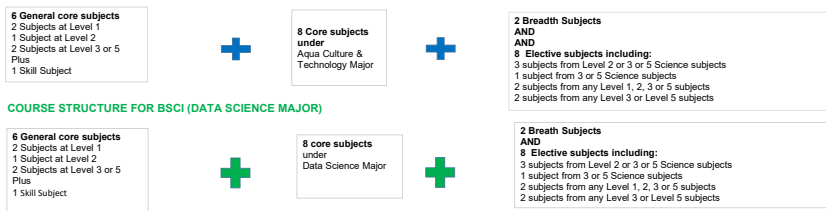


SUBJECTS PLANNER FOR BACHELOR OF SCIENCE
Version 4 - For student admitted in before SP52/2022

COURSE STRUCTURE FOR BSCI (AQUACULTURE & TECHNOLOGY MAJOR)



COURSE STRUCTURE FOR BSCI (DATA SCIENCE MAJOR)



Important Note:
Students must successfully complete 18 credit points of Level 1 and 2 science subjects before attempting any Level 3 science subject.

6 GENERAL CORE SUBJECTS For All Majors

Subject Code	Subject Name	Pre-requisites	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
SC1101	Science, Technology And Truth		✓	✓	✓	✓	✓	✓
SC1102	Modelling Natural Systems	MA1020/MA0200/Senior Maths or equivalent.	✓	✓	✓	✓	✓	✓
SC2202	Quantitative Methods In Science	SC1102 or MA1020 or Math B or Equivalent	✓	✓	✓	✓	✓	✓

18 SUBJECTS FOR Aquaculture & Technology Major

Subject Code	Subject Name	Pre-requisite	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
BS1001	Introduction To Biological Processes		✓	✓	✓	✓	✓	✓
BS1007	Introduction To Biodiversity		✓	✓	✓	✓	✓	✓
AQ2001	Introduction to Aquaculture	4 Level 1 science subjects (Subjects with Prefix: BS, BZ, CH, EA, EV, MA, MB, PH or SC).	✓	✓	✓	✓	✓	✓
BS2470	Evolution	BS1001	✓	✓	✓	✓	✓	✓
MI2031	Diagnosis Of Bacterial Diseases In Aquaculture		✓	✓	✓	✓	✓	✓
AQ3002	Aquaculture: Feeds and Nutrition	4 Level 2 science subjects and 1 Level 2 aquaculture subjects. Should have completed SC2202 and AQ2001	✓	✓	✓	✓	✓	✓
AQ3003	Aquaculture: Propagation	AQ2001 AND at least 4 Level 2 science subjects (with Prefix: AQ, BC, BS, BZ, CH, EA, EV, MA, MB, PH, or SC)	✓	✓	✓	✓	✓	✓
AQ3004	Aquaculture: Stock Improvement	4 Level 2 science subjects and 1 Level 2 aquaculture subjects. Should have completed SC2202 and AQ2001	✓	✓	✓	✓	✓	✓
AQ3015	Sustainable Aquaculture	4 Level 2 subjects	✓	✓	✓	✓	✓	✓

18 SUBJECTS FOR Data Science Major

Subject Code	Subject Name	Pre-requisite	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
MA1580	Foundations of Data Science	MA1000 or MA1020 or Maths B	✓	✓	✓	✓	✓	✓
MA1000	Mathematical Foundations	MA1020 or MATHEMATICS B or Maths C	✓	✓	✓	✓	✓	✓
CP1404	Programming II	CP1401	✓	✓	✓	✓	✓	✓
MA2405	Advanced Statistical Modelling	SC2202 and MA1000	✓	✓	✓	✓	✓	✓
MA3405	Statistical Data Mining for Big Data	MA2405 or MA2000 or SC2202	✓	✓	✓	✓	✓	✓
MA3831	Natural Language Processing, Web Scraping and Large Data Processing	CP1404 AND MA3405	✓	✓	✓	✓	✓	✓
MA3832	Neural Network and Deep Learning	MA3405 and CP1404	✓	✓	✓	✓	✓	✓
MA3212	Optimisation and Operations Research	MA2000 and MA2210	✓	✓	✓	✓	✓	✓

18 SUBJECTS FOR Internet Of Things Major (IOT)

Subject Code	Subject Name	Pre-requisite	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
CC1003	Introduction to Microcontroller Programming		✓	✓	✓	✓	✓	✓
EG1012	Electric Circuits		✓	✓	✓	✓	✓	✓
CC2003	Internet of Things Devices and Software	CC1003 and EG1012	✓	✓	✓	✓	✓	✓
MA2405	Advanced Statistical Modelling	MA1000 and SC2202	✓	✓	✓	✓	✓	✓
EE2201	Circuit Theory	EG1012 & MA2000. Allow concurrent enrolment for MA2000.	✓	✓	✓	✓	✓	✓
CC3003	Internet of Things Systems and Security	CC2003	✓	✓	✓	✓	✓	✓
EE3901	Sensor Technologies	EE2201 and CC2003	✓	✓	✓	✓	✓	✓
MA3405	Statistical Data Mining for Big Data	MA2405 or MA2000 or SC2202	✓	✓	✓	✓	✓	✓

Disclaimer: The above information is correct as below date. Due to unforeseen situation/s there might be change/s done in subject offerings before each trimester. Your understanding is greatly appreciated.

Updated on 11 April 2022



APPENDIX

1. LIST 1 OF BREATH SUBJECTS

Reminder:
1/ All students must select 2 subjects from this list.
2/ Specifically, students admitted before SP51/22 in IOT Major must select any 2 subjects from this list except MA1000 & MA1003 which are already core of your major.

Subject Code	Subject Name	Pre-requisites	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
BS1001	Introduction To Biological Processes		✓	✓	✓	✓	✓	✓
BS1007	Introduction To Biodiversity		✓	✓	✓	✓	✓	✓
CP1401	Problem Solving And Programming 1		✓	✓	✓	✓	✓	✓
CP1404	Programming II	CP1401	✓	✓	✓	✓	✓	✓
EA1110	Evolution Of The Earth		✓	✓	✓	✓	✓	✓
EV1005	Environmental Processes And Global Change		✓	✓	✓	✓	✓	✓
MA1000	Mathematical Foundations	MA1020 OR Maths B OR Maths C	✓	✓	✓	✓	✓	✓
MA1003	Mathematical Techniques	MA1000	✓	✓	✓	✓	✓	✓

2. LIST 2 OF SKILL SUBJECTS

Reminder: All students must select 2 subjects from this list.

Subject Code	Subject Name	Pre-requisite	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
CP2404	Database Modelling	4 Level 1 subjects	✓	✓	✓	✓	✓	✓
EV2502	Introduction To Geographic Information Systems	MA1003. Recommended to complete MA2000.	✓	✓	✓	✓	✓	✓
MA2210	Linear Algebra		✓	✓	✓	✓	✓	✓
MA2000	Mathematics for Scientists and Engineers	MA1003	✓	✓	✓	✓	✓	✓
MA2830	Data Visualisation		✓	✓	✓	✓	✓	✓

3. LIST OF SCIENCE SUBJECTS LEVEL 2,3,5

Subject Code	Subject Name	Pre-requisite	Year 2022			Year 2023		
			SP51	SP52	SP53	SP51	SP52	SP53
AQ2002	Aquaculture of Tropical Species	4 Level 1 science subjects (Subjects with Prefix: BS, BZ, CH, EA, EV, MA, MB, PH or SC).	✓	✓	✓	✓	✓	✓
AQ3002	Aquaculture: Feeds and Nutrition	4 Level 2 science subjects and 1 Level 2 aquaculture subjects. Should have completed SC2202 and AQ2001 or equivalent.	✓	✓	✓	✓	✓	✓
AQ3003	Aquaculture: Propagation	AQ2001 AND 4 Level 2 science subjects (with Prefix: AQ, BC, BS, BZ, CH, EA, EV, MA, MB, PH, or SC)	✓	✓	✓	✓	✓	✓
AQ3004	Aquaculture: Stock Improvement	4 Level 2 science subjects and 1 Level 2 aquaculture subjects. Should have completed SC2202 & AQ2001 or equivalent.	✓	✓	✓	✓	✓	✓
AQ3015	Sustainable Aquaculture	4 Level 2 subjects	✓	✓	✓	✓	✓	✓
BS2460	Fundamentals of Ecology	2 Level 1 or 2 BS or EV subjects	✓	✓	✓	✓	✓	✓
BS2470	Evolution	BS1001	✓	✓	✓	✓	✓	✓
CP2403	Information Processing and Visualisation	4 Subjects. Inadmissible with CP3413	✓	✓	✓	✓	✓	✓
CP2404	Database Modelling		✓	✓	✓	✓	✓	✓
CP2405	Collective Intelligence and Entrepreneurship	8 Subjects	✓	✓	✓	✓	✓	✓
CP2406	Programming III	CP1404	✓	✓	✓	✓	✓	✓
CP2408	Design Thinking and Creative IT Industries	CP1403	✓	✓	✓	✓	✓	✓
CP2409	Network Forensics and Data Communications	CP1402	✓	✓	✓	✓	✓	✓
CP2410	Algorithms and Data Structures	2 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP2411	3D Modelling and Animation	2 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP2412	Game Design and Technologies	2 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP2414	Network Security	CP1402 and 1 Subject with CP Prefix	✓	✓	✓	✓	✓	✓
CP2421	Machine Learning for Cybersecurity	CP1401 AND MA1580	✓	✓	✓	✓	✓	✓
CP2422	Cloud and Data Center Security	CP1401	✓	✓	✓	✓	✓	✓
CP2423	Cybersecurity Infrastructure and Management	CP1401	✓	✓	✓	✓	✓	✓
CP2424	Cybersecurity Risk Management	4 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP3401	e-Strategic Management	8 Subjects	✓	✓	✓	✓	✓	✓
CP3402	Content Management Systems	CP1404 AND CP1406 AND 8 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP3403	Data Mining	CP3403 and CP2404 or 6 Subjects including any 2 with CP Prefix	✓	✓	✓	✓	✓	✓
CP3404	Information Security	CP2414 or 6 Subjects including CP1402	✓	✓	✓	✓	✓	✓
CP3405	Design Thinking and Project Management	CP2408	✓	✓	✓	✓	✓	✓
CP3406	Mobile Computing	CP1404	✓	✓	✓	✓	✓	✓
CP3407	Advanced Software Engineering	CP1404 and 6 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP3408	Game Engine and Simulation	CP1404 and 6 Subjects with CP Prefix	✓	✓	✓	✓	✓	✓
CP3413	Information Processing and Visualisation	4 Subjects with BU/BX Prefix Inadmissible with CP2403	✓	✓	✓	✓	✓	✓
CP3414	Ethical Hacking	CP2422 and CP2423	✓	✓	✓	✓	✓	✓
CP3415	Strategy and Governance	CP3424	✓	✓	✓	✓	✓	✓
CP3416	Behavioral Cybersecurity	12 Subjects with MA / CP Prefix	✓	✓	✓	✓	✓	✓
CP3417	Cybersecurity for Operational Technology	CP2423	✓	✓	✓	✓	✓	✓
CP3418	Best Practices in Cybersecurity	CP3414	✓	✓	✓	✓	✓	✓
EE2201	Circuit Theory	EG1012 and MA2000. Allow concurrent enrolment for MA2000.	✓	✓	✓	✓	✓	✓
EE3901	Sensor Technologies	EE2201 and CC2003	✓	✓	✓	✓	✓	✓
EV2011	The Case for Sustainability		✓	✓	✓	✓	✓	✓
EV2502	Introduction to Geographic Information Systems	4 Level 1 subjects	✓	✓	✓	✓	✓	✓
EV3011	Sustainability in Practice		✓	✓	✓	✓	✓	✓
EV3110	Environmental and Social Impact Assessment	4 Level 2 subjects	✓	✓	✓	✓	✓	✓
MA2000	Mathematics for Scientists and Engineers	MA1003	✓	✓	✓	✓	✓	✓
MA2210	Linear Algebra	MA1003. Recommended to complete MA2000.	✓	✓	✓	✓	✓	✓
MA2211	Discrete Mathematics	Maths B	✓	✓	✓	✓	✓	✓
MA2405	Advanced Statistical Modelling	SC2202 and MA1000	✓	✓	✓	✓	✓	✓
MA2830	Data Visualisation		✓	✓	✓	✓	✓	✓
MA3212	Optimisation and Operations Research	MA2000 and MA2210	✓	✓	✓	✓	✓	✓
MA3405	Statistical Data Mining for Big Data	MA2405 or MA2000 or SC2202	✓	✓	✓	✓	✓	✓
MA3831	Natural Language Processing, Web Scraping and Large Data Processing	CP1404 AND MA3405	✓	✓	✓	✓	✓	✓
MA3832	Neural Network and Deep Learning	MA3405 and CP1404	✓	✓	✓	✓	✓	✓
MB3200	Marine Conservation Biology	SC2202 or BS2460	✓	✓	✓	✓	✓	✓
MB5001	Tropical Marine Ecology and Coastal Impacts	Available to undergraduate students in their third year with a GPA >5	✓	✓	✓	✓	✓	✓
MI2031	Diagnosis Of Bacterial Diseases In Aquaculture		✓	✓	✓	✓	✓	✓

* To request enrolment in this subject student/s should (1) attain approval from a research supervisor (usually an academic or research staff member in the College), (2) identify a project in consultation with the supervisor, and (3) email confirmation from supervisor and a brief description of the project to the subject coordinator.