# Bachelor of Science / Computer Science (3789)

### Computer Science (COMPA1) / Bioinformatics (BINFE1)

#### T1 Entry 2025 Sample Plan



| Year 1  |  | Year 2   |  | Year 3  |   | Year 4  |  |
|---|--|--|--|---|---|---|--|
| COMP1511<br>Programming Fundamentals                                  | Term   | COMP2521 Object-Oriented Design & Programming  | Term   | BABS3121 Molecular Biology of Nucleic<br>Acids <u>OR</u> BABS3291 Genes, Genomes<br>and Evolution^  | Term  | COMP4920 Professional Issues and Ethics in Information Technology   |  |
| MATH1131 Mathematics 1A <u>OR</u><br>MATH1141 (Higher) Mathematics 1A |  | COMP2041 Software Construction: Techniques and   |  | Computing Elective  |   | Employability Experience Course   |  |
| CHEM1011 Chemistry 1A: Atoms,   | '  | Tools  |  | ' .   |   |   |  |
| CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy             |  |  |  | Employability Experience Course   |   | Science Elective  |  |
| SCIF0000 (0 UoC)<br>Introduction to University                        | Term<br>2  | COMP2511<br>Object-Oriented Design & Programming   |  | BINF3020<br>Computational Bioinformatics  | Term<br>2   | Computing Elective  |  |
| MATH1231 Mathematics 1B <u>OR</u><br>MATH1241 (Higher) Mathematics 1B |  | MATH2801 Theory of Statistics <u>OR</u><br>MATH2901 Higher Theory of Statistics  | Term<br>2  | Science Elective  |   | Computing Elective  |  |
| COMP1521<br>Computer Systems Fundamentals                             |  | BABS2202 Molecular Cell Biology 1 <u>OR</u><br>BIOC2101 Principles of Biochemistry   |  | Computing Elective  |   | Science Elective  |  |
| COMP1531 Software Engineering Fundamentals                            |  | (Advanced)*  |  |   |   |   |  |
| BABS1201  | Term<br>3  | BINF2010<br>Introduction to Bioinformatics   |  | BINF3020<br>Computational Bioinformatics  |   | Computing Elective  |  |
| Molecules, Cells and Genes  |  | BIOC2201<br>Principles of Molecular Biology (Advanced)   | Term   | COMP3900<br>Computer Science Project  | Term<br>3   | COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm   |  |
| MATH1081 Discrete Mathematics   |  |  | 3  |   |   | Design and Analysis   |  |
|   |  | SCIF1000<br>Skills in Science  |  |   |   | <b>SCIF3010</b> (0 UoC)<br>Graduation Portfolio   |  |
|   | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A OR MATH1141 (Higher) Mathematics 1A  CHEM1011 Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy  SCIF0000 (0 UoC) Introduction to University  MATH1231 Mathematics 1B OR MATH1241 (Higher) Mathematics 1B  COMP1521 Computer Systems Fundamentals  COMP1531 Software Engineering Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081 | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A OR MATH1141 (Higher) Mathematics 1A  CHEM1011 Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy  SCIF0000 (0 UoC) Introduction to University  MATH1231 Mathematics 1B OR MATH1241 (Higher) Mathematics 1B  COMP1521 Computer Systems Fundamentals  COMP1531 Software Engineering Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081  Term 2 | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A OR MATH1141 (Higher) Mathematics 1A  CHEM1011 Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy  SCIF0000 (0 UoC) Introduction to University  MATH1231 Mathematics 1B OR MATH1241 (Higher) Mathematics 1B  COMP1521 Computer Systems Fundamentals  COMP1531 Software Engineering Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081 Discrete Mathematics  COMP2511 Object-Oriented Design & Programming  COMP2511 Object-Oriented Design & Programming  MATH2801 Theory of Statistics OR MATH2801 Theory of Statistics OR MATH2801 Principles of Biochemistry (Advanced)*  BABS2202 Molecular Cell Biology 1 QR BIOC2201 Introduction to Bioinformatics  Term 3 BIOC2201 Principles of Molecular Biology (Advanced) | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A OR MATH1141 (Higher) Mathematics 1A  CHEM1011 Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy  SCIF0000 (0 UoC) Introduction to University  MATH1231 Mathematics 1B OR MATH1241 (Higher) Mathematics 1B  COMP1521 Computer Systems Fundamentals  COMP1521 Computer Systems Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081 Discrete Mathematics  COMP1531 Software Engineering Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081 Discrete Mathematics  SCIF1000  COMP2511 Software Construction: Techniques and Tools  COMP2511 Object-Oriented Design & Programming  COMP2511 Object-Oriented Design & Programming  Term  AMTH2801 Theory of Statistics OR MATH2901 Higher Theory of Statistics  BABS2202 Molecular Cell Biology 1 OR BIOC2201 Introduction to Bioinformatics  Term  BIOC2201 Principles of Molecular Biology (Advanced)  Term  3 SCIF1000 | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A OR MATH1141 (Higher) Mathematics 1A  CHEM1011 Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry 1A: Atoms, Molecules and Energy OR CHEM1031 Higher Chemistry (Activation to University)  MATH1231 Mathematics 1B OR MATH1241 (Higher) Mathematics 1B  COMP1521 Computer Systems Fundamentals  COMP1531 Software Engineering Fundamentals  BABS1201 Molecules, Cells and Genes  MATH1081 Discrete Mathematics  Acids OR BABS3231 Molecular Biology of Nucleic Acids OR BABS3291 Genes, Genomes and Evolution^  Term  Discrete Mathematics 1A  Term  Discrete Mathematics 1A  Term  ACOMP2511 Object-Oriented Design & Programming  COMP2511 Object-Oriented Design & Programming  Term  Discrete Mathematics 1B OR  MATH2801 Theory of Statistics OR  MATH2801 Finciples of Biochemistry (Advanced)*  Computer Science Elective  Term  BIOC2201 Term  BIOC2201 Term  Term  Term  COMP3900 Computer Science Project | COMP1511 Programming Fundamentals  MATH1131 Mathematics 1A QR MATH1141 (Higher) Mathematics 1A CHEM1011 Chemistry 1A: Atoms, Molecules and Energy QR CHEM1011 Higher Chemistry 1A: Atoms, Molecules and Energy QR CHEM1011 Mathematics 1B QR MATH1231 Mathematics 1B QR MATH1231 Mathematics 1B COMP2511 Computer Systems Fundamentals  COMP1521 Computer Systems Fundamentals  BABS1201 Molecules, Cells and Genes  BABS1201 Molecules, Cells and Genes  Term Software Construction: Techniques and Tools  Term 1  Computing Elective  Term 1  BABS202 Molecular Cell Biology 1 QR BINF2010 Introduction to University  BINF302 Computational Bioinformatics  Term 2  MATH2901 Higher Theory of Statistics QR MATH2901 Principles of Biochemistry (Advanced)*  BABS1201 Molecules, Cells and Genes  Term 3  BINF2010 Introduction to Bioinformatics  Term 3  BINF2010 Introduction to Bioinformatics  Term 3  Computer Science Project  Term 3  Computer Science Project  Term 3  Computer Science Project  Term 3  Computer Science Project |  |

This is intended as a guide only. Courses do not need to be studied in the exact structure that they appear here.

All Level 1 and Level 2 courses are offered in each standard term and electives can be taken in any term. If Level 1 or Level 2 core courses are full, students may take electives first and take core courses in later terms. COMP1511 is expected to be completed by the end of Term 2 Year 1. Students don't need to take COMP1521, COMP1531 and COMP2521 in sequence. Most Computing Electives require completion of COMP2521, students are recommended to complete COMP2521 in the first year of study if possible.

<sup>\*^</sup> Please see Handbook for all available course options and term offerings.

## Bachelor of Science / Computer Science (3789)

### Computer Science (COMPA1) Bioinformatics (BINFE1)

### T2 Entry 2025 Sample Plan



| Year 1    |   |  |  |
|-----------|---|--|--|
|           | COMP1511<br>Programming Fundamentals                                  |  |  |
| Term<br>2 | CHEM1011 Chemistry 1A: Atoms,<br>Molecules and Energy                 |  |  |
|           | SCIF0000 (0 UoC) Introduction to University                           |  |  |
| Term<br>3 | MATH1131 Mathematics 1A <u>OR</u><br>MATH1141 (Higher) Mathematics 1A |  |  |
|           | COMP1531<br>Software Engineering Fundamentals                         |  |  |
|           | BABS1201<br>Molecules, Cells and Genes                                |  |  |
|           | COMP1521<br>Computer Systems Fundamentals                             |  |  |
| Term<br>1 | <b>MATH1081</b> Discrete Mathematics                                  |  |  |
|           | MATH1231 Mathematics 1B <u>OR</u><br>MATH1241 (Higher) Mathematics 1B |  |  |

|           | Year 2  |  |
|-----------|---|--|
| Term<br>2 | COMP2521<br>Data Structures and Algorithms  |  |
|           | MATH2801 Theory of Statistics <u>OR</u><br>MATH2901 Higher Theory of Statistics                   |  |
|           | BABS2202 Molecular Cell Biology 1 <u>OR</u><br>BIOC2101 Principles of Biochemistry<br>(Advanced)* |  |
|           | BINF2010<br>Introduction to Bioinformatics  |  |
| Term<br>3 | BIOC2201 Principles of Molecular Biology (Advanced)   |  |
|           | <b>SCIF1000</b><br>Skills in Science  |  |
| Term<br>1 | COMP2041<br>Software Construction: Techniques and<br>Tools  |  |
|           | COMP2511 Object-Oriented Design & Programming   |  |
|           |   |  |

|           | Year 3   |  |
|-----------|--|--|
| Term<br>2 | BINF3010<br>Applied Bioinformatics   |  |
|           | Science Elective   |  |
|           | Employability Experience Course  |  |
|           | BINF3020<br>Computational Bioinformatics   |  |
| Term<br>3 | Computing Elective   |  |
|           | Computing Elective   |  |
|           | BABS3121 Molecular Biology of Nucleic<br>Acids <u>OR</u> BABS3291 Genes, Genomes<br>and Evolution^ |  |
| Term<br>1 | Computing Elective   |  |
|           |  |  |

|           | Year 4  |  |  |
|-----------|---|--|--|
| Term<br>2 | Science Elective  |  |  |
|           | Computing Elective  |  |  |
|           | Employability Experience Course   |  |  |
|           | COMP4920  |  |  |
|           | Professional Issues and Ethics in   |  |  |
|           | Information Technology  |  |  |
| Term<br>3 | Computing Elective  |  |  |
|           | Science Elective  |  |  |
|           | COMP3900  |  |  |
| Term<br>1 | Computer Science Project  |  |  |
|           | COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm Design and Analysis |  |  |
|           | <b>SCIF3010</b> (0 UoC)   |  |  |
|           | Graduation Portfolio  |  |  |
|           |   |  |  |

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## Bachelor of Science / Computer Science (3789)

### Computer Science (COMPA1) / Bioinformatics (BINFE1)

#### T3 Entry 2025 Sample Plan



|           | Year 1  |  |  |
|-----------|---|--|--|
| Term<br>3 | COMP1511<br>Programming Fundamentals                                  |  |  |
|           | MATH1131 Mathematics 1A <u>OR</u><br>MATH1141 (Higher) Mathematics 1A |  |  |
|           | MATH1081 Discrete Mathematics   |  |  |
|           | SCIF0000 (0 UoC) Introduction to University                           |  |  |
| Term<br>1 | MATH1231 Mathematics 1B <u>OR</u><br>MATH1241 (Higher) Mathematics 1B |  |  |
|           | COMP1531<br>Software Engineering Fundamentals                         |  |  |
|           | BABS1201<br>Molecules, Cells and Genes                                |  |  |
| Term<br>2 | COMP1521<br>Computer Systems Fundamentals                             |  |  |
|           | CHEM1011 Chemistry 1A: Atoms,<br>Molecules and Energy                 |  |  |
|           |   |  |  |

|           | Year 2  |  |
|-----------|---|--|
| Term<br>3 | BINF2010<br>Introduction to Bioinformatics  |  |
|           | BIOC2201 Principles of Molecular Biology (Advanced)   |  |
|           | <b>SCIF1000</b><br>Skills in Science  |  |
|           | COMP2521<br>Data Structures and Algorithms  |  |
| Term<br>1 | COMP2041<br>Software Construction: Techniques and<br>Tools  |  |
|           |   |  |
| Term<br>2 | MATH2801 Theory of Statistics <u>OR</u><br>MATH2901 Higher Theory of Statistics                   |  |
|           | BABS2202 Molecular Cell Biology 1 <u>OR</u><br>BIOC2101 Principles of Biochemistry<br>(Advanced)* |  |
|           | COMP2511<br>Object-Oriented Design & Programming  |  |

| Year 3    |  |  |  |
|-----------|--|--|--|
| Term<br>3 | BINF3020<br>Computational Bioinformatics   |  |  |
|           | Science Elective   |  |  |
|           | Employability Experience Course  |  |  |
| Term<br>1 | BABS3121 Molecular Biology of Nucleic<br>Acids <u>OR</u> BABS3291 Genes, Genomes<br>and Evolution^ |  |  |
|           | Computing Elective   |  |  |
|           | Computing Elective   |  |  |
|           | BINF3010<br>Applied Bioinformatics   |  |  |
| Term<br>2 | Computing Elective   |  |  |
|           |  |  |  |

|  |           | Year 4  |
|--|-----------|---|
|  | Term<br>3 | Science Elective  |
|  |           | Computing Elective  |
|  |           | Employability Experience Course   |
|  | Term<br>1 | COMP4920 Professional Issues and Ethics in Information Technology                         |
|  |           | Computing Elective  |
|  |           | Science Elective  |
|  | Term<br>2 | COMP3900<br>Computer Science Project  |
|  |           | COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm Design and Analysis |
|  |           | <b>SCIF3010</b> (0 UoC)<br>Graduation Portfolio   |

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