B.Sc. (Hons) in Statistics

Requirements for Cohorts AY2021/22 and after

Levels	Major Requirements	Cumulative Major Units
Level 1000 (4 Units)	Pass: • ST1131 Introduction to Statistics and Statistical Computing [1]	4
Level 2000 (24 Units)	Pass: • MA2001 Linear Algebra I • MA2002 Calculus • MA2104 Multivariable Calculus ***or*** MA2311 Techniques in Advanced Calculus • ST2131/MA2116/MA2116T Probability • ST2132 Mathematical Statistics • ST2137 Statistical Computing and Programming	28
Level 3000 (16 Units)	Pass: • ST3131 Regression Analysis • **Three** courses from the following: ○ ST32xx (except ST328x [2]) ○ ST42xx (except ST4288)	44
Level 4000 (16 Units)	Choose **either** Option A or Option B: Option A • **Four** courses from ST42xx (except ST4288) Option B • **Two** courses from ST42xx (except ST4288) • ST4288 Honours Project in Statistics	60

To graduate with a Major in Statistics, a student must have read and passed at least one of the following:
(1) ST2288 / ST2288R [2]
(2) ST3288 / ST3288R [2]
(3) ST4288
(4) Any UPIP course [3]
(5) Any NOC Internship course

Notes:
[1] ST1131 will be read in fulfilment of the Data Literacy requirement under the College of Humanities and Sciences (CHS).
[2] UROPS courses cannot be used to fulfil the major requirements; instead, they will be classified under Unrestricted Electives.
[3] UPIP will count towards graduation requirements under Unrestricted Electives. Students who have passed a FASSIP course before switching to a primary major in Statistics would be deemed to have fulfilled this requirement.

Students majoring in Statistics have the option to pursue **specialisations** in **(A) Data Science** and/or **(B) Finance and Business Statistics**.

(A) To be awarded a specialisation in **Data Science**, **pass (at least) 20 Units** from the following two lists (DS1, DS2), with **at least 8 Units from List DS 1**.

List	Level 3000	Level 4000
DS1	• CS3243 Introduction to Artificial Intelligence^ • CS3244 Machine Learning^ • MA3270 Mathematics for Artificial Intelligence • ST3248 Statistical Learning I	• DSA4213 Natural Language Processing for Data Science • MA4275 Mathematics of Reinforcement Learning • ST4248 Statistical Learning II • ST4250 Multivariate Statistical Analysis
DS2	• CS3210 Parallel Computing^ • MA3252 Linear Network Optimisation • ST3247 Simulation	• CS4231 Parallel and Distributed Algorithms^ • DSA4211 High-Dimensional Statistical Analysis • DSA4212 Optimisation for Large-Scale Data-Driven Inference • DSE4211 / QF4211 Digital Currencies^ • DSE4212 / QF4212 Data Science in FinTech^ • MA4268 Mathematics for Visual Data Processing^ • ST4234 Bayesian Statistics

(B) To be awarded a specialisation in **Finance and Business Statistics**, a student must pass **(at least) 20 Units** from the following two lists, with **at least 8 Units from each list (FBS1, FBS2)**:

List	Level 3000	Level 4000
FBS1	• ST3234 Actuarial Statistic • ST3246 Statistical Models for Actuarial Science	• DSE4211 / QF4211 Digital Currencies^ • DSE4212 / QF4212 Data Science in FinTech^ • QF4103 Mathematical Models of Financial Derivatives^ • ST4245 Statistical Methods for Finance • ST4253 Applied Time Series Analysis
FBS2	• ST3232 Design and Analysis of Experiments • ST3236/MA3238/MA3238S Stochastic Processes I • ST3239 Survey Methodology • ST3244 Demographic Methods	• ST4238 Stochastic Processes II • ST4252 Applied Survival Analysis

^: Students who wish to read these courses may have to read additional pre-requisite courses.

Sample Study Plan – Major in Statistics

Year 1		Year 2		Year 3		Year 4	
Sem 1	**Sem 2**	**Sem 1**	**Sem 2**	**Sem 1**	**Sem 2**	**Sem 1**	**Sem 2**
Pair 1: Humanities Pair 2: Social Sciences	Pair 1: Social Sciences Pair 2: Humanities	Writing	Communities and Engagement	Interdisciplinary I	Interdisciplinary II	Major 13	Major 15
Pair 1: Scientific Inquiry I Pair 2: Asian Studies	Pair 1: Asian Studies Pair 2: Scientific Inquiry I	Scientific Inquiry II	Artificial Intelligence	Major 9	Major 11	Major 14	UE 10
Pair 1: Digital Literacy (CS1010S) Pair 2: Design Thinking	Pair 1: Design Thinking Pair 2: Digital Literacy (CS1010S)	MA2311 Techniques in Advanced Calculus/ MA2104 Multivariable Calculus	ST2137 Statistical Computing and Programming	Major 10	Major 12	UE 7	UE 11
ST1131* Introduction to Statistics and Statistical Computing	MA2001 Linear Algebra I	ST2132 Mathematical Statistics or ST3131	ST3131 Regression Analysis or ST2132	UE 3	UE 5	UE 8	UE 12
MA2002 Calculus	ST2131 Probability	UE 1	UE 2	UE 4	UE 6	UE 9	UE 13

* ST1131 fulfils the Data Literacy requirement

The actual pre-allocation of CHS Common Curriculum courses may differ from the sample study plan. For the actual pre-allocation pairings, please refer to the Faculty of Science website here.

Notes on CHS Common Curriculum courses:

Students are strongly encouraged to complete all CHS Common Curriculum courses in their first two years **except** for the following 3 courses:

- ❖ Communities and Engagement course – can be taken from Years 2 to 4*
- ❖ Two Interdisciplinary courses – can be taken in Years 3 and 4

*Important Note on Workload: Semester vs. Year-long C&E courses

- Some C&E courses, usually the field/project-work courses, are regular intense 4-Unit courses with work completed within one semester.

- Other C&E courses, especially the service-work courses, are spread out over two consecutive semesters, or up to one year, that is, **Semester 1 through Semester 2 to Special Term 2**; or **Semester 2 through the Special Terms to Semester 1 of following Academic Year (AY)**. You may click here for more details on the service-work courses.

- For students who read year-long C&E courses which extend till Special Term (during the summer break) after their 8th semester, please note that grades are awarded only at the end of Special Term 2. As a result, the degree will be conferred in late August, and students will participate in the Commencement ceremony in the following academic year, rather than in the same AY as the completion of the course. For more details, please check out the FAQ here.

- As such, students who prefer to take year-long C&E courses instead of semester-long courses (which may have limited capacity each semester) are encouraged to plan ahead by including the C&E course earlier in the study plan, for example, during Year 2 of study.

  This would allow students to plan for other enrichment programmes (such as Student Exchange programmes, NOC and/or UPIP/Internships) during Year 3, rather than deferring this requirement to Year 4. This is especially beneficial as students typically need to devote time for their job search in the final semester while completing their remaining graduation requirements.

- For more enquiries, please check out the FAQ, or email the C&E team at **AskCnE@nus.edu.sg**.