

Basic details

UID Cohorts covered

Earliest cohort	Latest cohort
2023-24	<input type="text"/>

Long title

New code New short title

Brief description of module (approx. 600 chars.)

599 characters

Available as a standalone module/ short course?

Statutory details

	ECTS	CATS	Non-credit	HECOS codes
Credit value	7.5	15	N	<input type="text"/>
FHEQ level	<input type="text" value="4"/>			<input type="text"/>

Allocation of study hours

	Hours	
Lectures	12	
Group teaching	6	<i>Incl. seminars, tutorials, problem classes.</i>
Lab/ practical	80	
Other scheduled	8	<i>Incl. project supervision, fieldwork, external visits.</i>
Independent study	81.5	<i>Incl. wider reading/ practice, follow-up work, completion of assessments, revisions.</i>
Placement		<i>Incl. work-based learning and study that occurs overseas.</i>
Total hours	187.5	
ECTS ratio	25.00	

Project/placement activity

Is placement activity allowed?

Module delivery

Delivery mode Other
 Delivery term Other

Ownership

Primary department

Additional teaching departments

Delivery campus

Collaborative delivery

Collaborative delivery?

External institution
 External department
 External campus

Associated staff

Role	CID	Given name	Surname
Module Leader		Yoshi	Uchida
		Heather	Graven
		Stuart	Mangles

Learning and teaching

Module description

Learning outcomes	<p>On completion of this module you will be able to:</p> <ol style="list-style-type: none"> 1) Recognise, use and construct a range of discrete and continuous probability distributions and know of their importance in mathematics and applied sciences. 2) Utilise some techniques of data analysis to better understand probability distributions when presented with a sample data set from a larger population. 3) Work cooperatively as part of a project team with a supervisor to plan and carry out an open-ended project over the course of several weeks. 4) Present your final project work in real time to a non-technical audience, and as a recorded presentation in the form of a video etc., with supporting information given in a write-up.
Module content	<p>Statistics of measurement covers several essential areas on the mathematics of probability, most notably discrete & continuous probability distributions, independent & dependent events, binomial, Poisson & Gaussian distributions, hypothesis testing and confidence intervals.</p> <p>The summer project can be anything that involves open-ended investigation involving planning, testing, data collection and quantitative analysis. These are a combination of laboratory-based work (e.g. making a machine to crush a soft drink can), outdoors (e.g. studying the physics of London fountains) and computational (e.g. modelling such systems to aid their construction or analysis). You work with project partners (typically as a team of four), under the supervision of a physicist. You will usually meet your supervisor once per week in the third term. In the final weeks of term you present your projects to school children, parents and teachers at the College open day and produce a video of the presentation as the main long-term record of the project work, supported by a brief write-up.</p>

Learning and Teaching Approach	Statistics of Measurement is taught in a traditional lecture format in term 3 using a combination of lectures, small group teaching and office hours. There are no formal lectures for the project (aside from lectures which describe the nature of the work to be performed); students arrange project meetings with their supervisor with a frequency and nature of the meeting and the teaching style dependent on the nature of the project and the people involved. This would be typically one hour per week of the project. Guidance will be provided on the number of hours to be spent on the project each week.
Assessment Strategy	The Summer Project is assessed based on the video recordings of the final presentation, with supporting information provided in the write-up and by the supervisors. Criteria for all components of the summative assessment of the Summer Project are made available to students. The Statistics of Measurement element of the module will be assessed via in-course assessment.
Feedback	For Statistics of Measurement formative feedback will be provided throughout the module following formative assessment in the form of in-class quizzes, online tests and verbal or written feedback for any practical or computational exercises. For the Summer Project, the supervisor will provide students with feedback during their projects as and when required. The recordings that are produced will be viewed by several assessors, and substantial written feedback will be provided by the end of the summer break. Assessment will follow clearly-stated criteria, but separately to this, projects will be recommended for prizes by the assessors, and a panel will select the winners, who will be announced during the following academic year.
Reading list	The module is self-contained and no additional books are required to be purchased by the students. Further discussion of material covered by the module, along with relevant problems can be found in: <ul style="list-style-type: none"> • Practical Physics, G L Squires, 4th ed, Cambridge University Press, 2001 • Experimental Measurements: Precision, Error and Truth, N C Barford, 2nd ed, Wiley, 1985

Quality assurance

Date of first approval

Date of last revision

Date of this approval

Module leader

Notes/ comments

Office use only

QA Lead

Department staff

Date of collection

Date exported

Date imported

UID	Legacy code	Module title	Requisite type

