

**Bachelor of Computing (Information Security)
with Minor in Innovation & Design**

Cohort AY2023/2024

Course Requirements	Units
Common Curriculum	
CS1010 Programming Methodology ¹	4
GE: Critique and Expression ²	4
GE: Communities and Engagement ²	4
GE: Cultures and Connections ²	4
GE: Data Literacy ²	4
GE: Singapore Studies ²	4
IS1108 Digital Ethics and Data Privacy	4
Interdisciplinary Courses ³	8
Group A course for Minor ³ (double-counted as Cross-disciplinary Course)	4
Sub-total for Common Curriculum	40
Programme Requirements	
CS1231S Discrete Structures	4
CS2030 Programming Methodology II	4
CS2040C Data Structures and Algorithms	4
CS2100 Computer Organisation	4
CS2101 Effective Communication for Computing Professionals ⁴	4
CS2103T Software Engineering ⁴	4
CS2105 Introduction to Computer Networks	4
CS2106 Introduction to Operating Systems	4
CS2107 Introduction to Information Security	4
CS3235 Computer Security	4
IS4231 Information Security Management	4
MA1521 Calculus for Computing	4
MA1522 Linear Algebra for Computing	4
ST2334 Probability and Statistics	4
IFS4205 Information Security Capstone Project or CS4238 Computer Security Practice and IFS4103 Penetration Testing Practice	8
Programme electives	8
Computing requirements ⁵	12
Sub-total for Programme Requirements	84
Unrestricted Electives	
Group B course for Minor	4
CDE3301/EG3301R Ideas to Proof-of-Concept (over 2 consecutive semesters)	12
Other unrestricted electives	20
Sub-total for Unrestricted Electives	36
Total	168

Innovation & Design Programme
NUS College of Design and Engineering

Notes:

- ¹ Digital Literacy is satisfied by CS1010.
- ² Students may read equivalent courses in NUS College (NUSC), University Town College Programme (UTCP), and Ridge View Residential Programme (RVRC).
- ³ Students in this Minor are highly recommended to read DTK1234 Design Thinking or EG1311 Design and Make as an Interdisciplinary Course before taking the Group A course.
- ⁴ Students taking CS2103T must take CS2101 in the same semester.
- ⁵ Students are required to satisfy at least 6 units of Industrial Experience Requirement. Those with GPA of 4.00 or higher may opt to replace Industry Experience Requirement with CP4101 B.Comp. Dissertation.

Recommended semester schedule

(for students who opt for vacation internship and may want to upgrade to a Second Major)

Semester 1	Units	Semester 2	Units
MA1521 Calculus for Computing	4	MA1522 Linear Algebra for Computing	4
CS1010 Programming Methodology	4	ST2334 Probability and Statistics	4
CS1231S Discrete Structures	4	CS2030 Programming Methodology II	4
IS1108 Digital Ethics and Data Privacy	4	CS2040C Data Structures and Algorithms	4
Interdisciplinary Course 1 [^]	4	CS2100 Computer Organisation	4
		Group A/B course for Minor	4
Sub-total	20	Sub-total	24

Semester 3	Units	Semester 4	Units
CS2105 Introduction to Computer Networks	4	CS2101 Effective Communication for Computing Professionals	4
CS2106 Introduction to Operating Systems	4	CS2103T Software Engineering	4
CS2107 Introduction to Information Security	4	CS3235 Computer Security	4
GE	4	GE	4
Group A/B course for Minor	4	CDE3301/EG3301R Ideas to Proof-of-Concept	6
Sub-total	20	Sub-total	22

Summer vacation between Semesters 4 and 5	Units
CP3200 Internship	6
Sub-total	6

Semester 5	Units	Semester 6 – can be used for SEP	Units
CDE3301/EG3301R Ideas to Proof-of-Concept	6	Computing course 1	4
IFS4205 Information Security Capstone Project	8	Interdisciplinary Course 2	4
GE *	4	GE *	4
GE *	4	UE	4
		UE	4
Sub-total	22	Sub-total	20

Semester 7	Units	Semester 8	Units
IS4231 Information Security Management	4	Programme elective 1	4
Computing course 2	2	Programme elective 2	4
UE	4	UE	4
UE	4		
Sub-total	14	Sub-total	12

[^] Students in this Minor are highly recommended to read DTK1234 Design Thinking or EG1311 Design and Make as an Interdisciplinary Course before taking the Group A course.

* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these courses earlier.

Recommended semester schedule

(for students who opt for full-semester internship and may want to upgrade to a Second Major)

Semester 1	Units	Semester 2	Units
MA1521 Calculus for Computing	4	MA1522 Linear Algebra for Computing	4
CS1010 Programming Methodology	4	ST2334 Probability and Statistics	4
CS1231S Discrete Structures	4	CS2030 Programming Methodology II	4
IS1108 Digital Ethics and Data Privacy	4	CS2040C Data Structures and Algorithms	4
Interdisciplinary Course 1 ^	4	CS2100 Computer Organisation	4
		Group A/B course for Minor	4
Sub-total	20	Sub-total	24

Semester 3	Units	Semester 4	Units
CS2105 Introduction to Computer Networks	4	CS2101 Effective Communication for Computing Professionals	4
CS2106 Introduction to Operating Systems	4	CS2103T Software Engineering	4
CS2107 Introduction to Information Security	4	CS3235 Computer Security	4
GE	4	GE	4
Group A/B course for Minor	4	CDE3301/EG3301R Ideas to Proof-of-Concept	6
Sub-total	20	Sub-total	22

Semester 5	Units	Semester 6	Units
CDE3301/EG3301R Ideas to Proof-of-Concept	6	CP3880 Advanced Technology Attachment Programme	12
IFS4205 Information Security Capstone Project	8		
GE *	4		
GE *	4		
Sub-total	22	Sub-total	12

Semester 7	Units	Semester 8	Units
IS4231 Information Security Management	4	Programme elective 1	4
GE *	4	Programme elective 2	4
Interdisciplinary Course 2	4	UE	4
UE	4	UE	4
UE	4	UE	4
Sub-total	20	Sub-total	20

^ Students in this Minor are highly recommended to read DTK1234 Design Thinking or EG1311 Design and Make as an Interdisciplinary Course before taking the Group A course.

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Recommended semester schedule

(for students who opt for vacation internship and not planning to upgrade to a Second Major)

Semester 1	Units	Semester 2	Units
MA1521 Calculus for Computing	4	MA1522 Linear Algebra for Computing	4
CS1010 Programming Methodology	4	ST2334 Probability and Statistics	4
CS1231S Discrete Structures	4	CS2030 Programming Methodology II	4
IS1108 Digital Ethics and Data Privacy	4	CS2040C Data Structures and Algorithms	4
GE	4	CS2100 Computer Organisation	4
Sub-total	20	Sub-total	20

Semester 3	Units	Semester 4	Units
CS2105 Introduction to Computer Networks	4	CS2101 Effective Communication for Computing Professionals	4
CS2106 Introduction to Operating Systems	4	CS2103T Software Engineering	4
CS2107 Introduction to Information Security	4	CS3235 Computer Security	4
GE	4	GE	4
Interdisciplinary Course 1 ^	4	Group A/B course for Minor	4
Sub-total	20	Sub-total	20

Summer vacation between Semesters 4 and 5	Units
CP3200 Internship	6
Sub-total	6

Semester 5	Units	Semester 6	Units
IFS4205 Information Security Capstone Project	8	CDE3301/EG3301R Ideas to Proof-of-Concept	6
GE *	4	Computing course 1	4
GE *	4	Interdisciplinary Course 2	4
Group A/B course for Minor	4	UE	4
		UE	4
Sub-total	20	Sub-total	22

Semester 7	Units	Semester 8	Units
CDE3301/EG3301R Ideas to Proof-of-Concept	6	Programme elective 1	4
IS4231 Information Security Management	4	Programme elective 2	4
Computing course 2	2	UE	4
UE	4	UE	4
Sub-total	16	Sub-total	16

^ Students in this Minor are highly recommended to read DTK1234 Design Thinking or EG1311 Design and Make as an Interdisciplinary Course before taking the Group A course.

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Recommended semester schedule

(for students who opt for full-semester internship and not planning to upgrade to a Second Major)

Semester 1	Units	Semester 2	Units
MA1521 Calculus for Computing	4	MA1522 Linear Algebra for Computing	4
CS1010 Programming Methodology	4	ST2334 Probability and Statistics	4
CS1231S Discrete Structures	4	CS2030 Programming Methodology II	4
IS1108 Digital Ethics and Data Privacy	4	CS2040C Data Structures and Algorithms	4
GE	4	CS2100 Computer Organisation	4
Sub-total	20	Sub-total	20

Semester 3	Units	Semester 4	Units
CS2105 Introduction to Computer Networks	4	CS2101 Effective Communication for Computing Professionals	4
CS2106 Introduction to Operating Systems	4	CS2103T Software Engineering	4
CS2107 Introduction to Information Security	4	CS3235 Computer Security	4
GE	4	GE	4
Interdisciplinary Course 1 ^	4	Group A course for Minor	4
		Group B course for Minor	4
Sub-total	20	Sub-total	24

Semester 5	Units	Semester 6	Units
CP3880 Advanced Technology Attachment Programme	12	CDE3301/EG3301R Ideas to Proof-of-Concept	6
		Interdisciplinary Course 2	4
		GE *	4
		GE *	4
		UE	4
Sub-total	12	Sub-total	22

Semester 7	Units	Semester 8	Units
CDE3301/EG3301R Ideas to Proof-of-Concept	6	Programme elective 1	4
IFS4205 Information Security Capstone Project	8	Programme elective 2	4
IS4231 Information Security Management	4	UE	4
UE	4	UE	4
		UE	4
Sub-total	22	Sub-total	20

^ Students in this Minor are highly recommended to read DTK1234 Design Thinking or EG1311 Design and Make as an Interdisciplinary Course before taking the Group A course.

* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these courses earlier.