## **MAJOR: Quantum Computing (MJD-QCOMP) – Semester 1 start** 22 x Core units 2 x Research units (12 pts each)

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| **YEAR 1** | SEM 1 | **PHYS1021 Applied Physics A** pre-req: ATAR Math Applications or MATH1720 | **PHIL1001: Ethics for the Digital Age: An Introduction to Moral Philosophy** | **CITS1401: Computational Thinking  with Python\*\***  pre-req: ATAR Math Methods or MATH1721 | **CITS1402: Relational Database Management Systems\*\*** pre-req: ATAR Math Applications or MATH1720 |
| SEM 2 | **MATH1012: Mathematical Theory  and Methods\*\*** | **CITS1003: Introduction to  Cybersecurity\*\*** | **CITS2002: Systems Programming** pre-req: CITS1401 | **ELECTIVE** |
| **YEAR 2** | SEM 1 | **CITS2005: Object Oriented Programming**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **CITS2006: Defensive Cybersecurity**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **CITS2200: Data Structures and Algorithms**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **CITS3002: Computer Networks** pre-req: CITS2002 |
| SEM 2 | **CITS2211: Discrete Structures**   pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **PHYS2004: Quantum and Relativity** pre-req: PHYS1021 | **CITS3001: Advanced Algorithms**  pre-req: CITS2200 | **ELECTIVE** |
| **YEAR 3** | SEM 1 | **CITS3007: Secure Coding**  pre-req: CITS2200, CITS2002, CITS2005, or CITS2402 | **CITS3403: Agile Web Development**  pre-req: CITS2200 | **CITS5508: Machine Learning** pre-req: CITS1401 or CITS2401 | **ELECTIVE** |
| SEM 2 | **CITS3011: Intelligent Agents** pre-req: CITS2200 | **CITS3200: Professional Computing**  pre-req: at least 84pts including CITS2002, CITS2200 or CITS2402 | **CITS5507: High Performance  Computing** | **ELECTIVE** |
| **YEAR 4** | SEM 1 | **CITS4010: Computer Science Honours Research Project Part 1** pre-req: completed min. 120 pts | | **PHYS4021: Quantum Information  and Computing** | **ELECTIVE** |
| SEM 2 | **CITS4011: Computer Science Honours Research Project Part 2** pre-req: CITS4010 | | **PHYS4022: Advanced Quantum Computing** pre-req: PHYS3005 or PHYS4021 | **ELECTIVE** |

\*\* Unit is available in Semester 1 and Semester 2

**Note -**

* MJD-QCOMP Quantum Computing major overview and unit details can be found here: <https://handbooks.uwa.edu.au/majordetails?code=MJD-QCOMP#units>
* Course details are in the Handbook. For example: Bachelor of Advanced Computer Science rules are here: <https://handbooks.uwa.edu.au/coursedetails?code=BH008#rules>
* Information about unit availability should be checked at the beginning of each semester and can be found at [timetable.uwa.edu.au](http://www.timetable.uwa.edu.au/) and [Handbooks](https://handbooks.uwa.edu.au/)
* Plan ahead! Look at prerequisite requirements in the Handbook. For example: Level 2 core unit PHYS2004 requires prerequisite unit PHYS1021

**MAJOR: Quantum Computing (MJD-QCOMP) – Semester 2 start**

22 x Core units 2 x Research units (12 pts each)

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| **YEAR 1** | SEM 2 | **CITS1401: Computational Thinking  with Python\*\***  pre-req: ATAR Math Methods or MATH1721 | **CITS1402: Relational Database Management Systems\*\*** pre-req: ATAR Math Applications or MATH1720 | **CITS1003: Introduction to  Cybersecurity\*\*** | **ELECTIVE** |
| **YEAR 2** | SEM 1 | **MATH1012: Mathematical Theory  and Methods\*\*** | **PHIL1001: Ethics for the Digital Age: An Introduction to Moral Philosophy** | **PHYS1021 Applied Physics A** pre-req: ATAR Math Applications or MATH1720 | **CITS2200: Data Structures and Algorithms**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 |
| SEM 2 | **CITS2002: Systems Programming** pre-req: CITS1401 | **CITS2211: Discrete Structures**   pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **PHYS2004: Quantum and Relativity** pre-req: PHYS1021 | **CITS3001: Advanced Algorithms**  pre-req: CITS2200 |
| **YEAR 3** | SEM 1 | **CITS2005: Object Oriented Programming**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **CITS2006: Defensive Cybersecurity**  pre-req: ATAR Math Methods or MATHS1721 AND CITS1401 | **CITS3002: Computer Networks** pre-req: CITS2002 | **ELECTIVE** |
| SEM 2 | **CITS3011: Intelligent Agents** pre-req: CITS2200 | **CITS3200: Professional Computing**  pre-req: at least 84pts including CITS2002, CITS2200 or CITS2402 | **CITS5507: High Performance  Computing** | **ELECTIVE** |
| **YEAR 4** | SEM 1 | **CITS3403: Agile Web Development**  pre-req: CITS2200 | **CITS3007: Secure Coding**  pre-req: CITS2200, CITS2002, CITS2005, or CITS2402 | **PHYS4021: Quantum Information  and Computing** | **ELECTIVE** |
| SEM 2 | **CITS4010: Computer Science Honours Research Project Part 1** pre-req: completed min. 120 pts | | **PHYS4022: Advanced Quantum Computing** pre-req: PHYS3005 or PHYS4021 | **ELECTIVE** |
| **YEAR 5** | SEM 1 | **CITS4011: Computer Science Honours Research Project Part 2** pre-req: CITS4010 | | **CITS5508: Machine Learning** pre-req: CITS1401 or CITS2401 | **ELECTIVE** |

\*\* Unit is available in Semester 1 and Semester 2

**Note -**

* MJD-QCOMP Quantum Computing major overview and unit details can be found here: <https://handbooks.uwa.edu.au/majordetails?code=MJD-QCOMP#units>
* Course details are in the Handbook. For example: Bachelor of Advanced Computer Science rules are here: <https://handbooks.uwa.edu.au/coursedetails?code=BH008#rules>
* Information about unit availability should be checked at the beginning of each semester and can be found at [timetable.uwa.edu.au](http://www.timetable.uwa.edu.au/) and [Handbooks](https://handbooks.uwa.edu.au/)
* Plan ahead! Look at prerequisite requirements in the Handbook. For example: Level 2 core unit PHYS2004 requires prerequisite unit PHYS1021.

# Make sure your study plan includes:

# Choose a degree-specific major

You must complete at least one degree-specific major. Make sure you include core units and option units.

# Include foundation units (if applicable)

You must complete any foundation units required for your degree. Foundation units are compulsory, regardless of your choice of degree-specific major. Check your course rules to see if foundational units are required for your course.  
Bachelor of Advanced Computer Science does not have foundation units.

# Include bridging units (if applicable)

You may be required to complete bridging units if you have not completed the pre-requisite ATAR-level study (or equivalent qualification) for your major/s.

# Choose a second major or minor (optional)

You can complete a second major or minor from any degree area as long as you meet the prerequisites. It is not compulsory to choose a second major or minor, but specialising in a second discipline will add to your qualification and employment prospects.  
<handbooks.uwa.edu.au/search/?type=majors><handbooks.uwa.edu.au/search/?type=minors>

# Choose electives

Once you’ve included all the units for your majors, minors, foundational units, bridging units and broadening requirements you may have space for electives. Electives can be chosen from any units offered in your course, subject to unit rules. View the list: <handbooks.uwa.edu.au/undergraduate/electives>

* + a total of 32 units
  + **no more** than **12 Level 1** units (72 credit points)
  + **at least 12** units at **Level 2 and Level 3** (72 credit points)
  + including **at least 3 units** at **Level 3** (18 credit points)
  + at least **4 units outside** your **degree-specific major** (24 credit points)

This is based on the Bachelor of Advanced Computer Science Honours (BH008) four-year degree. Students in a combined-degree should refer to their program’s course rules.

Full details of course structure and rules can be found in the Handbook:

<handbooks.uwa.edu.au/undergraduate>

**TIP:** Level 1 electives can be taken at any time during your degree as long as you do not exceed the maximum Level 1 limit. Similarly, Level 3 units can be taken earlier in your degree, so long as you meet unit prerequisites.

# Enrol on studentConnect and plan your timetable on the Class Allocation System

* studentConnect: <student.uwa.edu.au/course/studentconnect>
* Class Allocation System (CAS): <cas.uwa.edu.au>

**HELP!**Refer to the UniStart website for your step-by-step guide on planning your enrolment: <uwa.edu.au/unistart> For other questions find ‘FAQs’ and ‘Email Us’ in askUWA: [ask.uwa.edu.au](https://ipoint.uwa.edu.au/)

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A standard full-time study load is four units per semester. All units have a value of six points unless otherwise stated. To check that you’re on track to meet your course requirements use the My Course Study Plan Checklist or get your study plan checked by a student advisor in your assigned Student Advising Office (displayed on studentConnect). First-year students who are unsure which major/s they want to study are advised to fill out the My First Year Study Plan & Checklist. Information in this study plan is correct at the time of publication and is subject to change from time to time. The University reserves the right to change the unit availability and unit rules, please refer to the Handbook each semester.