

**AY2024-25 CURRICULUM FOR COMPUTER SCIENCE
WITH CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)**

Last Updated : 3-Jul-24

| SUMMARY OF ACADEMIC UNIT REQUIREMENT | | | | | | | |
|--------------------------------------|-------------|-----------|-----------|-----------|----------|----------|------------|
| Year of Study | School Core | CNYS-Core | MPE | CC | FC | BDE | Total AU |
| 1 | 9 | 27 | 0 | 5 | 3 | 3 | 47 |
| 2 | 18 | 10 | 0 | 8 | 0 | 0 | 36 |
| 3 | 16 | 0 | 12 | 0 | 5 | 0 | 33 |
| 4 | 8 | 0 | 12 | 0 | 0 | 3 | 23 |
| Total | 51 | 37 | 24 | 13 | 8 | 6 | 139 |

| YEAR 1 SEMESTER 1 | | | | | |
|-------------------|--|----------|-----------|-----------------------|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| CY1001 | Cell | CNY-Core | 3 | CNYS Courses | |
| CY1101 | Molecule | CNY-Core | 4 | | |
| CY1308 | Physics | CNY-Core | 3 | | |
| CY1500 | Introduction to Research | CNY-Core | 2 | | |
| CY1601 | Mathematics I | CNY-Core | 4 | | |
| SC1003 | Introduction to Computational Thinking and Programming | FC | 3 | | |
| CC0005 | Healthy Living & Wellbeing | CC | 3 | | |
| | | | 22 | | |

Course type change from Core to FC

| YEAR 1 SEMESTER 2 | | | | | |
|-------------------|--------------------------------------|----------|-----------|---|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| CY1007 | Climate Change | CNY-Core | 3 | CNYS Courses | |
| CY1602 | Mathematics II | CNY-Core | 4 | | |
| SC1005 | Logic Design | C | 3 | | |
| SC1006 | Computer Organisation & Architecture | C | 3 | SC1005 (co-requisite) | |
| SC1007 | Data Structures and Algorithms | C | 3 | SC1003 | |
| CC0002 | Navigating the Digital World | CC | 2 | | |
| CY1307 | Quantum | BDE | 3 | Students can choose to opt out and replace with any other BDE course (3 AU) | |
| | | | 21 | | |

| YEAR 1 SPECIAL SEMESTER | | | | | |
|-------------------------|------------------------|----------|----------|-----------------------|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| CY2003 | Research Attachment 3 | CNY-Core | 4 | CNYS Course | |
| | Overseas Learning Trip | | | | |
| | | | 4 | | |

| YEAR 2 SEMESTER 1 | | | | | |
|-------------------|--|----------|-----------|-----------------------|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| CY0001 | Writing Across the Disciplines | CNY-Core | 3 | CNYS Course | |
| SC1008 | C and C++ Programming | C | 3 | SC1003 | |
| SC2000 | Probability and Statistics for Computing | C | 3 | | |
| SC2002 | Object Oriented Design & Programming | C | 3 | SC1003 OR SC1007 | |
| MH1812 | Discrete Mathematics | C | 3 | | |
| SP0061 | Science & Technology for Humanity | CC | 3 | | |
| | | | 18 | | |

New course

| YEAR 2 SEMESTER 2 | | | | | |
|-------------------|---|----------|-----------|--|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| CY0002 | Ethics | CNY-Core | 3 | CNYS Course | |
| CY2001 | Research Attachment 1 | CNY-Core | 4 | CNYS Course 2-semester long, course registered only in Sem 2 (similar to URECA) | |
| SC2001 | Algorithm Design and Analysis | C | 3 | SC1007 & MH1812 | |
| SC2005 | Operating Systems | C | 3 | SC1006 & SC1007 | |
| CC0006 | Sustainability: Society, Economy & Environment | CC | 3 | | |
| ML0004 | Career and Entrepreneurial Development for the Future World | CC | 2 | | |
| | | | 18 | | |

| YEAR 3 SEMESTER 1 | | | | | |
|-------------------|--|------|-----------|-----------------------|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| SC2006 | Software Engineering | C | 3 | SC2002 | |
| SC2008 | Computer Networks | C | 3 | SC2000 & SC1004 | |
| SC2203 | Automata, Computability and Complexity | C | 3 | SC2001 | |
| SC2207 | Introduction to Databases | C | 3 | SC2001 | |
| SC2079 | Multidisciplinary Design Project | C | 4 | Year 3 Standing | |
| | | | 16 | | |

New course

| YEAR 3 SEMESTER 2 | | | | | |
|-------------------|--|------|-----------|-----------------------|--|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks | |
| 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 | |
| SC3XXX/SC4XXX | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE | 3 | Year 3 Standing | |
| | | | 12 | | |

| YEAR 3 SPECIAL SEMESTER | | | | |
|-------------------------|-------------------------|------|----|-----------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks |
| SC3910 | Professional Attachment | FC | 5 | |
| | | | 5 | |

| YEAR 4 SEMESTER 1 | | | | |
|-------------------|-----------------------------------|------|----|-----------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks |
| SC4211 | CNYSO Overseas Final Year Project | C | 8 | CNYSO Course |
| | | | 8 | |

| YEAR 4 SEMESTER 2 | | | | |
|-------------------|---|------|----|-----------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite/Remarks |
| 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 |
| SC4XXX | Major Prescribe Elective (Choose within SC4xxx) | MPE | 3 | Year 3 Standing |
| XXXXXX | Broadening and Deepening Elective 1 | BDE | 3 | |
| | | | 15 | |

Total AU for Graduation: **139**