BSc (Hons) Mathematics & Data Science with Combined Studies

Programme Specification

2027-2028

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1. INTRODUCTION

This document describes the **BSc (Hons) Mathematics & Data Science with combined studies** awarded by Richmond American University London, using the protocols required by *The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies* (QAA, 2024)

The degree is delivered within the framework of a US Liberal Arts undergraduate degree programme. Typically, students are admitted with the equivalent of 24 US/ 96 UK RQF Level 3 credits and take the 120 US/ 480 UK credit programme over three years.). Each undergraduate credit is equivalent, approximately, to 1 classroom contact hour per 15-week semester and students work to a 16 US credit semester structure. On this basis, students are required to earn a total of a minimum 120 US academic credit hours in order to complete their degrees.

The degrees are also articulated in terms of UK Regulatory Frameworks, chiefly the *FHEQ* and the *Higher Education Credit Framework for England*. Each course has been assigned to an appropriate level on the *FHEQ*, based on the course's learning outcomes and assessment strategies. US undergraduate credit can generally be translated to ECTS and UK CATS credits in the following manner: 1 US credit = 2 ECTS credits = 4 UK CATS credits. So, a US degree of 120 credits would translate as 240 ECTS credits and 480 UK CATS credits (with a minimum of 384 UK CATS credits at Levels 4-6 on the FHEQ).

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each course can be found in course specification documents and syllabi.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

2. OVERVIEW

Programme/award title(s)	BSc (Hons) Mathematics & Data Science with combined studies
Teaching Institution	Richmond American University London
Awarding Institution	Richmond American University London
Date of last validation	27 January 2025
Next revalidation	Spring 2030
Credit points for the award	120 US Credits 480 UK Credits at *FHEQ* Levels 3-6 (96 at Level 3; 128 at Level 4; 128 at Level 5; 128 at Level 6)
UCAS Code	MD01
Programme start date	2025
Underpinning QAA subject benchmark(s)	QAA Subject Benchmark Statement for Mathematics, Statistics and operational research.
Professional/statutory recognition	n/a
Language of Study	English
Duration of the programme for each mode of study (P/T, FT,DL)	FT
Dual accreditation (if applicable)	Middle States Commission on Higher Education (First accredited 1981; renewed 1996, 2006, 2016). QAA – Higher Education Review (AP) 2017
Date of production	July 2025

3. ABOUT THE PROGRAMME

The **BSc (Hons) in Mathematics and Data Science with Combined Studies** program aims to equip students with the rigorous mathematical knowledge and data science skills needed to analyse and solve complex problems in various industries. It integrates core mathematics with advanced data science techniques. Based in London this course has an immediate relevance to leading UK and International organisations. This program offers a structured pathway for students aiming to excel in the evolving field of data science with a strong foundation in mathematics. Graduates from this Liberal Arts program will not only be proficient in technical skills but also develop critical soft skills and ethical awareness necessary for successful careers in today's data-driven world.

Graduates from the **BSc (Hons) in Mathematics and Data Science with Combined Studies** can pursue careers working as data analysts or data scientists; machine learning engineering - developing products or services for tech companies; Quantitative Analysis - employed by banks, investment firms, and hedge funds; Software Development - Applying mathematical knowledge and data science skills in developing software solutions; business intelligence - specializing in the strategic application of data analysis; actuarial science - using mathematics,

statistics, and financial theory to study uncertain future financial events; operations research - solving complex operational problems in industries like logistics and also Bioinformatics: Utilizing data science and computational methods to understand biological data for pharmaceuticals, biotechnology, or medical research.

4. MISSION

The mission of this programme is to teach proficiency in mathematical theories and methodologies, developing in students an ability to apply statistical and computational techniques to solve real-world problems. Teaching will enable students to develop and utilize algorithms and models for data analysis and prediction and give them the skills to communicate complex quantitative findings effectively. Students will learn the importance of engaging in continuous learning and the need to adapt to emerging technologies and methodologies in data science.

5. PROGRAMME STRUCTURE

BSc (Hons) in Mathematics and Data Science with Combined Studies

A normal course load per academic year is 32 US credits, equivalent to 128 UK credits. Students complete 128 UK credits at Level 6.

Please note that students must complete all Liberal Arts requirements AND the minimum credits stated at each FHEQ level.

Black = Major requirements
Blue = Liberal Arts Core
Green = Elective

LOWER-DIVISION REQUIREMENTS			
		Credits	
Level	Course Title	US	UK
XXX 3XXX	Transfer Credit from L3 quals	4	16
XXX 3XXX	Transfer Credit from L3 quals	4	16
XXX 3XXX	Transfer Credit from L3 quals	4	16
XXX 3XXX	Transfer Credit from L3 quals	4	16
XXX 3XXX	Transfer Credit from L3 quals	4	16
XXX 3XXX	Transfer Credit from L3 quals	4	16
RQF Level 3 CREDIT TOTALS		**24**	**96**
MATH 4102	Mathematics of Argument & Reasoning	4	16
MATH 4103	Calculus with Applications	4	16
COMP 4101	Introduction to Programming	4	16
Complete L4 Academic Literacies required course:		4	16
LIBA 4301	Academic Research and Writing		
Complete L4 Data/Numeracy required course:		4	16
MATH 4101	Probability and Statistics		

Choose one L4 Arts/Humanities course from the following:		4	16
COMM 4103	Introduction to Intercultural communication		
ADPR 4101	Introduction to Advertising, PR and Media		
ARTS 4101	History of Arts and Visual Cultures		
LANG 4101	Korean Language and Culture 1		
Choose one L4 Social/Behavioural Sciences course from the following:		4	16
PSYC 4101	Introduction to Psychology		
POLS 4102	Modern Political Thought		
ECON 4101	Introduction to Economics and Finance		
Choose one L4 Science course from the following:		4	16
ENVR 4103	Introduction to Environmental Science		
ENVR 4102	Ecology and Conservation		
ENVR 4101	Earth Systems Science		
FHEQ Level 4 CREDIT TOTALS		**32**	**128**
UPPER-DIVISION REQUIREMENTS			
MATH 5104	Linear Algebra and Multivariable Calculus	4	16
DATA 5102	Data Analysis and Visualisation	4	16
DATA 5103	Database Systems	4	16
MATH 5103	Game Theory and Decision Methods	4	16
Complete L5 Research Methods required course:		4	16
COMP 5301	Research Methods in Data Science		
Choose one L5 Service-Learning course from the following:		4	16
LIBA 5301	Service-Learning: Global Citizenship and Migration		
LIBA 5302	Service-Learning: Leadership in a Globalised World		
LIBA 5303	Service-Learning: Sustainability and Society		
LIBA 5304	Service Learning: Digital Collaboration		
XXX 5XXX	Choose 1 x L5 Elective	4	16
XXX 5XXX	Choose 1 x L5 Elective	4	16
FHEQ Level 5 CREDIT TOTALS		**32**	**128**
MATH 6102	Machine Learning and Predictive Analytics	4	16
MATH 6101	Advanced Computational Methods in Data Science	4	16
MATH 6103	Time Series Analysis and Forecasting	4	16
COMP 6110	Senior Project	8	32
Plus *EITHER:*		8	32
MATH 6401	Internship		
***Or* TWO of the following Major Options:**			
SENG 6102	Generative Artificial Intelligence		
SENG 6103	Mobile App Development		
COMP 6103	Web Application Development		
COMP 6102	Project Management for IT		
BUSM 6104	Leadership and People Management		
COMP 6101	Advanced Secure Programming		
And ONE Elective Course:		4	16
XXX 6XXX	Choose 1 x L6 Elective		

FHEQ Level 6 CREDIT TOTALS	**32**	**128**
TOTAL CREDITS FOR THE DEGREE:	**120**	**480**

6. PROGRAMME OUTCOMES

Programme-level learning outcomes are identified below. Please refer to the Curriculum Map at the end of this document for details of how outcomes are deployed across the study programme.

A. Disciplinary Knowledge and Understanding
B. Disciplinary Applied Skills
C. Communication Skills
D. Transferrable Skills

Upon completion of the **BSc (Hons) in Mathematics and Data Science with Combined Studies** degree, students should be able to demonstrate:

1. Mastery of Core Mathematical Principles: a deep understanding of advanced mathematics, including calculus, linear algebra, probability, and statistics.
2. Proficiency in Data Science Techniques: skilled in the use of modern data science tools and techniques, including machine learning, data visualization, predictive analytics, and big data technologies including proficiency in software and programming.
3. Analytical and Critical Thinking Skills: to approach problems critically and analytically, employing both quantitative and qualitative methods to formulate solutions and make informed decisions.
4. Practical Application of Theoretical Knowledge: demonstrating the ability to apply mathematical and data science theories to real-world problems, bridging the gap between theoretical studies and practical implementation in various professional settings.
5. Effective Communication Skills: the ability to clearly and effectively communicate complex mathematical and data-driven findings to a non-technical audience, including the use of appropriate visualizations and presentations.
6. Research and teamwork Capabilities: capable of conducting independent research, utilizing appropriate methodologies to collect, analyse, and interpret data, and contributing original insights to the field of data science. Working effectively in diverse teams, demonstrating the ability to collaborate on projects that require interdisciplinary knowledge and skills.
7. Ethical and Social Awareness: understanding the ethical implications of data use, including privacy, security, and fairness, and will be prepared to navigate the ethical challenges that arise in professional data science practice.

Disciplinary Knowledge and Understanding (A)

LEVEL 4

AI Demonstrates broad knowledge and understanding of the core theories and methods in Mathematics and Data Science.

LEVEL 5

AI Demonstrates the ability to engage in critical reflection on quantitative and/or qualitative research methods.

AII Demonstrates a critical engagement with theories and concepts used in Mathematics and Data Science.

LEVEL 6

AI Demonstrates a systematic understanding of different paradigms to Mathematics and Data Science.

AII Demonstrates the ability to develop critical responses to, and a systematic understanding of methodological approaches taken in Mathematics and Data Science.

AIII Demonstrates a systematic understanding of practitioners, texts and contemporary debates in the discipline, and the relationship between these and practice.

Disciplinary Applied Skills (B)

LEVEL 4

BI Demonstrates a broad understanding of the key issues of and core debates in the discipline of Mathematics and Data Science.

LEVEL 5 (B5)

BI Demonstrates critical understanding of the key problems and issues addressed in Mathematics and Data Science.

BII Demonstrates engagement with the selection, application and utilization of Mathematics and Data Science appropriate methods.

LEVEL 6

BI Demonstrates a systematic understanding of practical issues and problems Mathematics and Data Science faces (explicitly addressing Equality, Diversity and Inclusion/Education for Sustainable Development).

BII Demonstrates a systematic understanding of a core problem or issue in Mathematics and Data Science through a senior project or senior seminar.

BIII Demonstrates a systematic understanding of major debates and using sophisticated disciplinary analysis that utilises knowledge from other cognate fields as is appropriate.

Communication Skills (C)

LEVEL 4 (C4)

CI Demonstrates broad communication skills (including digital literacy) in deploying ideas and information to in a range of different formats and media.

LEVEL 5 (C5)

CI Demonstrates the ability to formulate and communicate arguments cogently, retrieve and generate information, and select appropriate criteria to evaluate sources and/or data.

CII Delivers work with limited supervision and/or effectively engage in teamwork according to a given brief.

LEVEL 6 (C6)

CI Demonstrates the communication skills needed to plan and manage for changing contexts, audiences and levels of complexity, and advanced group work.

CII Demonstrates the systematic ability to gather, organise and deploy highly complex ideas, evidence and information.

CIII Demonstrates the ability to formulate, synthesise and effectively articulate arguments potentially incorporating competing perspectives, concepts and evidence in a range of formats and media including in professional and interpersonal contexts.

Transferrable Skills (D)

LEVEL 4

DI Demonstrates broad skills that are relevant to the workplace in terms of both personal and/or group outcomes.

LEVEL 5 (D5)

DI Demonstrating both critical reflection on ethical principles in the research process and broader discipline, and self-reflection for the capacity of criteria-based evaluation of work.

DII Engaging in action-learning and develop links to external organisations and actors in the process of enabling career planning to take place.

LEVEL 6 (D6)

DI Demonstrates the ability to act with minimal direction or supervision, to engage in self-reflection, use feedback to analyse own capabilities, appraise alternatives, and plan and implement actions.

DII Demonstrates autonomy in taking personal responsibility for ethical and sustainable practices in the discipline and in locating their own normative views and cultural commitments within the practice of research.

DIII, Demonstrate entrepreneurial education in the form of skills and practices that translate directly into employment, ideally in the form of work that contributes to a portfolio.

7. TEACHING, LEARNING, AND ASSESSMENT

Teaching Strategy

The teaching and learning strategy adopted within the **BSc (Hons) in Mathematics and Data Science with Combined Studies** degree is based on the understanding that all students will be treated as active learners. Clearly, the precise approach will vary from course to course, depending on the learning outcomes relevant to each class.

The generic components of our teaching and learning strategy normally involves a variety of approaches and include delivering many of the following:

- Regular use of formal lecture sessions in all courses.
- Occasional workshops and seminars in some courses.
- Regular use of individual and/or team-based projects in all courses.
- Regular use of self-directed and directed reading in all courses.
- Peer-tutoring led by advanced students in many courses.
- Use of audio-visual and library resources in some courses.
- Regular use of tutor and student-led discussion groups via e-learning platforms.

The combination of teaching and learning approaches mentioned above develops students' knowledge, thinking skills and practical skills.

Assessment Strategy

The assessment strategies we use with our **BSc (Hons) in Mathematics and Data Science with Combined Studies** degree speak directly to how we anticipate progression with student learning to take place.

In terms of following up with the assessment of student learning and consistent with US liberal arts traditions, our classes rely on the system of continuous assessment on a course-by-course basis and throughout any given semester. This approach often involves the use of term-papers, portfolios of work, quizzes, mid-semester and final exams as well as student presentations and general class discussion. Not every component applies to every course, but most do relate to many of the classes that are offered. Many of our courses involve a site visit or require attendance at a public lecture as well. Students generally find these events to be extremely valuable to their learning.

Most of the courses will follow the University Assessment Norms, however some may follow specialised norms, as listed in each CSD. See the Assessment Norm Policy for full details: https://www.richmond.ac.uk/university-policies/

8. ENTRY REQUIREMENTS

Admissions

Details of the entry requirements, including English language requirements, may be found at the appropriate page of the University website listed below, where a comprehensive Admissions Policy and Summary of Practice document is also published.

https://www.richmond.ac.uk/undergraduate-admissions/

Transfer Credit

Prospective students with specific levels of subject achievement in Advanced Placement Tests, GCSE, A Levels and some other UK and international qualifications may enter with Advanced Credit and be given exemption from certain courses of the programme. Please see the Transfer Credit Policy Undergraduate for details.

9. EXIT AWARD REQUIREMENTS

An exit award is defined as a lower award than one for which the student is registered. Such an award may be conferred if a student completes part, but not all, of the requirements of the programme for which he or she is registered. Students may not enter the university registered for an exit award.

Associate of Arts Degree in General Studies (US)

The US Associate of Arts (AA) degree can be awarded as an exit degree for those students completing the following minimum requirements.

30 US / 120 UK credits at RQF Level 3

30 US / 120 UK credits at FHEQ Level 4

Of the total number of credits required for the AA degree, 30 US/120 UK credits must be completed at Richmond. Students must obtain a minimum cumulative GPA of 2.0 and a major of 2.0 in order to qualify for this degree. Latin Honours are not applied to the AA Degree.

The requirements for the AA degree are outlined in Table 1 above. All Level 3 and 4 Major and General Education Liberal Arts Core Requirements must be completed.

Certificate of Higher Education in BSc in Mathematics and Data Science (UK)

The UK Certificate of Higher Education (CertHE) can be broadly aligned with the US Associate of Arts Degree. Students who qualify for the AA degree will automatically qualify for the CertHE. But students may qualify for a CertHE without fulfilling the requirements for a US AA degree if they have not completed all of the RQF Level 3 requirements necessary to obtain the AA.

The UK CertHE can be awarded as an exit award for those students completing the following minimum requirements.

120 credits at FHEQ Level 4

- Pass (normally a GPA of between 1.85 and 2.99 for all Level 4 courses)
- Merit (normally a GPA of 3.0 to 3.54)
- Distinction (normally a GPA of 3.55 and above for all level 4 courses)

Of the total number of credits required for the UK CertHE, 15 US/60 UK credits must be completed at Richmond.

The requirements for the UK CertHE are outlined in the section of Table 1 pertaining to FHEQ Level 4 requirements. All Level 4 Major and Liberal Arts Core Requirements must be completed.

Diploma of Higher Education in BSc in Mathematics and Data Science (UK)

The UK Diploma of Higher Education (DipHE) has no US equivalent. The UK DipHE can be awarded as an exit award for those students completing the following minimum requirements.

120 credits at FHEQ Level 4

120 credits at FHEQ Level 5

- Pass (normally a GPA of between 1.85 and 2.99 for all Level 4 courses)
- Merit (normally a GPA of 3.0 to 3.54)
- Distinction (normally a GPA of 3.55 and above for all level 4 courses)

Of the total number of credits required for the UK DipHE, 15 US/60 UK Level 4 credits and 15 US/60 UK Level 5 credits must be completed at the University.

The requirements for the UK DipHE are outlined in the sections of Table 1 and Table 2 above pertaining to FHEQ Level 4 and FHEQ Level 5 requirements. All Level 4 Major and General Education Liberal Arts Core Requirements must be completed. Level 6 courses can be "dipped-down" to fulfil missing Level 5 credits.

Students may not be awarded more than one UK exit award and the University Examination Board will recommend the most relevant one for the individual student circumstance.

10. STUDENT SUPPORT AND GUIDANCE

There is a range of student support and guidance, for both academic and general wellbeing, available to students. This is accomplished through a range of programmes and services that positively impact learning as well as the total student life experience.

All students have an allocated full-time faculty member who acts as their Academic Advisor. Academic Advisors have on-going responsibility for students' academic progress, meeting with each student at least once per semester. Programme Directors assist students with registration, enabling smooth progression through the degree. They also advise on career opportunities and provide pastoral support in many cases.

A range of Math, English, Technology and Writing workshops have been established to support students with needs in these areas. Librarians are on hand to assist with library use, which includes instruction in web-based resources.

The University endeavors to make all practical and reasonable adjustments to ensure students are able to fully participate in the University community. Students who declare a physical disability or a special educational need are supported to ensure the quality of their educational experience meets their individual requirements. SEN students, for instance,

receive extra time for examinations, and have the option of writing exams on university-provided computers, and/or of taking exams in a separate room.

The University operates a well-staffed Student Affairs department that provides services intended to support and encourage student welfare, safety and development. This department oversees the medical registration of students and provides counselling services. It also organizes a range of extracurricular activities and travel designed to further enhance students' educational experiences. Disciplinary and social grievance procedures are also overseen by this department.

11. PLACEMENT

The Internship Office the University offers a formal mechanism through which students may receive work-placement opportunities. These placements are supervised, career-related work experiences combined with reflective, academic study that help students apply theoretical knowledge in the workplace. Participation in the internship programme is optional, but students who choose to take up a placement receive academic credit for their placement and associated academic work (see level 6 options).

Expectations with regard to careers education, information, advice and guidance (as outlined in the section on Enabling Student Achievement in *The UK Quality Code for Higher Education*) are handled by the university's Student Affairs department. This department conducts a variety of career services for students, ranging from resource provision to a CV service, and in particular through the LEAD (Leadership, Education and Development) seminar series.

In addition to these services, the alumni office offers networking opportunities where students may contact alumni working in a variety of fields. The alumni office also offers these services via social media such as LinkedIn and Facebook.

12. STUDY ABROAD

Richmond students have the option to take a leave of absence and travel away from the university as a 'study abroad'. With 40 partnerships spread over five continents, students can select from a wide range of partners. All courses taken elsewhere must be pre-approved by Registry Services.

13. REGULATORY FRAMEWORK

The **BSc (Hons) Mathematics and Data Science with Combined Studies** programme is operated under the policy and regulatory frameworks of Richmond American University London, the Middle States Commission on Higher Education, the Framework of Higher Education Qualifications, and the UK Quality Code for Higher Education.

Also key to the background for this description are the following documents:

- QAA (2024) UK Quality Code for Higher Education (www.qaa.ac.uk)
- QAA (2018) The Revised UK Quality Code for Higher Education (www.qaa.ac.uk)

- QAA (2008) Higher Education Credit Framework for England: guidance on academic credit arrangements in Higher Education in England (www.qaa.ac.uk)
- SEEC (2016) Credit Level Descriptors for Higher Education, Southern England Consortium for Credit Accumulation and Transfer
- Middle States Commission on Higher Education. Standards for Accreditation and Requirements of Affiliation. 2014: Thirteenth Edition; Rev. Ed. 2015.

Ensuring and Enhancing the Quality of the Programme

The **BSc (Hons) Mathematics and Data Science with Combined Studies** features detailed published educational objectives that are consistent with the mission of the institution**.** All course outlines contain course specific objectives that are regularly monitored by the individual instructors and by the faculty as a group.

The University has several methods for evaluating and improving the quality and standards of its provision. These include:

- External Examiners
- Internal Moderation
- Student representation
- Curricular change approval process
- Annual Programme Monitoring and Assessment
- Formal Programme Review, every five years
- Course evaluation
- Student satisfaction surveys and the NSS
- Feedback from employers

BSc in Mathematics and Data Science is provided through a system of ongoing evaluations that demonstrate achievement of the programme's objectives, and uses the results to improve the effectiveness of the programme. Ongoing evaluation is carried out for both US (the Middle States Commission on Higher Education) and UK (QAA) reviews. The University is a voluntary subscriber member of the QAA, and underwent its first full Institutional Review in May 2013 and a Higher Education Review (AP) in 2017.

14. LIBRARY RESOURCES

Books

Faculty and Students are encouraged to help in the purchase of library resources and submit requests for new purchases relating to and supporting their subject areas and research. Details of selected new acquisitions are publicized on the library subject pages and online catalogue.

The library also purchases academic ebooks to support students required reading, as well as cataloguing open access resources. These books are made available through the library catalogue.

Every year, the library collection is reviewed and non-relevant or out of date stock is withdrawn. Analysis of loans compared to purchases and new publications within core subject areas are used to drive additional purchases to make sure that the collection remains relevant and current.

Journals

At present the Library subscribes directly to approximately 30 periodical titles. Where electronic access is provided with a subscription this has been made available through the library's online Publications Finder.

In consultation with faculty the Library regularly reviews its periodical subscriptions, ensuring relevant coverage is provided as the curriculum changes.

Online journal databases

Full text e-journal services include access to Ebsco's: Academic Search Premier, Art Full Text, Business Source Premier, Communication and Mass Media Complete, Education Full Text, International Bibliography of Theatre & Dance, International Security & Counter Terrorism Reference Center , SPORTDiscus and PsycArticles; WARC and JSTOR. These provide access to around 42,000 titles, as well as business and market data and case studies.

In addition, students are directed to a multitude of other online databases which they can search for citations including Google scholar and subject specific internet gateways.

In all cases where the full text is neither in the library's subscription resources nor available online the Library provides free inter-library loans to students and faculty using the services of the British Library (BL On Demand).

Access to the e-journal databases can be found on the Library portal.

Other online resources

Other online resources include the Proquest: Global Newsstream. This is used to access 4,000 titles, mainly national and international newspapers but also to related newswires and monitoring servces. We also have a subscription to FT Education which provides on-line and mobile access to the newspaper archive as well as a wide range of digital and multi-media features, in-depth reports on a wide range of business and political topics and a digital learning tool that allows students and faculty to annotate and share articles. Additionally, the Statista platform provides easy access to over 1,900,000 statistics on a wide range of business & social topics from over 22,500 sources as well as industry reports, research dossiers and market outlooks. A subscription to Mintel Academic provides access to market research data and expertise across the retail, media and financial services sectors in the UK as well as global trends and consumer behaviour analysis.

There are pages of subject related resources on the library's portal which aim to guide students to quality internet material as well as the most relevant subscription resources.

Scanning/Digitising

Under CLA licence the library provides online access to scanned materials from the library print collection to faculty. These can then be accessed by students on a particular course of study through the member of faculty's Blackboard pages.

Library Instruction

Students are encouraged to complete a library induction session online and visit the library during Orientation. Under the Liberal Arts Core, professional librarians teach information literacy and research skills to students as an integral part of GEP 3105 Tools for Change, GEP 4105 Social Change in Practice, GEP 3180 Research & Writing I and GEP 4180 Research & Writing II courses. In addition, further sessions on subject specific resources, tailored to individual assignments as required, are offered on Upper Division courses. Students can also receive individual, tailored help with resources, research skills and referencing on a one-to-one basis either in person or online throughout their studies.

APPENDIX 1 Curriculum Map

Course Code	Course Title	Disciplinary Knowledge and understanding (A)			Disciplinary Applied Skills (B)			Communication Skills (C)			Transferrable Skills (D)		
		I	II	III	I	II	III	I	II	III	I	II	III
Level 4													
MATH 4102	Mathematics of Argument & Reasoning	*			*			*			*		
MATH 4103	Calculus with Applications	*			*			*			*		
COMP 4101	Introduction to Programming	*			*			*			*		
Complete L4 Academic Literacies required course:													
LIBA 4301	Academic Research and Writing							*			*		
Choose one L4 Arts/Humanities course from the following:													
ARTS 4101	History of Arts and Visual Cultures	*			*								
COMM 4103	Introduction to Intercultural Communication	*			*			*			*		
ADPR 4101	Introduction to Advertising, PR and Media	*			*			*			*		
LANG 4101	Korean Language and Culture 1	*			*			*					
Choose one L4 Social/Behavioural Science course from the following:													

PSYC 4101	Introduction to Psychology	*			*			*			*		
POLS 4102	Modern Political Thought	*						*					
ECON 4101	Introduction to Economics and Finance	*			*						*		
Complete L4 Data/Numeracy required course:													
MATH 4101	Probability and Statistics	*			*			*			*		
Choose one L4 Science course from the following:													
ENVR 4103	Introduction to Environmental Science	*			*			*			*		
ENVR 4102	Ecology and Conservation	*			*			*			*		
ENVR 4101	Earth Systems Science	*			*			*			*		
Level 5													
MATH 5104	Linear Algebra and Multivariable Calculus	*	*		*	*		*	*		*	*	
DATA 5102	Data Analysis and Visualisation	*	*		*	*		*	*		*	*	
MATH 5103	Game Theory and Decision Methods	*	*		*	*		*	*		*	*	
DATA 5103	Database Systems	*	*		*	*		*	*		*	*	
Complete L5 Research Methods required course:													

COMP 5301	Research Methods in Data Science	*				*			*		*		
Choose one L5 Service-Learning course from the following:													
LIBA 5301	Service Learning: Global Citizenship and Migration							*	*			*	
LIBA 5302	Service Learning: Leadership in a Globalised World							*	*			*	
LIBA 5303	Service Learning: Sustainability and Society							*	*			*	
LIBA 5304	Service Learning: Digital Collaboration							*	*			*	
Level 6													
MATH 6102	Machine Learning and Predictive Analytics	*	*	*			*		*				*
MATH 6101	Advanced Computational Methods in Data Science	*	*				*		*				*
MATH 6103	Time Series Analysis and Forecasting	*	*				*		*				*
COMP 6110	Senior Project		*	*	*	*			*		*	*	
Plus *EITHER:*													
MATH 6401	Internship							*		*	*	*	*
***Or* TWO of the following Major Options:**													
SENG 6102	Generative Artificial Intelligence	*	*		*		*		*	*			*

COMP 6101	Advanced Secure Programming	*	*		*		*		*				*
COMP 6103	Web Application Development	*	*		*		*		*			*	*
SENG 6103	Mobile App Development	*	*		*		*		*				*
COMP 6102	Project Management for IT	*	*		*		*	*					*
BUSM 6104	Leadership and People Management	*			*	*							

Faculty may access the KILO map: KILO KPO Tables

Publication Dates

Revision 1	Dec 2024 – First Edition
Revision 2	July 2025