## **AY2025 2026 AND LATER COHORTS**

# **Curriculum for Bachelor of Computing (Computer Science)**

## With a Second Major in Business

**Mainstream Track** 

PI option: 20-WEEK Professional Internship

|               | SUMMARY OF ACADEMIC UNIT REQUIREMENT |      |          |               |                        |                        |     |          |
|---------------|--------------------------------------|------|----------|---------------|------------------------|------------------------|-----|----------|
|               | Ma                                   | ajor |          |               | ICC                    |                        |     |          |
| Year of Study | Core                                 | MPE  | Business | Common - Core | Professional<br>Series | Care, Serve &<br>Learn | BDE | Total AU |
| 1             | 19                                   | 0    | 6        | 8             | 3                      | 0                      | 0   | 36       |
| 2             | 21                                   | 0    | 6        | 6             | 0                      | 3                      | 0   | 36       |
| 3             | 7                                    | 6    | 6        | 0             | 12                     | 0                      | 0   | 31       |
| 4             | 0                                    | 29   | 12       | 0             | 1                      | 0                      | 0   | 42       |
| Total         | 47                                   | 35   | 30       | 14            | 16                     | 3                      | 0   | 145      |

#### **Recommended Course Schedule**

|             | YEAR 1 SEMESTER 1                                    |                     |    |                               |  |  |  |  |
|-------------|--|---------------------|----|-------------------------------|--|--|--|--|
| Course Code | Course Title   | Туре                | AU | Pre-requisite                 |  |  |  |  |
| SC1003      | Introduction to Computational Thinking & Programming | Professional Series | 3  | Nil                           |  |  |  |  |
| SC1004      | Linear Algebra for Computing                         | Core                | 4  | SC1003 (co-requisite)         |  |  |  |  |
| MH1812      | Discrete Mathematics                                 | Core                | 3  | Nil                           |  |  |  |  |
| CC0003      | Ethics & Civics in a Multicultural World             | C-Core              | 2  | Nil                           |  |  |  |  |
| CC0015      | Health & Wellbeing                                   | C-Core              | 2  | Nil                           |  |  |  |  |
| AB1201      | Financial Management                                 | Business            | 3  | Nil                           |  |  |  |  |
| HW0001      | Introduction to Academic Communication               | -                   | -  | For student failed QET        |  |  |  |  |
| HW0002      | Calculus   | -                   | -  | For student not done Calculus |  |  |  |  |
|             |  |                     | 17 |                               |  |  |  |  |

|             | YEAR 1 SEMESTER 2  |          |    |                       |  |  |  |  |
|-------------|--|----------|----|-----------------------|--|--|--|--|
| Course Code | Course Title   | Туре     | AU | Pre-requisite         |  |  |  |  |
| SC1005      | Digital Logic  | Core     | 3  | Nil                   |  |  |  |  |
| SC1006      | Computer Organisation & Architecture                     | Core     | 3  | SC1005 (co-requisite) |  |  |  |  |
| SC1007      | Data Structures & Algorithms                             | Core     | 3  | SC1003                |  |  |  |  |
| SC1008      | C and C++ Programming                                    | Core     | 3  | SC1003                |  |  |  |  |
| CC0001      | Inquiry & Communication in an Interdisciplinary World    | C-Core   | 2  | Nil                   |  |  |  |  |
| ML0004      | Career Design & Workplace Readiness in the V.U.C.A World | C-Core   | 2  | Nil                   |  |  |  |  |
| AB1501      | Marketing  | Business | 3  | Nil                   |  |  |  |  |
|             |  |          | 19 |                       |  |  |  |  |

Year 1 Total AU 36

|             | YEAR 2 SEMESTER 1                      |          |    |                          |  |  |  |  |
|-------------|--|----------|----|--------------------------|--|--|--|--|
| Course Code | Course Title                           | Туре     | AU | Pre-requisite            |  |  |  |  |
| SC2000      | Probability & Statistics for Computing | Core     | 3  | Nil                      |  |  |  |  |
| SC2001      | Algorithm Design & Analysis            | Core     | 3  | SC1007 & MH1812          |  |  |  |  |
| SC2002      | Object Oriented Design & Programming   | Core     | 3  | SC1003 OR SC1007         |  |  |  |  |
| SC2005      | Operating Systems                      | Core     | 3  | SC1006 & SC1007          |  |  |  |  |
| CC0007      | Science & Technology for Humanity      | C-Core   | 3  | Nil                      |  |  |  |  |
| AD1102      | Financial Accounting                   | Business | 3  | Nil                      |  |  |  |  |
| CSL         | CSL (service learning course)- Part 1  | CSL      | -  | (Continue in Semester 2) |  |  |  |  |
|             |  |          |    |                          |  |  |  |  |
|             |  |          | 18 |                          |  |  |  |  |

|             | YEAR 2 SEMESTER 2                              |          |    |                            |  |  |  |  |
|-------------|--|----------|----|----------------------------|--|--|--|--|
| Course Code | Course Title                                   | Туре     | AU | Pre-requisite              |  |  |  |  |
| SC2006      | Software Engineering                           | Core     | 3  | SC2002 (co-requisite)      |  |  |  |  |
| SC2008      | Computer Network                               | Core     | 3  | SC2000 & SC1004            |  |  |  |  |
| SC2207      | Introduction to Databases                      | Core     | 3  | SC2001 (co-requisite)      |  |  |  |  |
| CC0006      | Sustainability: Society, Economy & Environment | C-Core   | 3  | Nil                        |  |  |  |  |
| AB1601      | Organisational Behaviour and Design            | Business | 3  | Nil                        |  |  |  |  |
| CSL         | CSL (service learning course)- Part 2          | CSL      | 3  | (Continue from Semester 1) |  |  |  |  |
|             |  |          |    |                            |  |  |  |  |
|             |  |          | 18 |                            |  |  |  |  |

Year 2 Total AU

| YEAR 3 SEMESTER 1 |  |                     |    |                          |  |  |  |
|-------------------|--|---------------------|----|--------------------------|--|--|--|
| Course Code       | Course Title   | Туре                | AU | Pre-requisite            |  |  |  |
| SC2203            | Automata. Computability and Complexity                 | Core                | 3  | SC2001 (co-requisite)    |  |  |  |
| SC3099            | Capstone   | Core                | 4  | Year 3 Standing          |  |  |  |
| HW0288            | Engineering Communication                              | Professional Series | 2  | CC0001 & Year 3 standing |  |  |  |
| SC3xxx/SC4xxx     | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing          |  |  |  |
| SC3xxx/SC4xxx     | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing          |  |  |  |
| AD2102            | Management Accounting                                  | Business            | 3  | AD1102                   |  |  |  |
| AB1301            | Business Law   | Business            | 3  | Nil                      |  |  |  |
|                   |  |                     | 21 |                          |  |  |  |

|  | YEAR 3 SEMESTER 2                |                     |    |                 |  |  |  |  |
|--|----------------------------------|---------------------|----|-----------------|--|--|--|--|
| Course Code Course Title Type AU Pre-requisite |                                  |                     |    |                 |  |  |  |  |
| SC3920   | Professional Internship (Graded) | Professional Series | 10 | Year 3 Standing |  |  |  |  |
|  |                                  |                     |    |                 |  |  |  |  |
|  |                                  |                     | 10 |                 |  |  |  |  |

Year 3 Total AU <u>31</u>

|               | YEAR 4 SEMESTER 1                                      |                     |    |                 |  |  |  |  |
|---------------|--|---------------------|----|-----------------|--|--|--|--|
| Course Code   | Course Title   | Туре                | AU | Pre-requisite   |  |  |  |  |
| SC4079        | Final Year Project (Part 1)                            | MPE                 | 4  | Year 4 Standing |  |  |  |  |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing |  |  |  |  |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing |  |  |  |  |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing |  |  |  |  |
| SC4xxx        | Major Prescribe Elective (Choose within SC4xxx)        | MPE                 | 3  | Year 3 Standing |  |  |  |  |
| BF2219        | Investments  | Business            | 3  | AB1201          |  |  |  |  |
| BE2602        | Management Principles, Skills & Competencies           | Business            | 3  | AB1601          |  |  |  |  |
| ML0015        | Profession Preparation                                 | Professional Series | 1  | Nil             |  |  |  |  |
|               |  |                     | 23 |                 |  |  |  |  |

|             | YEAR 4 SEMESTER 2                               |                 |           |                 |  |  |  |  |
|-------------|---|-----------------|-----------|-----------------|--|--|--|--|
| Course Code | Course Title                                    | Туре            | AU        | Pre-requisite   |  |  |  |  |
| SC4079      | Final Year Project (Part 2)                     | MPE             | 4         | Year 4 Standing |  |  |  |  |
| SC4xxx      | Major Prescribe Elective (Choose within SC4xxx) | MPE             | 3         | Year 3 Standing |  |  |  |  |
| SC4xxx      | Major Prescribe Elective (Choose within SC4xxx) | MPE             | 3         | Year 3 Standing |  |  |  |  |
| SC4xxx      | Major Prescribe Elective (Choose within SC4xxx) | MPE             | 3         | Year 3 Standing |  |  |  |  |
| BM2509      | Consumer Insights                               | Business        | 3         | AB1501          |  |  |  |  |
| BE1402      | Business Operations & Process                   | Business        | 3         | Nil             |  |  |  |  |
|             |   |                 |           |                 |  |  |  |  |
|             |   |                 | 19        |                 |  |  |  |  |
|             |   | Year 4 Total AU | <u>42</u> |                 |  |  |  |  |

#### Note:

- 1. Students are required to complete **9 Major Prescribed Electives** (SC3xxx or SC4xxx), including **at least 4 at the SC4xxx level**.
- 2. Students may choose to complete a **Final Year Project (FYP)** or take **3 additional MPEs** in its place.
- 3. In order to graduate with **Highest Distinction**, students must complete a **Final Year Project**.

| MPE Structure of Computer Science (U24 and after) |                 |               |                                     |  |  |  |  |
|---|-----------------|---------------|-------------------------------------|--|--|--|--|
| Course Code                                       | Туре            | AU            | Remarks                             |  |  |  |  |
| SC3000  | MPE-1           | 3             | MPE (Complusory)                    |  |  |  |  |
| SC3010  | MPE-2           | 3             | MPE (Complusory)                    |  |  |  |  |
| SC3xxx/SC4xxx                                     | MPE-3           | 3             | Any MPE                             |  |  |  |  |
| SC3xxx/SC4xxx                                     | MPE-4           | 3             | Any MPE                             |  |  |  |  |
| SC3xxx/SC4xxx                                     | MPE-5           | 3             | Any MPE                             |  |  |  |  |
| SC4xxx  | MPE-6           | 3             | MPE (Choose within SC4xxx)          |  |  |  |  |
| SC4xxx  | MPE-7           | 3             | MPE (Choose within SC4xxx)          |  |  |  |  |
| SC4xxx  | MPE-8           | 3             | MPE (Choose within SC4xxx)          |  |  |  |  |
| SC4xxx  | MPE-9           | 3             | MPE (Choose within SC4xxx)          |  |  |  |  |
|   | Total 27        |               |                                     |  |  |  |  |
| Please ref  | er to the CSC I | MPE Courses a | and Specialization on CCDS website. |  |  |  |  |

Classification: Restricted

## **AY2025 2026 AND LATER COHORTS**

# **Curriculum for Bachelor of Computing (Computer Science)**

## With a Second Major in Business Mainstream Track

PA option: 10-WEEK Professional Attachment

|               | SUMMARY OF ACADEMIC UNIT REQUIREMENT |      |          |               |                        |                        |     |          |
|---------------|--------------------------------------|------|----------|---------------|------------------------|------------------------|-----|----------|
|               | Ma                                   | ijor |          |               | ICC                    |                        |     |          |
| Year of Study | Core                                 | MPE  | Business | Common - Core | Professional<br>Series | Care, Serve &<br>Learn | BDE | Total AU |
| 1             | 19                                   | 0    | 6        | 8             | 3                      | 0                      | 0   | 36       |
| 2             | 21                                   | 0    | 6        | 6             | 0                      | 3                      | 0   | 36       |
| 3             | 7                                    | 18   | 9        | 0             | 7                      | 0                      | 2   | 43       |
| 4             | 0                                    | 17   | 9        | 0             | 1                      | 0                      | 3   | 30       |
| Total         | 47                                   | 35   | 30       | 14            | 11                     | 3                      | 5   | 145      |

#### **Recommended Course Schedule**

| YEAR 1 SEMESTER 1 |  |                     |               |                               |  |  |  |
|-------------------|--|---------------------|---------------|-------------------------------|--|--|--|
| Course Code       | Course Title   | AU                  | Pre-requisite |                               |  |  |  |
| SC1003            | Introduction to Computational Thinking & Programming | Professional Series | 3             | Nil                           |  |  |  |
| SC1004            | Linear Algebra for Computing                         | Core                | 4             | SC1003 (co-requisite)         |  |  |  |
| MH1812            | Discrete Mathematics                                 | Core                | 3             | Nil                           |  |  |  |
| CC0003            | Ethics & Civics in a Multicultural World             | C-Core              | 2             | Nil                           |  |  |  |
| CC0015            | Health & Wellbeing                                   | C-Core              | 2             | Nil                           |  |  |  |
| AB1201            | Financial Management                                 | Business            | 3             | Nil                           |  |  |  |
| HW0001            | Introduction to Academic Communication               | -                   | -             | For student failed QET        |  |  |  |
| HW0002            | Calculus   | -                   | -             | For student not done Calculus |  |  |  |
|                   |  |                     | 17            |                               |  |  |  |

|             | YEAR 1 SEMESTER 2  |          |    |                       |  |
|-------------|--|----------|----|-----------------------|--|
| Course Code | Course Title   | Туре     | AU | Pre-requisite         |  |
| SC1005      | Digital Logic  | Core     | 3  | Nil                   |  |
| SC1006      | Computer Organisation & Architecture                     | Core     | 3  | SC1005 (co-requisite) |  |
| SC1007      | Data Structures & Algorithms                             | Core     | 3  | SC1003                |  |
| SC1008      | C and C++ Programming                                    | Core     | 3  | SC1003                |  |
| CC0001      | Inquiry & Communication in an Interdisciplinary World    | C-Core   | 2  | Nil                   |  |
| AB1501      | Marketing  | Business | 3  | Nil                   |  |
| ML0004      | Career Design & Workplace Readiness in the V.U.C.A World | C-Core   | 2  | Nil                   |  |
|             |  |          | 19 |                       |  |

Year 1 Total AU 36

|             | YEAR 2 SEMESTER 1                      |          |    |                          |  |
|-------------|--|----------|----|--------------------------|--|
| Course Code | Course Title                           | Туре     | AU | Pre-requisite            |  |
| SC2000      | Probability & Statistics for Computing | Core     | 3  | Nil                      |  |
| SC2001      | Algorithm Design & Analysis            | Core     | 3  | SC1007 & MH1812          |  |
| SC2002      | Object Oriented Design & Programming   | Core     | 3  | SC1003 OR SC1007         |  |
| SC2005      | Operating Systems                      | Core     | 3  | SC1006 & SC1007          |  |
| CC0007      | Science & Technology for Humanity      | C-Core   | 3  | Nil                      |  |
| AD1102      | Financial Accounting                   | Business | 3  | Nil                      |  |
| CSL         | CSL (service learning course)- Part 1  | CSL      | -  | (Continue in Semester 2) |  |
|             |  |          |    |                          |  |
|             |  |          | 18 |                          |  |

| YEAR 2 SEMESTER 2 |  |          |    |                            |  |
|-------------------|--|----------|----|----------------------------|--|
| Course Code       | Course Title                                   | Туре     | AU | Pre-requisite              |  |
| SC2006            | Software Engineering                           | Core     | 3  | SC2002 (co-requisite)      |  |
| SC2008            | Computer Network                               | Core     | 3  | SC2000 & SC1004            |  |
| SC2207            | Introduction to Databases                      | Core     | 3  | SC2001 (co-requisite)      |  |
| CC0006            | Sustainability: Society, Economy & Environment | C-core   | 3  | Nil                        |  |
| AB1601            | Organisational Behaviour and Design            | Business | 3  | Nil                        |  |
| CSL               | CSL (service learning course)- Part 2          | CSL      | 3  | (Continue from Semester 1) |  |
|                   |  |          |    |                            |  |
|                   |  |          | 18 |                            |  |

Year 2 Total AU

| YEAR 3 SEMESTER 1 |  |                     |    |                          |  |
|-------------------|--|---------------------|----|--------------------------|--|
| Course Code       | Course Title   | Туре                | AU | Pre-requisite            |  |
| SC2203            | Automata. Computability and Complexity                 | Core                | 3  | SC2001 (co-requisite)    |  |
| SC3099            | Capstone   | Core                | 4  | Year 3 Standing          |  |
| HW0288            | Engineering Communication                              | Professional Series | 2  | CC0001 & Year 3 standing |  |
| SC3xxx/SC4xxx     | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing          |  |
| SC3xxx/SC4xxx     | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing          |  |
| AD2102            | Management Accounting                                  | Business            | 3  | AD1102                   |  |
| AB1301            | Business Law   | Business            | 3  | Nil                      |  |
|                   |  |                     | 21 |                          |  |

|               | YEAR 3 SEMESTER 2                                      |                     |    |                         |
|---------------|--|---------------------|----|-------------------------|
| Course Code   | Course Title   | Туре                | AU | Pre-requisite           |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing         |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing         |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE                 | 3  | Year 3 Standing         |
| SC4xxx        | Major Prescribe Elective (Choose within SC4xxx)        | MPE                 | 3  | Year 3 Standing         |
| BF2219        | Investments  | Business            | 3  | AB1201                  |
|               | Broadening and Deepening Elective                      | BDE                 | 2  | Refer to Class Schedule |
|               |  |                     | 17 |                         |
|               | YEAR 3 SPECIAL SEMESTER                                | l .                 |    |                         |
| Course Code   | Course Title   | Туре                | AU | Pre-requisite           |
| SC3026        | Professional Attachment                                | Professional Series | 5  | Year 3 Standing         |
|               |  |                     |    |                         |
|               |  |                     | 5  |                         |

Year 3 Total AU 43

| YEAR 4 SEMESTER 1 |   |                     |    |                         |
|-------------------|---|---------------------|----|-------------------------|
| Course Code       | Course Title                                    | Туре                | AU | Pre-requisite           |
| SC4079            | Final Year Project (Part 1)                     | MPE                 | 4  | Year 4 Standing         |
| SC4xxx            | Major Prescribe Elective (Choose within SC4xxx) | MPE                 | 3  | Year 3 Standing         |
| SC4xxx            | Major Prescribe Elective (Choose within SC4xxx) | MPE                 | 3  | Year 3 Standing         |
| BE2602            | Management Principles, Skills & Competencies    | Business            | 3  | AB1601                  |
|                   | Broadening and Deepening Elective               | BDE                 | 3  | Refer to Class Schedule |
| ML0015            | Profession Preparation                          | Professional Series | 1  | Nil                     |
|                   |   |                     | 17 |                         |

| YEAR 4 SEMESTER 2 |   |          |    |                 |
|-------------------|---|----------|----|-----------------|
| Course Code       | Course Title                                    | Туре     | AU | Pre-requisite   |
| SC4079            | Final Year Project (Part 2)                     | MPE      | 4  | Year 4 Standing |
| SC4xxx            | Major Prescribe Elective (Choose within SC4xxx) | MPE      | 3  | Year 3 Standing |
| BM2509            | Consumer Insights                               | Business | 3  | AB1501          |
| BE1402            | Business Operations & Process                   | Business | 3  | Nil             |
|                   |   |          |    |                 |
|                   |   |          |    |                 |
|                   |   |          | 13 |                 |

Year 4 Total AU 30

## Note:

- 1. Students are required to complete 9 Major Prescribed Electives (SC3xxx or SC4xxx), including at least 4 at the SC4xxx level.
- 2. Students may choose to complete a **Final Year Project (FYP)** or take **3 additional MPEs** in its place.
- 3. In order to graduate with **Highest Distinction**, students must complete a **Final Year Project**.

| MPE Structure of Computer Science (U24 and after) |                       |                   |                                 |  |
|---|-----------------------|-------------------|---------------------------------|--|
| Course Code                                       | Туре                  | AU                | Remarks                         |  |
| SC3000  | MPE-1                 | 3                 | MPE (Complusory)                |  |
| SC3010  | MPE-2                 | 3                 | MPE (Complusory)                |  |
| SC3xxx/SC4xxx                                     | MPE-3                 | 3                 | Any MPE                         |  |
| SC3xxx/SC4xxx                                     | MPE-4                 | 3                 | Any MPE                         |  |
| SC3xxx/SC4xxx                                     | MPE-5                 | 3                 | Any MPE                         |  |
| SC4xxx  | MPE-6                 | 3                 | MPE (Choose within SC4xxx)      |  |
| SC4xxx  | MPE-7                 | 3                 | MPE (Choose within SC4xxx)      |  |
| SC4xxx  | MPE-8                 | 3                 | MPE (Choose within SC4xxx)      |  |
| SC4xxx  | MPE-9                 | 3                 | MPE (Choose within SC4xxx)      |  |
|   | Total                 | 27                |                                 |  |
| Ple   | ease refer to the CSC | C MPE Courses and | Specialization on CCDS website. |  |

|             | Business Course Lis                             | ting     |       |               |  |
|-------------|---|----------|-------|---------------|--|
| Course Code | Course Title                                    | Туре     | AU    | Pre-requisite |  |
| AB1201      | Financial Management                            | Business | 3     | Nil           |  |
| AB1501      | Marketing                                       | Business | 3     | Nil           |  |
| AD1102      | Financial Accounting                            | Business | 3     | Nil           |  |
| AB1601      | Organisational Behaviour and Design             | Business | 3     | Nil           |  |
| AD2102      | Management Accounting                           | Business | 3     | AD1102        |  |
| AB1301      | Business Law                                    | Business | 3     | Nil           |  |
| BF2219      | Investments                                     | Business | 3     | AB1201        |  |
| BE2602      | Management Principles, Skills & Competencies    | Business | 3     | AB1601        |  |
| BM2509      | Consumer Insights                               | Business | 3     | AB1501        |  |
| BE1402      | Business Operations & Process                   | Business | 3 Nil |               |  |
|             | Business Course Listin                          | g (ITP)  |       |               |  |
| Course Code | Course Title                                    | Туре     | AU    | Pre-requisite |  |
| BF2226      | Trade Incoterms & Ship Chartering               | ITP      | 3     | Nil           |  |
| BF2227      | Commodity Markets                               | ITP      | 3     | Nil           |  |
| BF3214      | Commodities Trading                             | ITP      | 2     | Nil           |  |
| BF2302      | International Tax & Trading Law                 | ITP      | 2     | Nil           |  |
| BF3226      | Strategic Management in Commodity Markets       | ITP      | 2     | Nil           |  |
| BF3212      | Trade, Structured & Supply Chain Finance        | ITP      | 2     | BF2226        |  |
| BF3213      | Enterprise Risk Management in Commodity Markets | ITP      | 2     | Nil           |  |

https://www.ntu.edu.sg/engineering/admissions/ug/allprogrammes/highlights/business