



**Swansea University**  
**Prifysgol Abertawe**

# **FACULTY OF SCIENCE AND ENGINEERING**

## **UNDERGRADUATE STUDENT HANDBOOK**

**YEAR 2 (FHEQ LEVEL 5)**

## **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 <a href="mailto:k.g.rees@swansea.ac.uk">k.g.rees@swansea.ac.uk</a>
School Education Lead	Dr Wendy Harris <a href="mailto:w.e.harris@swansea.ac.uk">w.e.harris@swansea.ac.uk</a>
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Physics Programme Director	Dr Timothy Burns <a href="mailto:t.burns@swansea.ac.uk">t.burns@swansea.ac.uk</a>
Year 2 Coordinator	Professor David Dunbar <a href="mailto:d.c.dunbar@swansea.ac.uk">d.c.dunbar@swansea.ac.uk</a>

## 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](mailto: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 2 (FHEQ Level 5) 2024/25

### Theoretical Physics

BSc Theoretical Physics[F341]  
MPhys Theoretical Physics[F340]

#### Compulsory Modules

Semester 1 Modules	Semester 2 Modules
<a href="#">PH-204</a> Computational Physics I 10 Credits Dr JE Bateman	<a href="#">PH-224</a> Thermal and statistical physics 20 Credits Prof M Piai
<a href="#">PH-223</a> Electromagnetism 20 Credits Prof C Nunez	<a href="#">PH-225</a> Quantum Mechanics II 20 Credits Prof DC Thompson
<a href="#">PH-232</a> Mathematics for Physicists III 20 Credits Prof DC Dunbar	
Total 120 Credits	

#### Optional Modules

Choose exactly 10 credits

<a href="#">PH-210</a>	Laboratory Physics 2 and Group Projects	Dr WA Bryan/Prof DP Van Der Werf	TB1	10
<a href="#">PH-210C</a>	Ffiseg Labordy 2 a Phrosiectau Grwp	Dr WA Bryan/Prof DP Van Der Werf	TB1	10

#### And

Choose exactly 20 credits

<a href="#">PH-211</a>	Laboratory Physics 2	Dr WA Bryan/Prof PR Dunstan	TB2	10
<a href="#">PH-211C</a>	Ffiseg Labordy 2	Dr WA Bryan/Prof DP Van Der Werf	TB1+2	10
<a href="#">PH-216</a>	Professional Development and Career Planning	Mrs S Gill	TB1	0
<a href="#">PH-217</a>	Science Communication	Dr WE Harris/Dr RH Meara/Dr SG Roberts/..	TB2	10
<a href="#">PH-220</a>	Stellar Astrophysics	Prof SP Kumar	TB2	10



**Year 2 (FHEQ Level 5) 2024/25**  
**Theoretical Physics**  
 BSc Theoretical Physics with a Year in Industry[F636]

**Compulsory Modules**

Semester 1 Modules	Semester 2 Modules
<a href="#">PH-204</a> Computational Physics I 10 Credits Dr JE Bateman	<a href="#">PH-224</a> Thermal and statistical physics 20 Credits Prof M Piai
<a href="#">PH-216</a> Professional Development and Career Planning 0 Credits Mrs S Gill	<a href="#">PH-225</a> Quantum Mechanics II 20 Credits Prof DC Thompson
<a href="#">PH-223</a> Electromagnetism 20 Credits Prof C Nunez	
<a href="#">PH-232</a> Mathematics for Physicists III 20 Credits Prof DC Dunbar	
<b>Total 120 Credits</b>	

**Optional Modules**

Choose exactly 10 credits

Choose at least one module

<a href="#">PH-210</a>	Laboratory Physics 2 and Group Projects	Dr WA Bryan/Prof DP Van Der Werf	TB1	10
<a href="#">PH-210C</a>	Ffiseg Labordy 2 a Phrosiectau Grwp	Dr WA Bryan/Prof DP Van Der Werf	TB1	10

**And**

Choose exactly 20 credits

<a href="#">PH-211</a>	Laboratory Physics 2	Dr WA Bryan/Prof PR Dunstan	TB2	10
<a href="#">PH-211C</a>	Ffiseg Labordy 2	Dr WA Bryan/Prof DP Van Der Werf	TB1+2	10
<a href="#">PH-217</a>	Science Communication	Dr WE Harris/Dr RH Meara/Dr SG Roberts/..	TB2	10
<a href="#">PH-220</a>	Stellar Astrophysics	Prof SP Kumar	TB2	10

**Year 2 (FHEQ Level 5) 2024/25**  
**Theoretical Physics**  
 MPhys Theoretical Physics with a Year in Industry[F857]

**Compulsory Modules**

Semester 1 Modules	Semester 2 Modules
<a href="#">PH-204</a> Computational Physics I 10 Credits Dr JE Bateman	<a href="#">PH-224</a> Thermal and statistical physics 20 Credits Prof M Piai
<a href="#">PH-216</a> Professional Development and Career Planning 0 Credits Mrs S Gill	<a href="#">PH-225</a> Quantum Mechanics II 20 Credits Prof DC Thompson
<a href="#">PH-223</a> Electromagnetism 20 Credits Prof C Nunez	
<a href="#">PH-232</a> Mathematics for Physicists III 20 Credits Prof DC Dunbar	
<b>Total 120 Credits</b>	

**Optional Modules**

Choose exactly 10 credits

<a href="#">PH-210</a>	Laboratory Physics 2 and Group Projects	Dr WA Bryan/Prof DP Van Der Werf	TB1	10
<a href="#">PH-210C</a>	Ffiseg Labordy 2 a Phrosiectau Grwp	Dr WA Bryan/Prof DP Van Der Werf	TB1	10

**And**

Choose exactly 20 credits

<a href="#">PH-211</a>	Laboratory Physics 2	Dr WA Bryan/Prof PR Dunstan	TB2	10
<a href="#">PH-211C</a>	Ffiseg Labordy 2	Dr WA Bryan/Prof DP Van Der Werf	TB1+2	10
<a href="#">PH-217</a>	Science Communication	Dr WE Harris/Dr RH Meara/Dr SG Roberts/..	TB2	10
<a href="#">PH-220</a>	Stellar Astrophysics	Prof SP Kumar	TB2	10