CM015 Combined Bachelor of Science (Frontier Physics) and Master of Physics 4 Year Course Study Plan - Commencing Semester 1, 2023

**Students completing this double packaged award course will graduate with both a Bachelor of Science (Frontier Physics) and a Master of Physics.**

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| **Year 1** | | | | |
| *Sem 1,*  *2023* | **PHYS1100**  Classical and Frontier Physics *Prereq: Physics ATAR & Maths Methods ATAR & Maths Specialist ATAR* | **MATH1011**  Multivariable Calculus *Prereq: Maths Specialist ATAR or MATH1722* | **CITS1401**  Computational Thinking with Python  *Prereq: Maths Applications ATAR or*  *MATH1720* | **ELECTIVE** |
| *Sem 2,*  *2023* | **PHYS1200**  Modern and Frontier Physics  *Prereq: PHYS1100* | **MATH1012**  Mathematical Theory & Methods  *Prereq: Maths Specialist ATAR or*  *MATH1722* | **ELECTIVE** | **ELECTIVE** |
| **Year 2** | | | | |
| *Sem 1,*  *2024* | **PHYS2001**  Quantum Physics and Electromagnetism  *Prereq: (PHYS1001 or PHYS1100) & MATH1011 Coreq: MATH1012 or L2*  *Maths major unit* | **PHYS2100**  Stellar Astrophysics and Frontier Astronomy  *Prereq: PHYS1100 & PHYS1002 & MATH1011 & MATH1012. Coreq: PHYS2001 & (MATH2501 or*  *MATH3023)* | **MATH2501**  Advanced Mathematical Methods  *Prereq: MATH1011. Coreq: MATH1012* | **ELECTIVE** |
| *Sem 2,*  *2024* | **PHYS2002**  Many Particle Systems *Prereq: (PHYS1001 or PHYS1100) & (MATH1011 or MATH1012)* | **PHYS3100**  Electrodynamics, Special and General Relativity  *Prereq: (PHYS1100 & PHYS2001) & (MATH2501 or MATH3023). Coreq:*  *PHYS3011* | **PHYS3011**  Mathematical Physics  *Prereq: PHYS2001 & (MATH2501 or MATH3023)*  *Coreq: PHYS2002* | **ELECTIVE** |
| **Year 3** | | | | |
| *Sem 1,*  *2025* | **PHYS3001**  Quantum Mechanics and Atomic Physics  *Prereq: PHYS2001 and (MATH2501*  *or MATH3023)* | **PHYS3005**  Quantum Computation *Prereq: 24 points of L2 units in Physics or Maths or Computing and MATH1012 or equivalent* | **Postgraduate PHYS Unit** | **PHYS5XXX**  Research Proposal in…. *Prereq: completion of core units in Frontier Physics extended major Coreq: PHYS5XXX Res. Proposal in….* |
| *Sem 2,*  *2025* | **PHYS3012**  Frontiers in Modern Physics *Prereq: (PHYS2001 and PHYS2002) & (MATH2501 or MATH3023)* | **PHYS3101**  Quantum Field Theory and Quantum Technology  *Prereq: PHYS1100 and PHYS2001 &*  *PHYS2002 & PHYS3001 & PHYS3011* | **Postgraduate PHYS Unit** | **PHYS5301**  Physics Research Project Part 1  *Prereq: completion of core units in*  *Frontier Physics extended major* |
| **Year 4** | | | | |
| *Sem 1,*  *2026* | **Postgraduate PHYS Unit** | **Postgraduate PHYS Unit** | **PHYS5302**  Physics Research Project Part 2  *Prereq: completion of core units in*  *Frontier Physics extended major* | **PHYS5303**  Physics Research Project Part 3  *Prereq: completion of core units in*  *Frontier Physics extended major* |
| *Sem 2,*  *2026* | **Postgraduate PHYS Unit** | **Postgraduate PHYS Unit** | **PHYS5304**  Physics Research Project Part 4  *Prereq: completion of core units in Frontier Physics extended major*  *Coreq: PHYS5XXX Dissertation in….* | **PHYS5XXX**  Dissertation in….  *Prereq: completion of core units in Frontier Physics extended major* |

*Key:  = unit is available in Semester 1 and Semester 2;* ***N/A*** *= unit not available for 2023;* ***NS*** *= unit is delivered during a non-standard teaching period.*

**Notes:**

* Electives may be used to complete a minor, noting that any four units completed outside of the extended major meets University broadening requirements.
* Electives may be used to complete a compatible second major such as Mathematics and Statistics
* Postgraduate units will vary depending on your chosen specialisation.
* The Rules for the CM015 Bachelor of Science (Frontier Physics) and Master of Physics can be found at: [handbooks.uwa.edu.au/CM015 Rules](https://handbooks.uwa.edu.au/coursedetails?id=cbm16&rules)
* All units have a value of six points unless otherwise stated.
* 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/) or [Handbooks.](https://handbooks.uwa.edu.au/)

**Further Help!**

Refer to the UniStart website for your step-by-step guide on planning your enrolment: [uwa.edu.au/unistart.](https://www.uwa.edu.au/unistart) If you need to discuss your study plan further, please contact the Frontier Physics Programme Chair Dr David Gozzard [david.gozzard@uwa.edu.au](mailto:david.gozzard@uwa.edu.au)

*Information in this study plan is correct as at 17 February 2023, but is subject to change from time to time. In particular, the University reserves the right to change the unit availability and unit rules. Page 1 of 1*