Innovation & Design Programme
NUS College of Design and Engineering

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

Cohort AY2024/2025

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 Ideas to Proof-of-Concept (over 2 consecutive semesters)	12
Other unrestricted electives	20
Sub-total for Unrestricted Electives	**36**
Total	**168**

(updated 11 July 2024)

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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.

(updated 11 July 2024)

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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 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 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.

(updated 11 July 2024)

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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 Ideas to Proof-of-Concept	6
Sub-total	**20**	**Sub-total**	**22**

Semester 5	Units	Semester 6	Units
CDE3301 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.

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

(updated 11 July 2024)

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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 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 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.

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

(updated 11 July 2024)

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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 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 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.

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