



**Swansea University
Prifysgol Abertawe**

**FACULTY OF SCIENCE AND
ENGINEERING**

**UNDERGRADUATE STUDENT
HANDBOOK**

YEAR 3 (FHEQ LEVEL 6)

**BSC THEORETICAL PHYSICS
DEGREE PROGRAMMES**

**SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2024-25**

DISCLAIMER

The Faculty of Science and Engineering has made all reasonable efforts to ensure that the information contained within this publication is accurate and up-to-date when published but can accept no responsibility for any errors or omissions.

The Faculty of Science and Engineering reserves the right to revise, alter or discontinue degree programmes or modules and to amend regulations and procedures at any time, but every effort will be made to notify interested parties.

It should be noted that not every module listed in this handbook may be available every year, and changes may be made to the details of the modules. You are advised to contact the Faculty of Science and Engineering directly if you require further information.

The 24-25 academic year begins on 23 September 2024

Full term dates can be found [here](#)

DATES OF 24-25 TERMS

23 September 2024 – 13 December 2024

06 January 2025 – 11 April 2025

06 May 2025 – 06 June 2025

SEMESTER 1

23 September 2024 – 27 January 2025

SEMESTER 2

27 January 2025 – 06 June 2025

SUMMER

09 June 2025 – 19 September 2025

IMPORTANT INFORMATION ON ACADEMIC INTEGRITY

Swansea University and the Faculty of Science of Engineering takes any form of **academic misconduct** very seriously. In order to maintain academic integrity and ensure that the quality of an Award from Swansea University is not diminished, it is important to ensure that all students are judged on their ability. No student should have an unfair advantage over another as a result of academic misconduct - whether this is in the form of **Plagiarism, Collusion** or **Commissioning**.

It is important that you are aware of the **guidelines** governing Academic Misconduct within the University/Faculty of Science and Engineering and the possible implications. The Faculty of Science and Engineering will not take intent into consideration and in relation to an allegation of academic misconduct - there can be no defence that the offence was committed unintentionally or accidentally.

Please ensure that you read the University webpages covering the topic – procedural guidance [here](#) and further information [here](#). You should also read the Faculty Part One handbook fully, in particular the pages that concern Academic Misconduct/Academic Integrity.

Welcome to the Faculty of Science and Engineering!

Whether you are a new or a returning student, we could not be happier to be on this journey with you.

At Swansea University and in the Faculty of Science and Engineering, we believe in working in partnership with students. We work hard to break down barriers and value the contribution of everyone.

Our goal is an inclusive community where everyone is respected, and everyone's contributions are valued. Always feel free to talk to academic, technical and administrative staff, administrators - I'm sure you will find many friendly helping hands ready to assist you. And make the most of living and working alongside your fellow students.

During your time with us, please learn, create, collaborate, and most of all – enjoy yourself!

Professor David Smith
Pro-Vice-Chancellor and Executive Dean
Faculty of Science and Engineering



Faculty of Science and Engineering	
Pro-Vice-Chancellor and Executive Dean	Professor David Smith
Head of Operations	Mrs Ruth Bunting
Associate Dean – Education	Dr Laura Roberts
School of Biosciences, Geography and Physics	
Head of School	Dr Kevin Rees k.g.rees@swansea.ac.uk
School Education Lead	Dr Wendy Harris w.e.harris@swansea.ac.uk
Co-Heads of Physics	Professor Prem Kumar s.p.kumar@swansea.ac.uk Professor Daniel Thompson d.c.thompson@swansea.ac.uk
Physics Programme Director	Dr Timothy Burns t.burns@swansea.ac.uk
Year 3 Coordinator	Dr Sophie Shermer s.schirmer@swansea.ac.uk

STUDENT SUPPORT

The **Student Experience and Information Team** are here to support you through your studies and to provide non-judgemental advice and guidance. If you have any questions relating to your academic or personal life you can contact the Team and chat through your support options.

The Team is available for in-person support meetings and can also be contacted via email (studentsupport-scienceengineering@swansea.ac.uk) or phone (**+44 (0) 1792 295514**). You can access their full contact details [here](#).

To visit the Team you can attend either of the following Receptions:

- Reception in the Foyer of Engineering Central, [Bay Campus](#)
- Reception on the first-floor landing of the Wallace Building, [Singleton Park Campus](#)

Standard Reception opening hours are Monday to Friday from 9am to 5pm however, this may vary outside of term time.

The current [FSE Student webpages](#) also contain useful information and links to additional resources:



READING LISTS

Reading lists for each module are available on the course Canvas page and are also accessible via <http://ifindreading.swan.ac.uk/>.

We do not expect you to purchase textbooks, unless it is a specified key text for the course.

THE DIFFERENCE BETWEEN COMPULSORY AND CORE MODULES

Compulsory modules must be **pursued** by a student.

Core modules must not only be **pursued**, but also **passed** before a student can proceed to the next level of study or qualify for an award. Failures in core modules must be redeemed.

Further information can be found under “Modular Terminology” on the following link - <https://myuni.swansea.ac.uk/academic-life/academic-regulations/taught-guidance/essential-info-taught-students/your-programme-explained/>

Year 3 (FHEQ Level 6) 2024/25
Theoretical Physics
 BSc Theoretical Physics[F341]
 BSc Theoretical Physics with a Year in Industry[F636]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
PH-302 Quantum World III 10 Credits Prof TJ Hollowood	PH-318 Theoretical Physics Project 20 Credits Dr SM Shermer CORE
PH-306 Atomic Physics I 10 Credits Prof SJ Eriksson	PH-333 Atomic Physics and Quantum Optics II 10 Credits Prof N Madsen
PH-307 Condensed Matter Physics II 10 Credits Dr JE Bateman	PH-335 Particle Physics II 10 Credits Prof A Armoni
PH-321 Gravity 10 Credits Prof TJ Hollowood	
PH-323 Lasers and image processing 10 Credits Dr K O'Keeffe	
PH-338 Frontiers of Nuclear Physics 10 Credits Prof C Nunez	
Total 120 Credits	

Optional Modules

Choose exactly 20 credits

PH-300	Semiconductor Device Physics	Dr G Burwell	TB2	10
PH-308	Modern Laser Systems	Dr K O'Keeffe	TB2	10
PH-322	Cosmology	Prof G Tasinato	TB2	10
PH-325	Teaching Physics via a School Placement	Dr SG Roberts	TB2	10
PH-325C	Addysgu ffiseg trwy leoliad mewn ysgol	Dr SG Roberts	TB2	10
PH-339	Climate Physics	Prof DP Van Der Werf	TB2	10
PH-355	Mathematical Methods in Physics III	Prof SP Kumar	TB2	10

Year 3 (FHEQ Level 6) 2024/25

Theoretical Physics

MPhys Theoretical Physics[F340]

MPhys Theoretical Physics with a Year in Industry[F857]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
PH-302 Quantum World III 10 Credits Prof TJ Hollowood	PH-333 Atomic Physics and Quantum Optics II 10 Credits Prof N Madsen
PH-306 Atomic Physics I 10 Credits Prof SJ Eriksson	PH-335 Particle Physics II 10 Credits Prof A Armoni
PH-307 Condensed Matter Physics II 10 Credits Dr JE Bateman	PH-353 Computational Physics II 10 Credits Prof CR Allton
PH-321 Gravity 10 Credits Prof TJ Hollowood	PH-355 Mathematical Methods in Physics III 10 Credits Prof SP Kumar
PH-323 Lasers and image processing 10 Credits Dr K O'Keeffe	
PH-338 Frontiers of Nuclear Physics 10 Credits Prof C Nunez	
Total 120 Credits	

Optional Modules

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