方向。本课程将介绍“顶天立地”的研究方向如何确定。“顶天”的大数据研究即探讨新涌现的首席数据执行官（CDO）如何将组织中高层决策从经验导向型改变为数据导向型，从而使组织高管能在大数据时代带领组织更上一层楼。</p> <p>“立地”的大数据研究即数据质量的研究，这也是大数据研究的基石。</p> <p>Big data is an interdisciplinary research field (spanning management science, business administration and other disciplines), involving a wide range of research issues and directions, and it is difficult to determine the specific research direction. This course introduces how to determine the research direction of "Dingtian Lidi". "Dingtian" means that the big data research explores how the newly emerged chief data executive (CDO) changes the decision-making of middle and senior level of the organization from experience-oriented to data-oriented, so that the senior management of the organization can lead the organization to a higher level in the era of big data. "Lidi" means that the research of data quality is the cornerstone of big data research.</p>
2	项目管理视角下的组织战略变革 (Organizational Strategical Change from the Perspective of Project Management)	江俊毅	<p>基于系统性观点实现组织战略目标，关注战略变革与整合、不确定性与模糊性中潜在收益、机会最大化，提供结构化项目管理方法。</p> <p>Achieve the organization's strategic goals based on a systematic perspective, focus on strategic change and integration, maximize potential benefits and opportunities in uncertainty and ambiguity, and provide structured project management methods.</p>
3	数据驱动的物流科技与服务运营管理 (Data-driven Logistics Technology and Service Operation Management)	何翘楚	<p>运筹学和运营管理方法在主要的物流科技公司（阿里，京东，顺丰等）和平台经济公司（滴滴出行等）有广泛的应用。这节课将系统介绍数据科学在这类应用中的角色：如何将运筹优化算法，统计机器学习和经济管理分析方法整合起来提高企业运营效率。</p> <p>Operations research and operation management methods are widely used in logistics technology companies (Ali, JD, SF express, etc.) and platform economy companies (Didi Chuxing, etc.). This speech will systematically introduce the role of data science in such applications as how to integrate operational optimization algorithms, statistical machine learning, and economic management analysis methods to improve the operational efficiency of enterprises.</p>
4	大数据背景下的行为科学 (Behavioral science in the context of big data)	李少波	<p>这一话题将从最近几年的诺贝尔经济学奖得主的研究切入，探讨大数据背景下行为科学的发展趋势和未来走向。</p> <p>Starting from the research of Nobel Prize winners</p>

			in economics in recent years, this topic will focus on the development and future trend of behavioral science in the context of big data.
5	大数据背景下的酒店与旅游行业的商业运营 (Business operation of hotel and tourism industry under the Context of big data)	郭悦	<p>基于大数据的数字挖掘和分析技术已经在传统行业例如酒店旅游行业有着越来越成功的运用。这节课主要帮助学生了解大数据在这行业中的商业价值和商业模式的创新和成功案例。</p> <p>Business performances of companies in traditional industries, e.g., the Hospitality and Travel industry has been substantially improved, relying on Big Data business intelligence from different aspects, including marketing strategy, business model, and business operation. This course is designed to help students understand the business value of big data in this industry.</p>
6	物联网大数据在机场中的应用	雷洋	<p>如何研究、开发和充分利用物联网数据来引进及实现新型数据分析，以提高行李到达流程 (BAP) 的性能。</p> <p>How to research, develop and make full use of IoT data to introduce and implement new data analysis to improve the performance of baggage arrival process.</p>
7	大数据背景下的精准广告 (Targeted Advertising in the Context of Big Data)	李媛媛	<p>这一话题将从广告学的基本理论入手，结合大数据背景下广告行业的发展，针对日益发展的精准营销探讨未来广告行业的趋势和未来走向。</p> <p>This topic will start with the basic theory of advertising, combine with the development of the advertising industry under the background of big data, and discuss the future trend of the advertising industry in view of the increasingly developed precision marketing.</p>
8	不确定性下的优化 (Optimization under Uncertainty)	顾理一	<p>在各种业务和工程场景中，我们希望做出“最佳决策”，但是关于问题的信息不完整，而且新信息通常需要付出很高的代价。本课程旨在介绍几个这样的案例，以及在这种不确定性下有效地找到一个最优的解决方案。</p> <p>In various business and engineering scenarios, we would like to make the "best decision". But the information about the problem is usually incomplete. New information typically comes at a high cost. This speech aims to introduce several such cases, as well as some algorithms that can find a good solution efficiently under such uncertainty.</p>
9	Mean-variance portfolio selection	Moris Simon Strub	<p>How should one distribute one's wealth among available assets to best satisfy one's financial needs and objectives? We look at one of the classical models addressing this question. In this model, the investor seeks to determine the portfolio with minimal risk among all those portfolios which on average exceed a target return.</p> <p>一个人应该如何在可用的资产中分配自己的财富，以最好地满足自己的财务需求和目标?我们来看看解决这个问题的一个经典模型。在这个模型中，投资者试图在所有平均超过目标收益的投资组合中确定</p>

			风险最小的投资组合。
10	因果推断 (Causal Inference)	叶茂亮	因果推断 (causal inference) 着重于揭示变量之间的因果关系及政策事件的真实效应, 是统计与大数据方法论的核心问题之一, 并在经济管理、社会科学及项目评估中有广泛应用, 本讲座将介绍实验和拟实验 (quasi-experiments) 的常用方法。 Causal inference focuses on revealing the relationship between variables and the real effects of policy events. It is one of the core issues of the methodology of statistics and big data and has been widely applied in economic management, social science and project evaluation. This lecture will introduce the commonly used methods of experiments and quasi experiments.
11	制造行业的大数据应用	制造行业 IT 部门总监	介绍大数据技术在制造行业中的应用 Introduce the applications in manufacturing industry
12	大数据背景下的消费者行为分析	知名高校教授	介绍如何利用大数据技术进行消费者行为分析 Introduce how to use big data technology to do consumer behaviour analysis
13	保险行业中的大数据分析	保险公司 IT 部门负责人	介绍大数据技术在保险行业中的应用 Introduce the applications of big data in insurance company
14	互联网信息的数据分析	互联网公司 技术总监	介绍如何对互联网信息进行数据分析 Introduce how to analyse data from internet
15	金融行业中数据分析的应用	金融公司 CTO	介绍数据分析在金融行业中的应用 Introduce the applications of data analysis in finance
16	利用大数据技术进行用户画像	知名企业 CTO	介绍如何利用大数据对用户进行画像 Introduce how to portrait the user based on big data.

18. 教材及其它参考资料 Textbook and Supplementary Readings

无 None

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		根据学生的出勤, 将按照以下标准在学生最终成绩中增加额外的分数: 全勤=15分; 缺勤1天=12分; 缺勤2天(仅2天)=7分 According to your attendance the following extra credit	不要忘记在出勤表中签字。一旦出勤表中你的签字处为空白, 你当天将被视为缺勤。 Do NOT forget to sign the attendance log.	只是在出勤表中签名而后离开学生将被标记为缺勤。因为出勤算作额外加分, 所以不接受任何理由的缺勤! 当然, 特殊情况下通过书面请假可以酌情考虑。 Those that just sign the attendance log and then leave class shall be marked absent. Since attendance is extra credit, I do NOT accept ANY excuses!



	will be added to YOUR final grade: PERFECT attendance, no days missed = 15 points; ONE (and only one) absence = 12 points; TWO (and only two) = 7 points	Once your unsigned field receives the "blank mark" you are officially counted absent for that day!	Documented evidence for exceptional cases such as illness will be considered.
课堂表现 Class Performance	15%, 根据学生的课堂表现以及小组活动表现进行给分。 There will be opportunities to earn credit during the course through in-class assignments and group activities.		
小测验 Quiz			
课程项目 Projects			
平时作业 Assignments			
期中考试 Mid-Term Test			
期末考试 Final Exam			
期末报告 Final Presentation	70% (总分 100) 70% (100 points in total)		
其它 (可根据需要改写以上评估方式) Others (The above may be modified as necessary)			

20. 记分方式 GRADING SYSTEM

A. 十三级等级制 Letter Grading
 B. 二级记分制 (通过/不通过) Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过
 This Course has been approved by the following person or committee of authority