ACC709 ACCOUNTING ANALYTICS 2026 BRIEF

All information in the Subject Outline is correct at the time of approval. KOI reserves the right to make changes to the Subject Outline if they become necessary. Any changes require the approval of the KOI Academic Board and will be formally advised to those students who may be affected by email and via Moodle.
Information contained within this Subject Outline applies to students enrolled in the trimester as indicated

1. General Information

1.1 Administrative Details

Associated HE Award(s)	Duration	Level	Subject Coordinator
MPA	1 trimester	Postgraduate	Dr Demi CHUNG demi.chung@koi.edu.au P: +61 (2) 9283 3583 L: Level 7-11, 11 York Street. Consultation: via Moodle or by appointment

1.2 Core / Elective
This is an elective subject for the above courses.

1.3 Subject Weighting

Indicated below is the weighting of this subject and the total course points.

Subject Credit Points	Total Course Credit Points
4	MPA: 64

1.4 Student Workload

Indicated below is the expected student workload per week for this subject

No. Timetabled Hours/Week*	No. Personal Study Hours/Week**	Total Workload Hours/Week***
3 hours/week plus supplementary online material	7 hours/week	10 hours/week

* Total time spent per week at lectures and tutorials
** Total time students are expected to spend per week in studying, completing assignments, etc.
*** Combination of timetable hours and personal study.

1.5 Mode of Delivery Mode of Delivery Classes will be face-to-face or hybrid. Certain classes will be online (e.g., special arrangements).

1.6 Pre-requisites ACC700 Principles of Accounting AND
ACC701 Financial Accounting.

1.7 General Study and Resource Requirements

- Students are expected to attend classes with the weekly worksheets and subject support material provided in Moodle. Students should read this material before coming to class to improve their ability to participate in the weekly activities.
- Students will require access to the internet and their KOI email and should have basic skills in word processing software such as MS Word, spreadsheet software such as MS Excel and visual presentation software such as MS PowerPoint.

- Computers and WIFI facilities are extensively available for student use throughout KOI. Students are encouraged to make use of the campus Library for reference materials.

Resource requirements specific to this subject: Specific resources will be identified in discussions with your supervisor. Prescribed readings and research examples will be posted to Moodle for additional guidance and recommended readings listed at section 2.7 will provide useful background reading.

1.8 Academic Advising

Academic advising is available to students throughout teaching periods including the exam weeks. As well as requesting help during scheduled class times, students have the following options:

- Consultation times: A list of consultation hours is provided on the homepage of Moodle where appointments can be booked.
- Subject coordinator: Subject coordinators are available for contact via email. The email address of the subject coordinator is provided at the top of this subject outline.
- Academic staff: Lecturers and Tutors provide their contact details in Moodle for the specific subject. In most cases, this will be via email. Some subjects may also provide a discussion forum where questions can be raised.
- Head of Program: The Head of Program is available to all students in the program if they need advice about their studies and KOI procedures.
- Vice President (Academic): The Vice President (Academic) will assist students to resolve complex issues (but may refer students to the relevant lecturers for detailed academic advice).

2. Academic Details

2.1 Overview of the Subject

This is an introductory subject tailored to beginners, offering a foundation understanding of coding using Python. The subject aims to develop students' analytical knowledge and skills in using Python and accounting data to solve business problems. At the completion of the subject, students should have the ability to: (1) extract, transform and load relevant data; (2) apply appropriate data analytic techniques; and (3) interpret and share the results with stakeholders.
Data and analytics are transforming business and have major implications for the role of graduate accountants. Increasingly, accountants are competing with data analysts and scientists. However, accountants are still the preferred trusted business advisors given their historic role in preparing financial information. This subject is designed to give students a much sought after skill set which will equip them to add value to organizations in data driven business environments.

2.2 Graduate Attributes for Postgraduate Courses

Graduates of Postgraduate courses from King's Own Institute will achieve the graduate attributes expected from successful completion of a Master's degree under the Australian Qualifications Framework (2nd edition, January 2013). Graduates at this level will be able to apply an advanced body of knowledge from their major area of study in a range of contexts for professional practice or scholarship and as a pathway for further learning.

King's Own Institute's generic graduate attributes for a master's level degree are summarised below:

	KOI Master Degree Graduate Attributes	Detailed Description
	Knowledge	Current, comprehensive and coherent knowledge, including recent developments and applied research methods
	Critical Thinking	Critical thinking skills to identify and analyse current theories and developments and emerging trends in professional practice
	Communication	Communication and technical skills to analyse and theorise, contribute to professional practice or scholarship, and present ideas to a variety of audiences

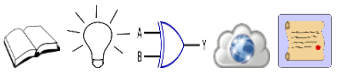
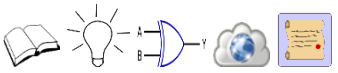
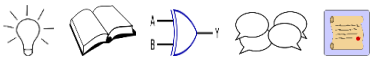
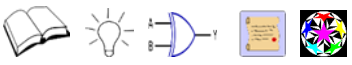
	Research and Information Literacy	Cognitive and technical skills to access and evaluate information resources, justify research approaches and interpret theoretical propositions
	Creative Problem Solving Skills	Cognitive, technical and creative skills to investigate, analyse and synthesise complex information, concepts and theories, solve complex problems and apply established theories to situations in professional practice
	Ethical and Cultural Sensitivity	Appreciation and accountability for ethical principles, cultural sensitivity and social responsibility, both personally and professionally
	Leadership and Strategy	Initiative, leadership skills and ability to work professionally and collaboratively to achieve team objectives across a range of team roles Expertise in strategic thinking, developing and implementing business plans and decision making under uncertainty
	Professional Skills	High level personal autonomy, judgement, decision-making and accountability required to begin professional practice

Across the course, these skills are developed progressively at three levels:

- **Level 1 Foundation –** Students learn the skills, theories and techniques of the subject and apply them in stand-alone contexts
- **Level 2 Intermediate –** Students further develop skills, theories and techniques of the subject and apply them in more complex contexts, beginning to integrate the application with other subjects.
- **Level 3 Advanced** – Students have a demonstrated ability to plan, research and apply the skills, theories and techniques of the subject in complex situations, integrating the subject content with a range of other subject disciplines within the context of the course.

2.3 Subject Learning Outcomes

Listed below, are *key* knowledge and skills students are expected to attain by successfully completing this subject:

Subject Learning Outcomes	Contribution to Graduate Attributes
a) Demonstrate proficiency in Python fundamentals and key concepts	
b) Design and implement data pipelines to collect, clean, and transform accounting data from multiple sources (e.g., ERP systems, spreadsheets, and databases) for analytical use.	
c) Apply data analytics techniques using Python to solve complex accounting problems, including financial reporting, auditing, and management accounting scenarios.	
d) Interpret and visualize accounting and financial data using visualisation tools	
e) Critically evaluate the ethical, governance, and data quality issues associated with the use of analytics in	

accounting practice, and propose data-driven solutions to enhance transparency and compliance.	
f) Develop competencies in Python within the accounting contexts	

2.4 Subject Content and Structure

Below are details of the subject content and how it is structured, including specific topics covered in lectures and tutorials. Reading refers to the text unless otherwise indicated.

Weekly Planner:

Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work as listed in Moodle
1	Accounting data and stock prices: the Ohlson model	Ohlson 1995; Berkman et al 2024; Python Project Description	In-class Activity
2	Python fundamentals Part I	Guo 2021, Chapter 1	In-class Activity
3	Python fundamentals Part II	Guo 2021, Chapter 2	In-class Activity
4	Python Fundamentals Part III	Guo 2021, Chapter 3	In-class Activity
5	Python Fundamentals Part IV	PythonAnalysis.ipynb	In-class Activity
6	Data Exploration and Manipulation	PythonAnalysis.ipynb	In-class Activity
7	Draft Project in-class Presentation	N/A	In-class Presentation
8	Data scraping from open sources	Python Project Description; Data scraping ethics; DataScraper.ipynb	In-class Activity
9	Descriptive analysis of accounting data	PythonAnalysis.ipynb	In-class Activity
10	Data visualisation and regression analysis	PythonAnalysis.ipynb	In-class Activity

Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work as listed in Moodle
11	Results interpretation and communication	PythonAnalysis.ipynb	In-class Activity
12	Final Project Report Discussion and Submission	Berkman et al 2024; Cheng et al 2024	In-class Activity
13	Study Review Week and Final Exam Week		
14	Continuing students - enrolments for T126 open	There is no Final Exam for this subject.	
15	Student Vacation begins New students - enrolments for T126 open		
16	• Results Released • Review of Grade Day for T325 – see Sections 2.6 and 3.2 below for relevant information. • Certification of Grades NOTE: More information about the dates will be provided at a later date through Moodle/KOI email.		
T225 2March 2025			
1 2 Mar	• Week 1 of classes for T126		

2.5 Teaching Methods/Strategies

Briefly described below are the teaching methods/strategies used in this subject:

- *Lectures* (1 hour/week) are conducted in seminar style and address the subject content, provide motivation and context and draw on the students' experience and preparatory reading.
- *Tutorials* (2 hours/week) include class discussion of case studies and research papers, practice sets and problem-solving and syndicate work on group projects. Tutorials often include group exercises and so contribute to the development of teamwork skills and cultural understanding. Tutorial participation is an essential component of the subject and contributes to the development of many of the graduate attributes (see section 2.2 above). Tutorial participation contributes towards the assessment in many subjects (see details in Section 3.1 for this subject). Supplementary tutorial material such as case studies, recommended readings, review questions etc. will be made available each week in Moodle.
- *Online* teaching resources include class materials, readings, model answers to assignments and exercises and discussion boards. All online materials for this subject as provided by KOI will be found in the Moodle page for this subject. Students should access Moodle regularly as material may be updated at any time during the trimester
- *Other contact* - academic staff may also contact students either via Moodle messaging, or via email to the email address provided to KOI on enrolment.

2.6 Student Assessment

Provided below is a schedule of formal assessment tasks and major examinations for the group project subject.

Assessment Type	When assessed	Weighting	Learning Outcomes Assessed
Assessment 1: Weekly In-class Activity	Weekly	20%	a,c and f
Assessment 2: Draft Project in-class Presentation 15% for draft report; 15% for in-class presentation	Week 7	30%	a,d,e and f
Assessment 3: Final Project Report	Week 12	50%	b, c,d,e and f

Requirements to Pass the Subject:
To gain a pass or better in this subject, students must gain a *minimum of 50%* of the total available subject marks.

2.7 Prescribed and Recommended Readings

Provided below, in formal reference format, is a list of the prescribed and recommended readings.

Prescribed resources:

Anaconda distribution of the Python language for demonstrations, tutorial exercises, and assessments. You can download and install Anaconda from https://www.anaconda.com/

Pandas package as our primary data management tool. Short introduction to Pandas here https://pandas.pydata.org/docs/getting_started/intro_tutorials/.

Readings on the Ohlson model available on the course Moodle site.

Highly recommended readings

Bengfort, B., Bilbro, R., & Ojeda, T. (2018). Applied text analysis with Python: Enabling language-aware data products with machine learning. O'Reilly Media.

Guo, K.H. (2021) *Using Python for textual accounting research*, Available at SSRN: https://ssrn.com/abstract=3943966.

Gupta, S., & Arora, N. (2024). Data analytics for finance using Python. CRC Press. https://doi.org/10.1201/9781032618241

Kumar, S. (2024). Python for accounting and finance: An integrative approach to using Python for research. Springer. https://doi.org/10.1007/978-3-031-54680-8

Richardson, V. J., Terrell, J. A., & Teeter, R. A. (2021). Introduction to data analytics for accounting (2nd ed.). McGraw-Hill Education.

Richardson, V. J., Teeter, R., & Terrell, K. (2023). *Data analytics for accounting* (3rd ed.). Mcgraw-Hill Education.
Richardson, V. J., Terrell, K., & Marcia Weidenmier Watson. (2023). Introduction to Business Analytics (1 st ed.). Mcgraw-Hill Education
Taysom, A. (2022). Python for accounting. Independently published. https://pythonforaccounting.com

Software:

PY4E - Python for Everybody

Python is an open-source programming language developed under an OSI-approved license
This permissive license allows you to download, modify, and share Python without any cost or legal restrictions.

Useful Websites:

Many business websites are useful sources covering a range of information useful for this subject. However, most are not considered to be sources of Academic Peer Reviewed theory and research. If your assessments require academic peer reviewed journal articles as sources, you need to access such sources using the Library database, Ebscohost, or Google Scholar. Please ask in the Library if you are unsure how to access Ebscohost. Instructions can also be found in Moodle.