

**Curriculum for CN Yang Scholars Programme**  
**Computer Science**  
**(For AY2015-16 intake onwards)**

| <b>Course Type</b>         | <b>AU</b>  |
|----------------------------|------------|
| Core Courses               | 110        |
| Major Prescribed Electives | 9          |
| GER-Core                   | 15         |
| GER-PE                     | 0          |
| Unrestricted Electives     | 5          |
| <b>Total</b>               | <b>139</b> |

| <b>Year 1<br/>Semester 1</b> | <b>Course Code</b> | <b>Course Title</b>                                                           | <b>Type</b> | <b>AU</b> |
|------------------------------|--------------------|-------------------------------------------------------------------------------|-------------|-----------|
|                              | CY1001             | Introductory Biology                                                          | Core        | 3         |
|                              | CY1101             | Principles of Modern Chemistry                                                | Core        | 3         |
|                              | CY1308             | Physics                                                                       | Core        | 3         |
|                              | CY1402             | Computing                                                                     | Core        | 3         |
|                              | CY1500             | Introductory Research Methodology                                             | Core        | 3         |
|                              | CY1601             | Mathematics I                                                                 | Core        | 4         |
|                              | GC0001             | Introduction to Sustainability:<br>Multidisciplinary Approaches and Solutions | GER-Core    | 1         |
|                              | Total AUs          |                                                                               |             | <b>20</b> |

| <b>Year 1<br/>Semester 2</b> | <b>Course Code</b> | <b>Course Title</b>                              | <b>Type</b> | <b>AU</b> |
|------------------------------|--------------------|--------------------------------------------------|-------------|-----------|
|                              | CY1007             | Climate Science: Multi-Disciplinary Perspectives | Core        | 3         |
|                              | CY1307             | Relativity and Quantum Physics                   | Core        | 3         |
|                              | CY1400             | CNYSP Undergraduate Research Experience          | Core        | 3         |
|                              | CY1602             | Mathematics II                                   | Core        | 4         |
|                              | CZ1003             | Introduction to Computational Thinking           | Core        | 3         |
|                              | CZ1005             | Digital Logic                                    | Core        | 3         |
|                              | ML0001             | Absolute Basics for Career                       | GER-Core    | 1         |
|                              | Total AUs          |                                                  |             | <b>20</b> |

| <b>Year 1<br/>Special<br/>Term</b> | Overseas Educational Trip |
|------------------------------------|---------------------------|
|------------------------------------|---------------------------|

| <b>Year 2<br/>Semester 1</b> | <b>Course Code</b> | <b>Course Title</b> | <b>Type</b> | <b>AU</b> |
|------------------------------|--------------------|---------------------|-------------|-----------|
|------------------------------|--------------------|---------------------|-------------|-----------|

|  |           |                                      |          |           |
|--|-----------|--------------------------------------|----------|-----------|
|  | CZ1006    | Computer Organisation & Architecture | Core     | 3         |
|  | CZ1007    | Data Structures                      | Core     | 3         |
|  | CZ2003    | Computer Graphics and Visualisation  | Core     | 3         |
|  | CZ2004    | Human Computer Interaction           | Core     | 3         |
|  | MH1812    | Discrete Mathematics                 | Core     | 3         |
|  | CY0001    | Writing and Reasoning                | GER-Core | 3         |
|  | Total AUs |                                      |          | <b>18</b> |

|                              |                    |                                        |             |           |
|------------------------------|--------------------|----------------------------------------|-------------|-----------|
| <b>Year 2<br/>Semester 2</b> | <b>Course Code</b> | <b>Course Title</b>                    | <b>Type</b> | <b>AU</b> |
|                              | CY2001             | Research Attachment 1                  | Core        | 4         |
|                              | CZ2001             | Algorithms                             | Core        | 3         |
|                              | CZ2002             | Object Oriented Design and Programming | Core        | 3         |
|                              | CZ2005             | Operating Systems                      | Core        | 3         |
|                              | CZ2006             | Software Engineering                   | Core        | 3         |
|                              | CY0002             | Ethics                                 | GER-Core    | 3         |
|                              | Total AUs          |                                        |             | <b>19</b> |

|                                |                   |
|--------------------------------|-------------------|
| <b>Year 2<br/>Special Term</b> | Project at Garage |
|--------------------------------|-------------------|

|                              |                    |                                       |             |           |
|------------------------------|--------------------|---------------------------------------|-------------|-----------|
| <b>Year 3<br/>Semester 1</b> | <b>Course Code</b> | <b>Course Title</b>                   | <b>Type</b> | <b>AU</b> |
|                              | CY2002             | Research Attachment 2                 | Core        | 4         |
|                              | CZ2007             | Introduction to Databases             | Core        | 3         |
|                              | CZ3002             | Advanced Software Engineering         | Core        | 3         |
|                              | CZ3004             | Multidisciplinary Design Project      | Core        | 4         |
|                              | CZ3006             | Net Centric Computing                 | Core        | 3         |
|                              | CY0006             | Enterprise, Innovation and Leadership | GER-Core    | 3         |
|                              | ML0002             | Career Power Up                       | GER-Core    | 1         |
|                              | Total AUs          |                                       |             | <b>21</b> |

|                              |                    |                                      |             |           |
|------------------------------|--------------------|--------------------------------------|-------------|-----------|
| <b>Year 3<br/>Semester 2</b> | <b>Course Code</b> | <b>Course Title</b>                  | <b>Type</b> | <b>AU</b> |
|                              | CZ3001             | Advanced Computer Architecture       | Core        | 3         |
|                              | CZ3003             | Software Systems Analysis and Design | Core        | 3         |
|                              | CZ3005             | Artificial Intelligence              | Core        | 3         |
|                              | CZ3007             | Compiler Techniques                  | Core        | 3         |
|                              | xxxxxx             | Unrestricted Elective                | UE          | 3         |
|                              | CZ0001             | Engineers and Society                | GER-Core    | 3         |
|                              | Total AUs          |                                      |             | <b>18</b> |

|               |               |                     |             |           |
|---------------|---------------|---------------------|-------------|-----------|
| <b>Year 3</b> | <b>Course</b> | <b>Course Title</b> | <b>Type</b> | <b>AU</b> |
|---------------|---------------|---------------------|-------------|-----------|

|                     |             |                         |      |                    |
|---------------------|-------------|-------------------------|------|--------------------|
| <b>Special Term</b> | <b>Code</b> |                         |      |                    |
|                     | CY3001      | Professional Attachment | Core | 4                  |
|                     |             |                         |      | <b>Total AUs 4</b> |

|                          |                    |                      |             |                    |
|--------------------------|--------------------|----------------------|-------------|--------------------|
| <b>Year 4 Semester 1</b> | <b>Course Code</b> | <b>Course Title</b>  | <b>Type</b> | <b>AU</b>          |
|                          | CY4002             | Final Year Project 2 | Core        | 8                  |
|                          |                    |                      |             | <b>Total AUs 8</b> |

| Year 4<br>Semester 2 | Course Code | Course Title          | Type     | AU  |
|----------------------|-------------|-----------------------|----------|-----|
|                      | CZ4xxx      | Major PE 1            | Major PE | 3   |
|                      | CZ4xxx      | Major PE 2            | Major PE | 3   |
|                      | CZ4xxx      | Major PE 3            | Major PE | 3   |
|                      | xxxxxx      | Unrestricted Elective | UE       | 2   |
|                      | Total AUs   |                       |          | 11  |
| GRAND TOTAL          |             |                       |          | 139 |

**Table A: School Core (58 AUs)**

| <b>School Core (58 AUs)</b>                   | <b>Type</b> | <b>AU</b> |
|-----------------------------------------------|-------------|-----------|
| CZ1003 Introduction to Computational Thinking | Core        | 3         |
| CZ1005 Digital Logic                          | Core        | 3         |
| CZ1006 Computer Organisation & Architecture   | Core        | 3         |
| CZ1007 Data Structures                        | Core        | 3         |
| CZ2001 Algorithms                             | Core        | 3         |
| CZ2002 Object Oriented Design and Programming | Core        | 3         |
| CZ2003 Computer Graphics and Visualisation    | Core        | 3         |
| CZ2004 Human Computer Interaction             | Core        | 3         |
| CZ2005 Operating Systems                      | Core        | 3         |
| CZ2006 Software Engineering                   | Core        | 3         |
| CZ2007 Introduction to Databases              | Core        | 3         |
| CZ3001 Advanced Computer Architecture         | Core        | 3         |
| CZ3002 Advanced Software Engineering          | Core        | 3         |
| CZ3003 Software Systems Analysis and Design   | Core        | 3         |
| CZ3004 Multidisciplinary Design Project       | Core        | 4         |
| CZ3005 Artificial Intelligence                | Core        | 3         |
| CZ3006 Net Centric Computing                  | Core        | 3         |
| CZ3007 Compiler Techniques                    | Core        | 3         |
| MH1812 Discrete Mathematics                   | Core        | 3         |