

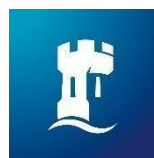
Foundation Physics

CELEN039

Module Handbook

Credits: 10 Credits

This handbook contains important information about the module. Read it in full at the beginning of the semester and re-read it whenever you have a question. If you do not find an answer to your question here, contact the module convenor or your tutor.



**University of
Nottingham**
UK | CHINA | MALAYSIA

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1. Who is teaching on this module?

The module will be taught by the following teaching team.

Name	role (i.e. convenor, tutor, GTA, etc.)	Email	Room
Dr. Stephen Asomani Ntiri	Module convenor	stephen-asomani.ntiri@nottingham.edu.cn	AB-365
Dr. Stavros Mouslopoulos	Co-convenor	Stavros.Mouslopoulos@nottingham.edu.cn	AB-365
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Dr. Brenden Theaker	Tutor	Brenden.Theaker@nottingham.edu.cn	AB-380

The updated office hours can be found on the module Moodle page.

2. What is this module about?

The aims of the module are primarily to provide students with the necessary pre-requisite skills required for the study of Science & Engineering programmes in FoSE, which require foundation knowledge of physics. In addition, to provide students with a working knowledge of basic physics principles and practice, approximately equivalent to A-level. To understand key applied physics processes, using the information provided.

3. What will I learn on this module?

LO1. The student will be able to solve set problems, and hence demonstrate an understanding of basic physics.

LO2. The student will demonstrate their ability to collect, analyze and evaluate experimental data relating to basic physics.

A Knowledge and understanding

Knowledge and understanding of the underpinning principles used in the solution to problems in the fields of:

- Engineering statics and dynamics.
- Wave motion, sound and geometric optics.
- Electrical principles.
- Properties and characteristics of fluids and their measurement.
- Dimensional analysis.

B Intellectual skills

Select and apply appropriate methods when solving given problems.

C Professional practical skills

Collect, analyze and evaluate experimental data.

D Transferable (key) skills

Presentation of experimental data and laboratory findings through written reports.

Working in groups to perform experiment and write reports based on these experiments.

4. What are the learning activities on this module?

Lectures: 2x 1 hour per week. There is strong correlation between lecture attendance and module success. These are the main method for introducing the knowledge to the students. The .pptx will be available prior to the lectures, and students should read them BEFORE the lecture. This will allow the students to translate any new terms/vocabulary prior to the lecture. Each lecture will also contain references to chapters of the recommended module textbook, which is available on-line via the library resources.

Seminars: 1x 1 hour per week, compulsory attendance. Seminars are the main method for students to apply the knowledge from lectures. Students should attempt the questions BEFORE the seminars. At the seminars, students will be asked to go through their answers to their classmates, with additional support from the seminar tutor.

Worked seminar solutions will be made available on Moodle after the final weekly seminar/ 6pm Friday of each week.

Lab Classes: 1x 1-hour lab training and 2x 2-hour labs per semester. Compulsory attendance. The lab experiments are designed to allow students to investigate practical aspects of Physical Sciences. Experiments will be conducted in small groups (2-3 students) and will be assessed by a group lab report and an individual on-line quiz.

As a 10-credit module, students should spend approximately 100 hours of student activity on this module. This is approximately 38 hours of teaching contact and 62 hours of self-study over the semester (approx. 5 hours per week). This should include reviewing lectures, answering seminar questions (before the seminars), group lab reports and revision.

Office Hours

Each tutor for this course has 2 hours per week of office hours. Office hours are times when the tutors will be available for students to come and ask them any questions they need answering or to get help if required. If you don't know something, or stuck on a problem or need help and advice for studying this module then please use the office hours to address these problems. You can find the up-to-date office hours on the Module Page.

Table 1: A Table with the weekly schedule with indication of topics

Lecture 1: Describing Motion	Lecture 2: Kinematics
Lecture 3: Causing Motion	Lecture 4: Free-Body Diagrams
Lecture 5: Energy & Momentum	Lecture 6: Circular- and Simple Harmonic Motion
Lecture 7: Static Systems- Simple Machines	Lecture 8: Fluid Dynamics and Light
Lecture 9: Electrical Force	Lecture 10: Electrical Force; Part 2
Lecture 11: Gauss's Law & Electrical Potential	Lecture 12: Electrical Potential; Part 2
Lecture 13: Electric Current & Resistance; 1	Lecture 14: Electric Current & Resistance; 2
Lecture 15: Resistance & RC Circuits	Lecture 16: Magnetic Force
Lecture 17: Magnetic Fields; Part 1	Lecture 18: Magnetic Induction
Lecture 19: Inductance and LR Circuits	Lecture 20: LRC Series, AC Circuits & Resonance
Lecture 21: Revision & Key Points	

5. How is the module assessed?

Group Laboratory Report Coursework	
Weighting	25% (2x 12.5% of overall module)
Deadline for submission	Lab Experiment 1: w/c 21th Oct, w/c 28rd Oct, & w/c 4th Nov Lab Experiment 2: w/c 18th Nov, w/c 25th Nov, & w/c 2nd Dec
Submitted via	Electronic Version via Module Moodle page
Feedback	Annotated reports and feedback using the feedback template covering the comments below.
Notes	Abstract, Objectives & Introduction 25% An appropriate abstract is included. Clear statement of the objectives of the experiment. Suitable Introduction is included. Correct derivation of relevant theoretical formulae. Relevant

	<p>experimental assumptions are identified.</p> <p>Apparatus & Procedure 10% Complete list of apparatus used. Key features of the procedure are described in appropriate academic language, i.e. in the passive voice where appropriate. The experiment could be repeated by following the description, achieving comparable results.</p> <p>Results and Calculations 25% Sample calculations are correct. Tables are correct. Graphs are correct.</p> <p>Discussion 20% Do your experimental findings agree with the predicted values when uncertainty is considered. Does the graphical data agree with the predicted values. The experimental data has been critically evaluated and result placed into context over current knowledge</p> <p>Conclusion 10% Does the overall data answer the research question(s). How could the experiment be improved in terms of mathematical modelling or experimental procedures.</p> <p>Quality of English and Presentation 10% The report is written in the appropriate tense throughout, using correct scientific language and is generally easy to read. The report is well presented, using consistent font. Graphs, tables and figures are suitably labelled and all values are given to appropriate level of significance.</p>
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Continuous Assessment Quizzes	
Weighting	15% of overall module mark
Date and Time	Weekly quizzes over the semester
Duration	Up to 120 minutes per week. Multiple attempts allowed up until the weekly deadline, shown on module Moodle page
Topics	Related to the recent lectures and seminars
Type of assessment	Online
Feedback	Mark as a %age. Additional feedback can be sought from Seminar Tutors and Lecturer, during office hours or via email

Notes	<p>UNNC authorized calculators are permitted</p> <p>Collusion between students is not allowed</p> <p>Multiple attempts are allowed, with the highest mark for each quiz being counted</p>
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End of Semester Exam	
Weighting	60% of overall module mark. Students should answer four questions out of 6 questions.
Date and Time	Scheduled during University Exam Weeks
Duration	120 minutes
Topics	<p>Mechanics, electricity and magnetism required for entry into the Qualifying Year of FoSE courses.</p> <p>Scalars and vectors, also giving a broad grounding in the basic response of rigid structures to imposed forces.</p> <p>The physical explanations of light and electrons, from practical applications to physical models of light and electrons.</p> <p>Dimensional analysis and similarity.</p>
Type of assessment	In person for on-campus students and online for remote students if needed.
Feedback	Annotated exam scripts (Not returned to students)
Notes	<ul style="list-style-type: none"> • UNNC Authorized calculators are permitted in this examination. • No electronic devices capable of storing and retrieving text, including electronic dictionaries, may be used. • Dictionaries are not allowed with one exception. Those whose first language is not English may use a standard translation dictionary to translate between that language and English provided that neither language is the subject of this examination. Subject specific translation dictionaries are not permitted. • It may be necessary to move offline assessment online due to unforeseen circumstances.

6. What are the assessment criteria?

The assessment criteria for the Group laboratory reports, weekly Moodle quizzes and the End of Semester Exam are included in Section 5

7. What do I need to know about feedback?

Feedback in CELE is a two-way process and takes many forms. Depending on the learning task, you will receive written or oral feedback to help you improve. Sometimes the feedback will be offered to the whole class of students: this general feedback is no less important for your learning. Sometimes people become defensive when receive feedback meant to help them improve. Try to fight against negative emotions and make the most of any comment meant to help you improve. It is your responsibility to reflect on your tutor's comments and set goals. Feedback is not always negative! Tutors will also highlight what is good and must continue. You will also have plenty of opportunities to give feedback to your tutors through Early Module Feedback and the SET/SEM surveys at the end of the semester and students' participation in CELE's Learning Community Forum (you can read the Student Handbook for more information on these processes). Equally important, you are always welcomed to speak with your tutor during office hours to share your feedback.

8. Where can I find the module readings and materials?

Foundation Physics: Physics Moodle page. All the Teaching & Learning material, Assessment and Administrative information on the module is available here.

<https://moodle.nottingham.ac.uk/course/view.php?id=130321>

Recommended Textbooks New:

[Hugh D. Young, Philip Wayne Adams, Raymond Joseph Chastain \(2015\) College physics \(10th Global edition\).](#)

[Giancoli, Douglas C. \(2014\) Physics for Scientists and Engineers \(4th Edn\)](#)

9. What happens if I fail?

If you fail the module, you will be offered a resit exam during the summer resit period.

10. Independent Learning Week

CELE has named the week commencing on Monday 6th November as your Independent Learning Week. Independent learning is not limited to this week of course as it is a requirement throughout the semester. What makes Independent Learning Week special is that there are no scheduled classes and your tutors will encourage you to engage in learning activities that can be carried out both individually and in group. Some of you may also have mid-term exams falling into this week. Besides, you can set your own learning goals for the week. The goal is for you to use this week to reflect on what learning independently outside the classroom means to you, sharpen your study skills, and reinforce your preparation moving toward the end of the semester. To help you:

- 1) You will find recommended learning activities, to undertake individually or in group on the Moodle page of your module.
- 2) Classrooms will remain booked at the usual times in case you need a place where to meet with other students to work on the module's activities.
- 3) Tutors will remain available during office hours (check Moodle for their updated time

slots).

11. Other important information about this module

Group work (also referred as teamwork) will be a very important part of any job you may get after graduation and will be a feature of assessments during your university life. Thus, it is very important that you learn how to work in a group; group work is not optional, it is an essential part of studying in UNNC.

- 1) The group should set ground rules as their first task. These should include such things as frequency of meetings/attendance/leadership, etc. This should be written and signed and dated by all members of the group.
- 2) If a problem with a group member arises, the group should first try to solve the problem internally. They should hold a meeting as soon as possible to discuss the problem/s. They should keep a record of this meeting and inform the class tutor that this has happened.
- 3) If there continues to be a problem with a group member after this meeting, the group must inform their class tutor as soon as possible.
- 4) The class tutor may interview the group or the individuals causing the problem and if the problem cannot be resolved in a reasonable time, the tutor will report the situation to the Module Convenor.
- 5) If after the tutor's intervention a team member continues to fail to make any contribution and if at least 2 team members ask for it, a peer review can be triggered. This review will lead to an adjustment of individual marks of all team members (normally in group work all team members get the same mark). The tutor may veto the use of the peer review if he or she thinks that the problems brought up are just normal team work issues.

For detailed information about Peer evaluation form to address cases of non-contributing team-members, Elements of effective teamwork, Team Contract template, Team Meeting Notes, please find APPENDIX 1-4 of the CELE Student Handbook

12. Important policies to know

Academic misconduct

There is **zero tolerance** of Academic Misconduct for all students studying at UNNC. Once academic misconduct is confirmed, it will result in appropriate penalties. Misconduct is any inappropriate activity or behaviour by a student which may give that student, or another student, an unpermitted academic advantage in marked assessment. This includes (and is not limited to) plagiarism (appropriating someone else's texts or ideas without proper referencing), asking someone else to complete one's assessments, sharing your answers to individual quizzes with other students.

Misconduct Policy: <https://www.nottingham.ac.uk/qualitymanual/assessment-awards-and-deg-classification/pol-academic-misconduct.aspx>

Misconduct Procedure (UNNC):
<https://www.nottingham.edu.cn/en/academicservices/academic-misconduct/academic-misconduct.aspx>

Extenuating Circumstances (EC)

If you **miss an exam or other form of assessment** on medical or acute personal grounds, please follow the procedures to apply for EC.

Extenuating Circumstances Procedure (UNNC):
<https://www.nottingham.edu.cn/en/academicservices/unnc-extenuating-circumstances-procedure/unnc-extenuating-circumstances-procedure.aspx>

Attendance policy

Please remember that **all classes are compulsory**. If you have to ask for leave you need to contact The Hub via TheHub@nottingham.edu.cn and provide evidence. Missing classes without authorized reasons will be recorded as **Absence** which may jeopardize your study.

A copy of the policy is posted on CELE Common Space under Policies and Regulations:

<https://moodle.nottingham.ac.uk/course/view.php?id=39383>

If any of these links results broken, you can contact CPSO for assistance:
cpso@nottingham.edu.cn.