



1. General Information

Course Subject	ACCT
Course Number	3118
Course Title	Artificial Intelligence in Accounting
Academic Years	2026-2027
Grading Method	Letter

2. Instructors

Professor GUO Mengyang Billy
Email: billyguo@hku.hk
Subclasses: 2A

4. Course Description

Course Description	Data analytics has driven significant change over the past decade and is fundamentally transforming how we live and work. The last few years have seen the emergence of AI in analytics, with the potential to disrupt how the accounting profession works. The rapid advancement of Artificial Intelligence (AI) is transforming the accounting landscape, creating unprecedented opportunities for efficiency, accuracy, and strategic insight. This course explores the vital role of AI in accounting as organizations face increasing data volumes, complex regulatory requirements, and demand for real-time financial insights. By automating repetitive tasks such as data entry, invoice processing, and reconciliations, AI allows accountants to focus on higher-value activities, including financial analysis, risk assessment, and strategic advice. Accountants equipped with AI competencies can drive better business decisions, improve fraud detection, and enhance compliance through advanced data analytics and anomaly detection. The field is evolving quickly, with AI-powered tools being integrated into audit processes, tax planning, and financial forecasting. As a result, the modern accountant must develop not only a strong foundation in accounting principles but also essential skill sets in data analytics, machine learning basics, ethical considerations, and the use of AI-driven software platforms. Throughout this course, students will examine real-world use cases, including automated expense reporting, AI-driven audit sampling, predictive analytics for cash flow management, and intelligent document processing. The curriculum emphasizes hands-on learning and critical thinking, preparing future accountants to leverage AI for improved accuracy, efficiency, and strategic impact in the digital era. By the end of the course, participants will be ready to contribute to and lead the transformation of accounting practices through the responsible and effective use of AI technologies. In addition to Excel, the course will introduce students to tools such as Tableau, Alteryx, UiPath, and AnythingLM for AI analytics. These tools will be used to understand the application of techniques such as Big Data, Artificial Intelligence, clustering, regression analysis, classification, and fuzzy matching. Students will be able to identify different business problems and address them using data analytics techniques to derive meaningful insights for business decision-making.
--------------------	---

5. Course Objectives

1. Use of analytics to identify business opportunities and trends using accounting data.
2. Learn and apply visualization techniques for pattern and anomalies identification in accounting data that aids in Forensic analysis and Audits.
3. Apply analytical tools to aid business decision making in various fields of Accounting such as Audit, Tax, Accounts Payables and Receivables.
4. Understand how firms use textual disclosures in annual reports, and apply text analytics to derive useful insights from company reports

6. Faculty Learning Goals

Goal 1: Acquisition and internalization of knowledge of the programme discipline

Goal 2: Application and integration of knowledge

Goal 3: Inculcating professionalism

Goal 4: Developing global outlook

Goal 5: Mastering communication skills

Goal 6: Cultivating leadership

7. Course Learning Outcomes

Course Teaching and Learning Activities	Aligned Faculty Learning Goals					
	1	2	3	4	5	6
CLO1. Learn analytics process lifecycle and use of analytics for business and accounting	✓	✓		✓		
CLO2. Learn how data storage is done from an accounting analysis perspective, and technique to apply for data transformation	✓	✓				
CLO3. Understand descriptive, diagnostic, and predictive analytics	✓	✓				
CLO4. Understand audit workflow and role of data monitoring and automation in businesses		✓			✓	
CLO5. Steps of Audit data analytics, and application of prescriptive and predictive analytics in Auditing	✓	✓			✓	
CLO6. Application of analytics in financial statement analysis. Apply concepts of trend visualization, text mining, and sentiment analysis in financial statement analysis	✓	✓	✓			
CLO7. Data analytics for tax planning, tax liability analytics, and what-if scenario analysis	✓	✓	✓	✓		
CLO8. Application of analytics in managerial accounting, such as cost analytics, KPI, and variance analytics	✓	✓		✓		
CLO9. Forensic accounting and how the use of analytics helps in identifying fraudulent and anomalous patterns	✓	✓		✓		
CLO10. Application of analytics to an overall business and predict various items, such as sales	✓		✓		✓	

8. Course Teaching and Learning Activities

Course Teaching and Learning Activities #	Expected Study Hours	Study Load (% of study)
T&L1. Lectures with interactive presentations	30	23.1
T&L2. Written assignment	20	15.4
T&L3. Self-study and group discussions	40	30.8
T&L4. Group project	40	30.7
	Total: 130	Total: 100

9. Assessment Methods

Assessment Methods	Description	Weight %	Aligned Course Learning Outcomes
A1. Participation (In class and Tutorial)	Attendance and discussion	15%	1,2,3,4,5,6,7,8,9,10
A2. Individual assignment	Effort and accuracy	35%	1,2,3,4,5,6,7,8,9,10
A3. Group Project	Effort and accuracy	50%	1,2,3,4,5,6,7,8,9,10

Assessment Rubrics

A1. Participation (In class and Tutorial)	
A+,A,A-	Consistently participated in class discussions and contributed valuable insights.
B+,B,B-	Was somewhat prepared for class discussions and occasionally shared views.
C+,C,C-	Was not well prepared for class discussions.
D+,D	Was not well prepared for class discussions; Spent in-class time on other non-class-related activities (e.g., gaming, doing homework for other courses).
F	Poorly prepared for class discussions; Spent in-class time on other non-class-related activities (e.g., gaming, doing homework for other courses); Disrupted the progress of the lecture.
A2. Individual assignment	
A+,A,A-	The report is highly comprehensive and covers all relevant ESG issues in detail. It includes data and metrics relevant to the ESG commitment. It is well-organized and easy to navigate.
B+,B,B-	The report covers most relevant ESG issues in some detail. It includes some relevant data and metrics, but many not be as robust as it could be. The report is generally well-organized, but may be difficult to navigate in some areas.
C+,C,C-	The report includes some information on relevant ESG issues, but it may be incomplete or lacking in detail. The report includes some data and metrics, but it may not be very useful or relevant. The report may be poorly organized or difficult to navigate.
D+,D	The report is incomplete or missing information on many relevant ESG issues. It includes

Assessment Rubrics	
	little or no relevant data or metrics. The report may be poorly organized and difficult to navigate.
F	The report is missing or incomplete on nearly all relevant ESG issues. It includes no relevant data or metrics. The report is disorganized and difficult to navigate.
A3. Group Project	
A+,A,A-	The presentation demonstrated a deep understanding of the topic. The topic was covered in a highly professional and organized manner.
B+,B,B-	The presentation demonstrated a sound understanding of most aspects of the topic. The topic was covered in a professional and organized manner.
C+,C,C-	The presentation demonstrated a good understanding of most aspects of the topic. The topic was covered in an organized manner.
D+,D	The presentation demonstrated a basic understanding of most of the topic. The topic was covered in a basic manner.
F	The presentation did not demonstrate sufficient understanding and comprehension of the topic. The topic was not covered at an acceptable level and was poorly organized.

10. Course Grade Descriptors	
A+,A,A-	•Demonstrate a strong understanding of all relevant knowledge •Handling questions professionally •High participation in discussions •Present arguments that have an element of originality •Achieve a standard of excellent performance in the exams with very accurate computation and very good analytical and problem-solving skills •Excellent performance in assignments
B+,B,B-	•Demonstrate a good understanding of all relevant knowledge •Handling questions in a logical way •Good participation in discussions •Present arguments that go beyond the lecture and textbook •Achieve a standard of good performance in the exams with accurate computation and good analytical and problem-solving skills •Good performance in assignments
C+,C,C-	•Demonstrate a basic understanding of the concepts involved •Fairly address questions as set •Some participation in discussions •Present arguments in a well-structured manner •Meet a standard of acceptable performance in the exams with reasonably accurate computation and acceptable analytical and problem-solving skills •Acceptable performance in assignments
D+,D	•Demonstrate a minimum understanding of the concepts involved •Barely address questions as set •Minimal or no participation in discussions •Present arguments in a marginally acceptable manner •Meet a standard of marginally acceptable performance in the exams, with some errors in computation and barely adequate analytical and problem-solving skills •Marginally acceptable performance in assignments
F	•Demonstrate a poor understanding of the concepts involved •Unable or unwilling to handle questions •Minimal or no participation in discussions •Present arguments poorly •Fail to meet a standard of passing the exams with major errors in computation and inadequate analytical and problem-solving skills

10. Course Grade Descriptors

	•Poor performance in assignments
--	----------------------------------

11. Course Content and Tentative Teaching Schedule

Topic/ Session	Content
1	Accounting and Data Analytics Accounting Systems and Review of Machine Learning Understanding Artificial Intelligence: Key concepts and terminology
2	The changing landscape of accounting: Drivers for AI adoption Overview of AI applications in accounting and finance Ethical considerations and challenges in AI adoption
3	The importance of data quality and structure in accounting AI Introduction to no-code/low-code AI platforms (Power BI, Alteryx, UiPath) Data preparation and visualization for accounting insights
4	Automating routine accounting tasks with AI Case Study: Using Tableau with financial data to identify anomalies or trends in transactions
5	Robotic Process Automation (RPA) in accounting (UiPath) Automating invoice processing, expense categorization, and reconciliations Introduction to intelligent document processing (OCR and NLP)
6	Workflow automation and process optimization Case Study: Automate an invoice-to-payment workflow using UiPath
7	Predictive analytics and forecasting for budgeting and cash flow (using AutoML) AI in fraud detection and audit risk assessment (MindBridge Ai Auditor)
8	Using AI to enhance financial reporting and compliance Model evaluation and interpreting AI outputs for decision making Case Study: Use MindBridge to identify risky transactions in a dataset
9	Building an AI strategy in accounting: Roadmap and best practices Change management and the evolving role of accountants Skills for the future: Data literacy, critical thinking, and ethical AI use Emerging trends: Explainable AI, generative AI, and continuous audit
10	Guest lecture
11	Group presentations
12	Group presentations

12. Required/Recommended Readings & Online Materials

Reading	Data Mining for Business Analytics: Concepts, Techniques, and Applications in R. Wiley. 2017. 1st edition.
---------	--

13. Means / Processes for Student feedback on Course

✓	Conducting mid-term survey in additional to SETL around the end of the semester
	Online response via Moodle site
	Others

14. Course Policy

1. Academic dishonesty includes cheating, plagiarism, unauthorized collaboration, falsifying academic records, and any act designed to avoid participating honestly in the learning process. Academic dishonesty also includes, but is not limited to, providing false or misleading information to receive a postponement or an extension on an exam or other assignment.
2. An orderly learning environment is extremely important for this course. Disruptive behaviors are inconsiderate to other students as well as to the instructor, and are absolutely unacceptable. Talking during lectures, arriving to class late, and any other disruptions of mobile devices are not allowed; students who are responsible for any of these actions will be subject to academic penalty and will be asked to leave the classroom.
3. No late assignment submission will be accepted.
4. The instructor reserves all the rights to make necessary changes to the syllabus. If so, the changes will be announced as soon as possible

15. Additional Course Information

Guest lecturers from the industry (e.g., KPMG) will be invited to teach 1-2 sessions.