COURSE HANDBOOK 2021/2022

Engineering Science Prelims

CONTENTS

FOREWORD

Statement of Coverage
This handbook applies to students starting the MEng in Engineering Science in Michaelmas Term 2021. The information in this handbook may be different for students starting in other years.

DISCLAIMER

The Examination Regulations relating to the MEng course in Engineering Science are available at www.admin.ox.ac.uk/examregs/. If there is a conflict between information in this handbook and the Examination Regulations, then you should follow the Examination Regulations. If you have any concerns, please contact the Student Administration Office at student.administration@eng.ox.ac.uk.

The information in this handbook is accurate as of 5th October 2021 however it may be necessary for changes to be made in certain circumstances, as explained at www.ox.ac.uk/coursechanges. If such changes are made the department will publish a new version of this handbook together with a list of the changes and students will be informed. The up-to-date version may always be found on Canvas.

Please note that the opening information and availability listed in this handbook assume normal operating circumstances. Opening times during periods of lockdown or semi-lockdown may vary. Please check opening times before you make plans to visit.

Additional Foreword (Covid-19)

Dear Student,

At the time of writing the COVID-19 pandemic is still causing major disruption to our normal way of life in Oxford. As the person in charge of delivering the undergraduate programme I have to ensure we deliver our world class teaching programme whilst also ensuring that you and others are safe.

We know you have had a very disrupted schooling experience and that none of you have had the ideal preparation for university. The disruption you have experienced in your education will vary and your tutors understand this and will do their best to help you through this difficult period.

We are going to have to make changes to how we deliver teaching and maybe even assessment as the pandemic progresses. We plan that most of the labs and tutorials will be in person and at the time of writing we hope that lectures will also be delivered in the traditional way from Hilary Term onwards. But we may have to change these plans and do so at short notice. Thank you for your patience and understanding as we try to navigate through this difficult period.

There are ways in which you can help us. Please stick to any additional rules that we may have to bring in. However, it is impossible to legislate for all circumstances so please use your common sense to help stop the spread of COVID. Please also give us feedback on what we are doing. This can be through formal channels or informally by simply contacting me. Finally, please support each other through this difficult time.

Thomas Adcock

Associate Head of Department (Teaching)

25/7/21

WELCOME

Head of Department's Welcome

The Department of Engineering Science was established in 1908 and we have grown to become a world leading academic unit with a portfolio that that incorporates most engineering disciplines. Our "General Course" is inherently interdisciplinary and is delivered via a combination of classroom instruction, laboratory and project activity, and small group tutorials, the latter of which are based in our Colleges. We maintain exceptional reputations in multiple aspects of engineering, lead in the training of young minds, and excel at the generation of new knowledge -- all the while working closely with companies such as Google, Rolls-Royce, Jaguar Land Rover and Dyson to name but a few.

Our professors work at the vanguard of new technology development, innovation, and implementation. Their work impacts government policy, industry, healthcare, infrastructure, communications, transport and security -- with the ultimate goal of making the world a better place to live. Notable contributions include advanced prosthetic limb joints, apps for smartphones, better batteries, advanced materials, more efficient aircraft engines, better ways to deliver drugs, smarter machines, and driverless cars. Indeed, you may find yourself using a product developed by the very same professor who delivered your morning lecture.

I have 44 years of academic experience derived from study and work at six different universities on two continents. I can tell you with certainty that the quality of our professors and staff, the richness of the Oxford collegiate environment, and the personal attention that comes from the tutorial system make the study of engineering at Oxford a completely unique experience. We are pleased to welcome you, and look forward to helping you develop your engineering skills during the next four years.

Prof. Ronald Roy, Head of Department

Associate Head of Department (Teaching)'s Welcome:

Welcome and congratulations on coming to Oxford to study Engineering Science. We hope you will have a fantastic time in Oxford taking advantage of the many opportunities you will be given whilst you are here. In particular, I hope you thrive academically and enjoy the engineering programme. If you work hard you will find the programme rewarding and stimulating.

In the first two years you will cover fundamental material across all of the engineering disciplines. At the end of the second year you start to choose which areas of engineering you want to concentrate on. As you progress through the programme the amount of project work increases, and your learning becomes more independent.

During your degree there will be times when you need to know details of the syllabus, how to submit project work, and other administrative details. This information should be in the handbook with complimentary material on Canvas (the online repository of course material) and you are strongly advised to read through the handbook before you start your course.

The Student Administration Office carry out much of the day-to-day running of the course. You will receive regular information from the about the course and course related matters. They should be your first point of contact for departmental (as opposed to college) matters.

I wish you a happy four years studying in Oxford and look forward to meeting you over this time.

Prof. Thomas Adcock, Associate Head (Teaching)

1. HOW TO USE THIS HANDBOOK

This handbook is a guide for you throughout your first (preliminary) year on the Engineering Science course at Oxford. It is designed to provide you with information regarding departmental processes and procedures, the staff and facilities available to you. In addition, it will give you details around your assessment, course structure, and what to expect during your first year. It is your responsibility to read through the handbook and familiarise yourself with the course requirements and procedures. A new handbook will be issued to you for the final three years of your course – known as the Final Honour School.

Your course handbook should be your first port of call for any minor queries concerning the course. For other issues or questions then please contact the Student Administration Office. Course handbooks are published on Canvas.

2. IMPORTANT SOURCES OF INFORMATION

Things you'll need to look at

Engineering Science Canvas site

The most comprehensive source of information for your studies is the Engineering Science Canvas site at www.canvas.ox.ac.uk. On this site you can find details of the syllabus, lecture notes, example sheets, solutions, details of student representatives, and many other useful pieces of information.

Examination Regulations

The *Examination Regulations* is the authoritative document on University examinations. It is available online at www.admin.ox.ac.uk/examregs/. This website can be searched to find regulations for the Preliminary and Final Honour School examinations for the MEng degree in Engineering Science. These regulations define the format of each component of the examination process, including conditions on course progression, options and deadlines for submitting coursework. The dates of the Preliminary examinations and September resits will be published on the following website https://www.ox.ac.uk/students/academic/exams/timetables

Proctors and Assessor's Memorandum

A reference document entitled *The University Student Handbook* is produced by the Proctors and Assessor and is available online for new students at the start of Michaelmas Term. The document explains the role of the Proctors and Assessor and provides useful information about welfare, support, recreation, examinations and University regulations. It is available to download at https://www.ox.ac.uk/students/academic/student-handbook.

Important reference documents

The student portal at www.ox.ac.uk/students provides a single point of access to information, services and resources for students.

Please ensure that you are familiar with the following University policies:

- Equal Opportunities Statement for Students
- Disability
- Harassment
- Safety for Students
- Proctors' and Assessors Memorandum (*The University Student Handbook*)
- Computer Usage Rules and Etiquette

During the course of your studies you might also need to consult other policy documents such as those on:

- Intellectual Property Rights which is set out in the University Statues and Regulations at www.admin.ox.ac.uk/statutes
- Data Protection at www.admin.ox.ac.uk/councilsec/dp/policy.shtml

You will also find the Extended Syllabus for the Engineering courses a useful source of information on the expected outcomes of your course. These documents are available on Canvas.

3. KEY CONTACTS IN THE DEPARTMENT

The Student Administration Office

The Student Administration Office on the 8th Floor in the Thom Building is the main location to go to if you have any general queries regarding teaching.

student.administration@eng.ox.ac.uk

01865 283263

Opening hours: The Student Administration Office will be opening for reduced hours. We will be open on Monday – Friday 9am – 5:00pm.

Student Administration staff will also be available remotely by email Monday to Friday 8:30 am – 5 pm.

If your query is about exams, you should email exams@eng.ox.ac.uk

Planning a visit?

Please email or call in advance if you're planning to make a trip to the Department to see a specific person as we currently operate reduced hours.

Who's who?

The Student Administration Office team is managed by the Head of Student Administration and headed up by a lead academic – the Associate Head (Teaching). Details of the current Student Administration Office team and associated staff supporting teaching are listed below:

Associate Head (Teaching)
Prof Thomas Adcock,
✉thomas.adcock@eng.ox.ac.uk

Undergraduate Studies Officer & Prelims Exams Administrator
Julia Hemprich
student.administration@eng.ox.ac.uk

Head of Student Administration / Disability Contact/ Harassment Advisor
Jo Valentine
student.administration@eng.ox.ac.uk

Academic and Examinations Administrator
student.administration@eng.ox.ac.uk

Details for all Academic Staff are available here:
http://www.eng.ox.ac.uk/people/academic-listing

Laboratories and Workshops Manager TBC

Useful email addresses

Engineering Science Reception - for general queries to the Department
✉reception@eng.ox.ac.uk

Engineering Science IT Helpdesk – for help with IT
✉ thehub@eng.ox.ac.uk
www.eng.ox.ac.uk/intranet/it-eng

Departmental Safety Officer
Gary Douglas
✉ gary.douglas@eng.ox.ac.uk

4. DATES TO NOTE

Dates of Term 2021-22

Michaelmas Term	Sunday 10th October – Saturday 4th December 2021
Hilary Term	Sunday 16th January – Saturday 12th March 2022
Trinity Term	Sunday 24th April – Saturday 18th June 2022

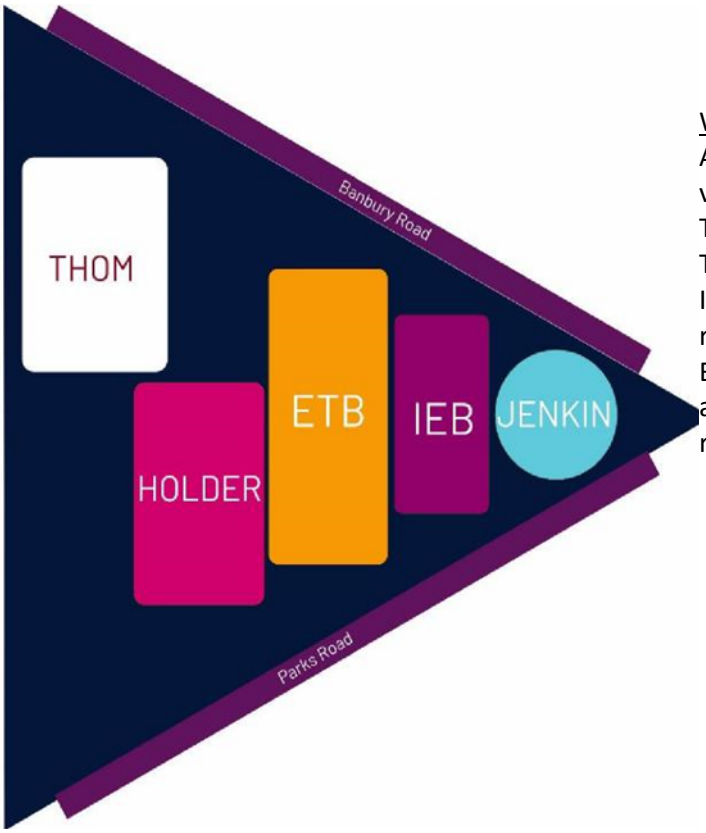
5. FINDING YOUR WAY AROUND

5.1 Location of the Department of Engineering Science

The Department of Engineering Science is located mainly over four sites across Oxford. Maps of Oxford showing the location of these sites can be found at www.eng.ox.ac.uk/contact-us or view the interactive map at https://www.ox.ac.uk/visitors/map.

Main site - central Oxford (Keble Road Triangle)

Most of the Department's buildings are on the 'Keble Road Triangle' between Banbury Road, Parks Road and Keble Road.



What happens where?

All undergraduate lectures will be online and the videos will be accessible via Panopto and Canvas. Timetabled Q&A sessions will be held using Microsoft Teams.

If you need to access the Building for whatever reason, the main entrance is at ground level on Banbury Road (up the steps or via the wheelchair accessible ramp). Please observe social distancing regulations if you do need to come to the building.

Just to the north of the Thom Building is the Holder Building.

Beyond that, you will find the Engineering and Technology Building (ETB) in which the Design Office is located. Both the Holder Building and the ETB are shared with the Department of Materials.

The Information Engineering Building (IEB) is located on the Banbury Road alongside these buildings and includes lecture rooms 7 and 8 on the ground floor. At the northern tip of the Triangle is the Jenkin Building which housed the whole Engineering Science department from 1914 until 1963, and now contains staff offices and several research laboratories.

Parking

Unfortunately, there are no car parking facilities for students on the Keble Road Triangle. There are, however, some pay and display spaces on Keble Road but waiting time is limited.

Other Engineering Science locations

Southwell Laboratory

The Thermofluids Research Laboratory in the Southwell Building is situated at Osney Mead not far from the Rail Station. The new laboratory was opened by the Vice Chancellor in 2010 as part of the University's strategic investment in the UK's science base. The laboratory houses some of the most sophisticated turbine and high-speed flow facilities in the world, and the research group includes internationally recognised experts in computational fluid dynamics (CFD), flow and heat transfer experiments. The laboratory is home to the Rolls-Royce University Technology Centre in Heat Transfer and Aerodynamics and is where we work with colleagues in industry to develop more fuel-efficient jet engines.

Institute of Biomedical Engineering

The Department's Institute of Biomedical Engineering (www.ibme.ox.ac.uk) is located on the Churchill Hospital campus next to Oxford's major clinical teaching hospitals. It offers a centralised venue for engineers and clinicians to work together to coordinate expertise, discoveries and best practice to enhance the diagnosis and treatment of a range of conditions. The Institute provides purpose built research laboratories, shared common support facilities, a core of securely funded staff, the latest equipment for research and development and the right setting to promote collaboration among medical, biological and physical scientists and engineers.

Begbroke Science Park

The Begbroke Science Park is a fully integrated research and development facility, located north of the city. It hosts over 20 research groups from a range of departments in the Mathematics, Physical and Life Sciences Division of Oxford University—including Engineering Science.

5.2 The Thom Building

Floor plan

A list of what is located on which floor in the Thom Building is on the left. You'll also find this list by the lifts on each floor in the Thom Building, and another copy inside each lift.

Opening hours

The main door to the Thom Building and the Thom Building reception desk is open on weekdays between 7:45am and 3pm all year around.

Holder Building

The Holder Building will be only accessible with card access

8th Floor Study Area

The open study area is on the 8th floor of the Thom Building. There are individual study carrels in addition to group study areas.

The Oxford Wireless LAN (OWL) is available on the eighth floor. Laptops require the Cisco VPN client software to connect - information about VPN (virtual private networks) can be found at www.oucs.ox.ac.uk/network/vpn. Students are welcome to use their laptops in the open study area but are asked to sit close to a plug socket if their laptop needs to be connected to a power source. Trailing electrical leads may cause a trip hazard in open study areas. Alternatively, students may use the individual study carrels as all have a power socket.

Students are asked to vacate the eighth floor study area promptly at 19:00 hours. Please note that you will not be able to gain access to the Thom Building after 18:00 hours. If you leave the building after 18:00 hours you will not be able to gain access again. Please keep your personal belongings with you at all times.

5.3 Radcliffe Science Library

The Radcliffe Science Library (RSL) http://www.bodleian.ox.ac.uk/science is the main science research library at the University. The library holds copies of all of your reading list items, and most of your engineering library research will be done using this library's resources. The library itself is currently closed for refurbishment and the Vere Harmsworth Library within the Rothermere American Institute on South Parks Road is the main base for the delivery of RSL services. The Vere Harmsworth Library is located within the Rothermere American Institute on South Parks Road, which is a short walk away from the Engineering Science department. Books are available for loan from the Radcliffe Science Library and may also be available from college libraries.

Questions

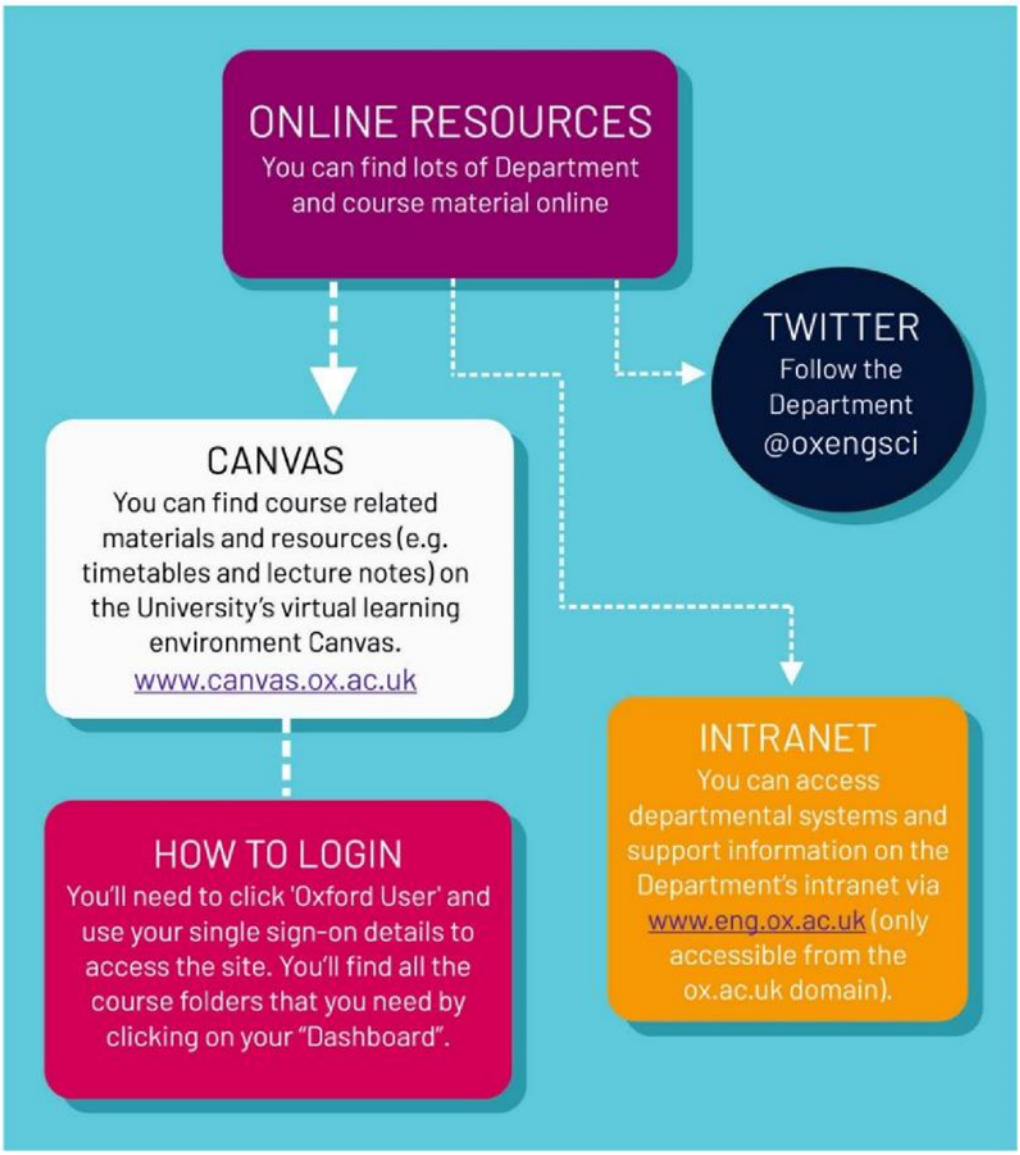
The subject librarian responsible for Engineering Science is Alessandra Vetrugno and she is based at the RSL. If you have any questions, please contact alessandra.vetrugno@bodleian.ox.ac.uk for assistance. Frequently asked questions include:

- How do I use the library catalogue to find books and journals?
- What tips and tricks can I use to improve my searches?
- How do I get started using article databases?
- How do I require items from the closed stack?
- Where can I find a group study room?
- How can I quickly and easily create bibliographies?
- What libraries can I use?

6. GENERAL INFORMATION

6.1 Communications

The Student Administration Office uses email as the main means of communication with you. It's expected that you'll check your college email account on a daily basis, at the very least. While last minute timetable changes are not frequent, get into the habit of checking your email before you set off for the Department...you could save yourself a wasted journey.



Digital display screens along with noticeboards on the ground floor and 1st floor of the Thom Building carry timetable information and other important announcements. It is essential to check these regularly.

Contacting staff
You can contact members of staff via e-mail, phone or in person – details are available at https://eng.ox.ac.uk/people/?c=ac.

6.2 Student opportunities

Details of visits from companies to the Department, opportunities for further study, announcements by engineering related student societies etc., are posted on the Student Information Pages for students to view. (http://studentinfo.eng.ox.ac.uk) There is also a website listing internship opportunities from companies that have made direct contact with the Department, for further details see the General information section on Canvas.

If you represent a society or organisation which you feel would be of interest or benefit to engineering students, then get in touch. Simply email the text you would like to be circulated to student.administration@eng.ox.ac.uk and we may publish it accordingly. We reserve the right to refuse to include material if it's deemed inappropriate for the audience. The Editor's decision is final.

The Careers Service is also an invaluable resource, right from your first year. Visit www.careers.ox.ac.uk to find out more about how the Careers Service are able to assist you in improving your employability skills. The Careers Service also have a job search database called CareerConnect for internships, placements and graduate opportunities.

6.3 Room bookings

Rooms for group study are available for booking through Reception on the ground floor of the Thom Building.

reception@eng.ox.ac.uk
01865 273000

While we'll make every effort not to change your booking, we ask that you remain cooperative if a more urgent need for the room you have booked arises.

6.4 Computing facilities in the Department

The Software Laboratory on the sixth floor of the Thom Building houses workstations running Linux and MS Windows operating systems. These provide a wide variety of software and Computer Aided Engineering packages.

Each undergraduate is given an account which is used for the first-year Computing Laboratory, various Coursework Modules and projects. Undergraduates can also use them to access e-mail and the internet which they may use, outside timetabled laboratory hours, for academic purposes.

A design suite is located on the ground floor of the Engineering and Technology Building. The majority of the PCs are used for timetabled laboratories, but four are made available for project work.

All these computing facilities are supported by the Engineering IT Services section https://intranet.eng.ox.ac.uk/it/. Notes are issued to all new users, who will also be asked to sign an undertaking to abide by the University Rules for the use of computers. You must ensure that you read and understand the Oxford University Computer Usage Rules and Etiquette at www.ict.ox.ac.uk/oxford/rules.

6.5 We want your feedback!

Your opinion counts... we want to hear your feedback on lectures, examples sheets, and laboratory experiments, as well as the general quality of life in the Department. REMEMBER the sooner you pass your comments to us, the more likely we'll be able to act on them. The teaching feedback survey is open all year round, but we will send out termly reminders to you.

Direct feedback to lecturers/tutors	You can contact academic staff directly - constructive criticism will always be welcome.
Joint Consultative Committee (JCC)	The JCC meets once a term and provides discussion between students and staff on administrative and academic topics. You elect your committee representatives from amongst your undergraduate peers. This body has an important function in collecting and communicating opinion in an organised way. JCC representatives also serve on relevant Department and University committees.
Divisional Board	Student representatives sitting on the Divisional Board are selected through a process organised by the Oxford University Student Union (OUSU). Details can be found on the OUSU website along with information about student representation at the University level.
Engineering Science Confidential Reporting System (CRS)	Health and safety first! You can report practices or incidents which you think are potentially dangerous to yourself or your peers. This system helps to highlight hazardous and dangerous situations and understand what causes them. Further information is available online.
Teaching Feedback	You can give your feedback at any time during the course. We are currently in the process of changing how this is collected and you will be updated by email
Student Barometer	Students on full-time and part-time matriculated courses are surveyed once a year on all aspects of the course (learning, living, pastoral care, and college) on this system. Previous results can be accessed by students, staff and the general public at https://www.ox.ac.uk/students/life/student-engagement.
National Student Survey (NSS)	Final year undergraduate students are surveyed through the National Student Survey (NSS). Results from previous NSS surveys may be found at https://discoveruni.gov.uk/

6.7 Student societies

The Oxford University Engineering Society

The Oxford University Engineering Society (https://www.facebook.com/OUEngSoc) exists to promote a wider interest in Engineering than is possible through the academic courses. A regular programme of meetings and visits is run by an undergraduate committee with the support of a senior member from the staff of the department. You are warmly invited to participate.

Women in Engineering

A women's networking group has been established in the department with the intention of organising talks, social events and other networking activities (for all members of the department). Membership of this organising group consists of Postdoctoral Research Assistants, Postgraduate students, Undergraduate students and an academic member of staff.

If you are interested in joining the networking group, please email engs-wie@maillist.ox.ac.uk. Organising meetings are usually held termly over lunch.

Oxford Engineering Alumni (OEA)

This looks ahead to after you graduate from Oxford, but may be of interest to you now. As a current student you automatically become an associate member of this society, and you will become a full member when you graduate. OEA is a society for former students who have graduated from the department, and for present and former members of the teaching and research staff. Its purpose is to help former Oxford Engineering students and staff keep in touch with each other and with the department, for their mutual benefit, when they move on to other things after leaving the university. More information is given on the alumni page of the Department's website at https://eng.ox.ac.uk/alumni/.

6.8 Other useful websites

Engineering Science website
http://www.eng.ox.ac.uk/v

Canvas
www.canvas.ox.ac.uk

Oxford University information for students
https://www.ox.ac.uk/students

Engineering Exam Papers Online
Available on OXAM through www.canvas.ox.ac.uk

Electronic resources available through the University libraries
http://www.bodleian.ox.ac.uk/science/resources

7. THE COURSE

7.1 Overview

All engineering teaching is based on a general course in Engineering Science. We offer this unified course because we believe that future engineering innovation will benefit from broad foundations as well as specialised knowledge. Links between topics in apparently diverse fields of engineering provide well-structured fundamental understanding, and can be exploited to give efficient teaching.

The Engineering Science course is planned by the Faculty of Engineering Science, which consists mainly of the Department's academic staff.

The information in this handbook covers the first year of the four year undergraduate MEng in Engineering Science. The entire MEng course is taught to Level 7 of the Frameworks for Higher Education Qualifications (FHEQ) guidelines. The course is taught and developed within the subject benchmark statement[1] guidelines issued by the Quality Assurance Agency (QAA), the independent governing body for monitoring and advising on standards and quality in UK higher education.

7.2 Accreditation by the Engineering Institutions

Many Oxford engineering graduates will want to become corporate members of a Professional Engineering Institution and seek Chartered Engineer status. Satisfactory completion of an accredited university course is the first step towards full membership of one of the main Engineering Institutions. University courses are considered for accreditation by each major institution separately, and this approval is reviewed regularly. Following the Oxford review in 2016, the Institutions accrediting the MEng course for 2021 entry are as follows:

Civil and Structural	Yes
Electrical (IET)	Yes
Mechanical	Yes
Measurement & Control	Yes
Chemical	Yes

In some cases, appropriate options are required for accreditation; details are available on Canvas.

For further information, you should ask the institution concerned, the Student Administration Office or one of the Department's liaison officers as follows:

Institution of Civil Engineers	Prof M. Chatzis
Institution of Engineering and Technology (IET)	Dr E. O'Hara
Institution of Mechanical Engineers	Prof D.R.H. Gillespie
Institution of Chemical Engineers	Prof N.P. Hankins
Institution of Measurement and Control (InstMC)	Prof S.R. Duncan

1 Subject Benchmark Statement – Engineering, February, QAA, February 2015, http://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-engineering-15-masters.pdf?sfvrsn=fb91f681_16

7.3 Course aims

- To provide students with a systematic understanding of the knowledge-base of Engineering Science: the ability to analyse complex issues both systematically and creatively, make sound judgements in the absence of complete data and communicate their conclusions clearly; the ability to be self-directed and innovative in tackling and solving problems; the independent learning ability required for continuing professional development.

- To provide a broad curriculum which provides state-of-the-art knowledge and practical skills in Engineering.

- To provide a learning environment that enables students of high innate ability to reach their full potential, personally and academically, so that on graduation they are free to choose from many different careers, and have the understanding, knowledge and personal maturity to make a rapid contribution to their chosen employment or research area.

- To provide a course which meets the educational requirements of all the appropriate Professional Engineering Institutions for Chartered Engineer status.

7.4 Learning outcomes

To meet the conditions of accreditation by the Professional Engineering Institutions a degree course must have learning outcomes that satisfy established criteria across six key areas of learning. The following section is a statement on how the Engineering Science programme delivers these outcomes at the integrated Masters (MEng) level.

Science and mathematics

The application of advanced mathematical methods to a comprehensive range of tutorial problems, underpinning the engineering principles and tools required in their solution. The scientific practice and application of mathematics in a substantial group project (3YP) and higher level individual project (4YP).

Engineering analysis

The application of engineering concepts to solve set problems in tutorial work. The collection, analysis and application of data through laboratory based coursework (practicals), group project (3YP) and an individual research project (4YP).

Design

Lecture courses that cover the general principles of design, product development, materials and processing. The 3YP is a substantial group design project centred on a viable product; planning the design process, evaluating the business and wider engineering context. The individual research project requires the student to engage in a series of creative design processes, build and evaluations.

Economic, legal, social ethical and environmental context

A lecture course on 'Engineering in Society' and associated coursework and examination; includes professional and ethical responsibilities, environment, safety, management and business practices.

Engineering practice

Laboratory work in general and particular engineering disciplines, covering a range of techniques and practice. A lecture course in the first year on Engineering in Practice provides insight into the challenges faced by professional engineers. The 3YP group design project requires understanding of the different roles in the engineering team. The individual project is a substantial research project, assessed by report and interview.

Additional general skills

Creativity and innovation through tutorial work and coursework modules. The group project is the setting for developing teamwork, communication and presentational skills. Foundations for lifelong learning through opportunities such as societies, seminars and broader engagement.

These are covered by the following methods:

	Lectures	Tutorials/ Classes	Practicals
Science and mathematics	✓	✓	✓
Engineering analysis	✓	✓	✓
Design	✓	✓	✓
Economic, legal, social	✓	✓	
Engineering practice	✓		✓
General Skills	To be developed in FHS		

Accreditation: Principles of sustainability

The MEng degree in Engineering Science is accredited by the Professional Engineering Institutions; the first step towards full membership of one of the institutions and Engineering Chartership. The course has been designed to achieve certain thresholds of knowledge and standards of learning across key areas that satisfy the criteria set out by the accrediting institutions; including acquiring the knowledge and ability to handle broader implications of work as a professional engineer. It is especially important that the principles of sustainability (environmental, social and economic) are embedded in the teaching and learning throughout the course in lectures, tutorials, laboratories and project work.

7.5 Course structure

The table below gives the title of the compulsory components of the Preliminary Year of the MEng Engineering Science course:

YEAR	PART	ELEMENT	WRITTEN EXAMINATION PAPER (WP) OR COURSEWORK (C)
1	PRELIMS	P1 Mathematics	WP
		P2 Electronic and Information Engineering	WP
		P3 Structures and Mechanics	WP
		P4 Energy	WP
		P5 Engineering Coursework	C

Details of how this course is assessed in the preliminary year is outlined later on in this handbook.

7.6 Course syllabus

More detailed information on the syllabus is available on Canvas on the individual course sites.

Syllabi may be revised annually on approval by the Engineering Faculty, and where appropriate, after scrutiny by the University, for example to safeguard the interests of those who have already started a course. If you have any problems accessing the material that you need on Canvas email student.administration@eng.ox.ac.uk.

Lecture handouts

Lecture notes will be uploaded to Canvas prior to the lecture going live.

7.7 Looking ahead to the second year

The course structure of the second year of the MEng Engineering Science does not hugely differ from the preliminary year – there is a coursework paper and then four examination papers. However, it is crucial that you remain on top of your workload during the second year – this is the first set of assessments that count towards your final degree, so do not lose focus after your Prelims. If you find that you are struggling, do not hesitate to speak to your college tutor and the department, or one of the pastoral care services available to you e.g. the Student Advice Service.

8. TEACHING AND LEARNING

8.1 Overview

Engineering Science at Oxford is taught by various mechanisms: lectures, tutorials, classes, laboratory coursework and projects. The course is planned so that these mechanisms support each other; none is optional.

Lectures, tutorials and laboratories are subject to differing sets of timetabling constraints. Tutors will often schedule tutorial work after all four lectures corresponding to the tutorial problems have been given. Due to a limit on the number of students able to attend each session, laboratory experiments will very often be scheduled before the corresponding lectures and tutorials have taken place. Consequently, laboratory instructions will include extra information and preparatory work to be completed and understood before you attend the session. Failure to do this will almost certainly end up with you taking longer to complete the planned exercises and might result in a poor assessment grade.

As you progress through the course, tutorials will be replaced by intercollegiate classes which are run in the department. The pattern remains as one example sheet for every four lectures, but the material will be taught by specialists in the field.

When planning your study in relation to the lecture courses and examples sheets, remember that they are the lecturer's personal, and inevitably abbreviated exposition of a subject, and cannot be expected to tell you everything about it. Attending lectures and working through tutorial problems provide a base from which your own understanding can be developed; they are the beginning of your study, not the end.

Many lecturers hand will upload lecture notes and reading lists to Canvas in order to accompany their lectures. These are no substitute for your own notes, written as you yourself master the material. This mastery requires more time: you will need to study from text-books as well as the lecture notes.

Students who have declared a disability are encouraged to discuss their specific needs with the Department Disability Contact (Jo Valentine, Head of Student Administration).

8.2 Timetable

The timetable for each term is released in 0th week and is published on the display screens on the ground floor reception area of the Thom Building. It is also on Canvas under MEng Engineering Science/Timetables.

If you have any issues with teaching or laboratory supervision, please raise these as soon as possible so that they can be addressed promptly. Details of who to contact are provided in section 12.2 Complaints and Appeals.

8.3 The first year & Preliminary Examinations – teaching methods

Work is mostly arranged around the syllabus for four written papers of the Preliminary Examination, held in June – the table below indicates the teaching methods for these papers. There is a fifth 'paper', P5, consisting of assessment of coursework during the year which is considered as equivalent to half of a three hour written paper. The table below indicates how many hours are required for each laboratory in 2021-2022:

Paper	Term	Faculty Teaching	College Teaching	Comments
		Lectures	*Tutorials*	
P1 Mathematics	MT	32	8	There are 36 lectures for each paper, supported by one examples sheet of tutorial problems for every four (or thereabouts) lectures.
	HT	0	0	
	TT	4	1	
P2 Electronic and Information Engineering	MT	8	2	
	HT	20	5	
	TT	8	2	
P3 Structures and Mechanics	MT	16	4	
	HT	20	5	
	TT	0	0	
P4 Energy	MT	8	2	
	HT	22	6	
	TT	6	1	
Laboratories				
P5 Practical Work	Drawing and Design	10 hours across the year		
	Workshop Practice	2 hours across the year		
	Computing Laboratory	25 hours across the year		
	Mechanical Laboratory	25 hours across the year		
	Electrical Laboratory	25 hours across the year		
	Thermodynamics Laboratory	5 hours across the year		

For the Preliminary Examination, the possible outcomes are Pass, Pass with Distinction, Partial Pass (awarded if students do not pass one to two papers), or Fail (if you fail three or more papers). Those who fail P1 to P4 may, if their College permits, retake them in September; but you must pass all papers in order to progress on the course Candidates must offer all subjects at one examination provided that: (i) a candidate who fails in one or two written papers may retake those written subjects at one subsequent examination; (ii) a candidate who fails three or four written papers must retake all four written subjects at one subsequent examination. The coursework paper P5 may not be retaken, so failure in it will normally constitute failure of the examination.

8.4 Access to worked solutions

Copies of all the tutorial problem sheets are uploaded to Canvas at the start of each term, on the individual course sites (P1 Mathematics, P2 Electronic and Information Engineering etc.) PDF copies of the example sheet solutions are released on Canvas by the end of week two of the following term in which the corresponding tutorials are scheduled. There are solutions for the Preliminary examination papers - these are made available on Canvas.

9. ASSESSMENT

9.1 Overview

To successfully continue on the MEng in Engineering Science you will need to pass the Preliminary Examinations (Prelims) at the end of your first year. In order to gain the MEng degree, you will need to pass three subsequent examinations of the Final Honour School (Finals or FHS) at the end of each academic year. These are public examinations and differ from collections you may sit periodically in college to help you and your tutors to assess your progress.
The following table summarises the examinable elements of the first year course:

YEAR	PART	Item	Written Exam Duration	Examination Units (EU)
1	PRELIMS	P1 Mathematics P2 Electronic 8 Information Engineering P3 Structures, Materials 8 Dynamics P4 Energy Systems P5 Engineering Practical Work	3 hours 3 hours 3 hours 3 hours N/A	1 1 1 1 0.5
Total Number of Examination Units – PRELIMS				4.5

Examiners are appointed from among the teaching staff, but are considered formally independent; they set examination papers that reflect the content of the lecture courses and their accompanying tutorial example sheets. Past examination papers and reports on the process are available on Canvas.

Results of examinations are published via the student self-service pages. Information about examining conventions for engineering papers is given below in section 9.5.

9.2 Preparing for exams

After you have enrolled with the University and prior to sitting your examinations your college will formally enter you for them.

Exam timetable
Your personal examination timetable will be sent to you at least two weeks before your first examination. Further information is available here:
https://www.ox.ac.uk/students/academic/exams/timetables

What to wear for in-person exams

All members of the University are required to wear academic dress with *subfusc* clothing when attending any university examination, i.e. dark suit with dark socks, or a dark skirt with black stockings or trousers with dark socks and an optional dark coat, black shoes, plain white collared shirt, a black tie or white bow tie.

There is a useful guide about examinations here (both specifically in relation to entering and more generally): www.ox.ac.uk/students/academic/exams .

9.3 Examination Regulations

The *Examination Regulations* are published online at www.admin.ox.ac.uk/examregs.

9.4 Sitting your Examination

Information on (a) the standards of conduct expected in examinations and (b) what to do if you would like examiners to be aware of any factors that may have affected your performance before or during an examination (such as illness, accident or bereavement) are available on the Oxford Students website: https://www.ox.ac.uk/students/academic/exams/guidance .

9.5 Examination Conventions

The formal procedures determining the conduct of examinations are established and enforced by the University Proctors. Undergraduates should read the section on examinations in the 'Proctors and Assessor's Memorandum', see https://www.proctors.ox.ac.uk/home. The formal syllabus requirements are set out in *Examination Regulations* available online, see https://www.admin.ox.ac.uk/examregs/

Engineering Science Examination Conventions

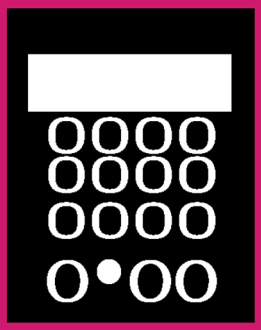
The specific examination conventions for Engineering Science are approved on an annual basis and the examination conventions for 2021/22 will be made available to candidates on Canvas as soon as they have been approved. This is normally no later than one whole term prior to the examination.

It must be stressed that to preserve the independence of the Examiners, candidates are not allowed to make contact directly about matters relating to the content or marking of papers.

Any communication must be via the Senior Tutor of your college, who will, if he or she deems the matter of importance, contact the Proctors. The Proctors in turn communicate with the Chair of the Preliminary Examiners.

9.6 Calculators in Engineering Examinations

CALCULATORS



In 2020/21, for all papers in the Final Honour School of Engineering Science examinations, you'll be allowed to take ONE calculator of the types listed below into the exam room:

- CASIO fx-83*** series
- CASIO fx-85*** series
- SHARP EL-531*** series

where *** is any combination of numbers and letters

Please note:

- The restriction on the use of calculators applies to examinations only. For all laboratory, project and tutorial work, you are free to use any calculator.
- You are encouraged to buy one of the permitted calculators early.
- The permitted list will be updated annually as new models are introduced or old models are discontinued. It is hoped that models can be retained on the list long enough that you need only buy one such calculator during the course.

9.7 Plagiarism

If you find yourself under pressure as the deadline approaches for submission of coursework (laboratory write-ups, engineering and society assignments, project reports), you might be tempted to cheat by copying from a book, a published article, or even the work of one of your friends. This is not clever, nor is it harmless. It is a serious offence called plagiarism.

In *The University Student Handbook*, there are clear guidelines issued regarding the issue of plagiarism in section 7.7. It states that:

"You must read the Proctors' Disciplinary Regulations for University Examinations, which make clear that

- you must indicate to the examiners when you have drawn on the work of others, using quotation marks and references in accordance with the conventions of your subject area
- other people's original ideas and methods should be clearly distinguished from your own
- the use of other people's words, illustrations, diagrams etc. should be clearly indicated regardless of whether they are copied exactly, paraphrased or adapted
- material you have previously submitted for examination, at this University or elsewhere, or published, cannot be re-used — including by drawing on it without referencing it, which constitutes 'autoplagiarism' — unless specifically permitted in the special Subject Regulations.

Failure to acknowledge your sources by clear citation and referencing constitutes plagiarism.
The University's description of plagiarism should be read carefully. That description includes a link to the University's online course about understanding what plagiarism is, and how to avoid it. You are strongly advised to complete the online course.

In recent years, the examiners have uncovered several instances of plagiarism in relation to engineering coursework. All cases were referred to the Proctors who imposed heavy penalties on the offenders.

Additional information
For information about good academic practice and how to avoid plagiarism, please refer to the University's website at: https://www.ox.ac.uk/students/academic/academicpractice.

9.8 Referencing Guide

In order to avoid plagiarism, it is critical that you reference all citations and opinions of others. The Department of Engineering Science recommends that all referencing for assignments is done using the Scientific Style and Format system; but as long as you are using a recognised referencing and citation system and it is used consistently you will not be penalised.

A quick guide to the Scientific Style and Format system is available here at http://www.scientificstyleandformat.org/Tools/SSF-Citation-Quick-Guide.html. If you're still unsure, then please speak to staff in the Radcliffe Science Library for a consultation or formal referencing guide, or to your tutor for advice.

9.9 Prizes

Each year, the department awards prizes to students for excellent performance in examinations or assessments. Many of these prizes are sponsored by external donors or by engineering institutions.

10. PRACTICAL COURSEWORK

10.1 Introduction

Practical coursework is an essential element in the education of every professional engineer. As well as illustrating ideas and topics from lectures and tutorials, it has a special place in our training. All 1st year laboratory sessions for Michaelmas will be held online in order to comply with social distancing measurements.

A basic function of practical work is to gain experience and understanding of using a piece of equipment to perform a task or make a measurement. You will see that theoretical principles are not merely intellectual ideas, but are there for practical use. Another function, realised in recording and presenting the results of experiments, is training in the skill of technical communication; this skill is essential in the real world of engineering where people work together on large enterprises.

Project and design work have a special function in training engineers to make things function. Projects can promote the development of a fundamental engineering attitude which cannot be conveyed in any other way. This is the awareness that engineers are concerned with, not merely with obtaining correct answers to calculations but with taking creative and responsible decisions based upon all available knowledge.

The special importance of practical work is reflected in the accreditation requirements of the Professional Engineering Institutions. They specify what practical work a course must include if it is to be accredited. In order to meet these requirements, satisfactory performance in the laboratory is an essential part of the Oxford course.

Three types of coursework are integral to our course: basic laboratory exercises, coursework modules, and projects. Credit will be given for the quality of work undertaken in laboratory exercises as well as for projects.

During the first year, students will attend eighteen 5-hour laboratory sessions and one 2-hour Workshop Practice session.

10.2 Safety

There are always risks associated with the operation of equipment. Undergraduates are not permitted to work in laboratories or workshops unsupervised.

A risk assessment is completed for each laboratory experiment, and will be included with the associated paperwork and will also be displayed in the laboratory in which the experiment is being undertaken. You should read the risk assessment before the laboratory and identify the hazards before starting an experiment. The ‘Introduction to Laboratory Work’ lectures at the beginning of Michaelmas Term of the first year will include information on safety. If you come late to a laboratory and miss an essential safety briefing, or if you disobey safety rules, you may be refused access to equipment.

The guidance notes for undergraduates on health and safety are contained in Appendix A.

Guidance notes for what to do in the event of an attack by an armed person are in Appendix D.

10.3 Log-books

You should keep a personal, bound log-book as a consecutive, dated and complete record of all laboratory work irrespective of topic. You are provided with your first log-book free of charge as a part of your first year course materials. This book must be in use and available for inspection during every attendance in every laboratory. It constitutes an important proof that everything you wrote at the time is still there. Loose-leaf notes are not acceptable. Recommended for this purpose is the Chartwell A4 641 K Student Laboratory Book; these are purchased in bulk by the department, and
sold at a discounted price. The current selling price for the 20120/21 academic year is £7.00 per log-book.

The main way to purchase log-books is through the University's online store at https://www.oxforduniversitystores.co.uk/product-catalogue/engineering-science/books/engineering-science-a4-hardback-laboratory-book-green-cover. A maximum of three log-books may be ordered in each transaction and payment is by card only. Once your order has been placed, your log-book will be ready for collection from the Student Administration Office after two working days. Log-books are not posted out to students' addresses. Due to the heavily discounted price, and to ensure that log-books are being provided to University of Oxford engineering students only, you must show your University card as proof of identity on collection. If you forget your log-book, the Student Administration Office has a small emergency stock of log-books. We are unfortunately unable to take card payments in person, and please make sure you have the exact money available as we do not have a large amount of change.

Do not be reluctant to enter calculations and results directly into a log-book because you fear you will make a mess. Alterations or deletions will not be criticised, and tidy habits can be expected to develop with experience. What is important is that your log should be written on the spot as your permanent, personal dated diary of everything you have done, every measurement that you have made and every decision you have taken in the course of each successive exercise. Record it in such a way that if you referred to it again a year later you would be able to make sense of what you wrote. Where a pro-forma is issued for your observations, it may be pasted into your log-book.

Data are often recorded as tables of numbers for use in subsequent calculations. It helps if you plan these calculations and tables in advance. The log-books include graph pages and whenever possible you should plot a rough graph as the data values are recorded. Although this seems tedious, it actually reduces work because, watching your graph grow, you will not waste time taking unnecessary readings. Also, you will spot gaps or inconsistent data before it is too late to repeat a measurement or add another. In many cases, you can complete much of the data-processing as the experiment proceeds, which immediately gives a clear impression of the results.

Writing reports is quite different from keeping records in your log-book. For some experiments, you will not write a report at all, but will merely complete a pro-forma or be asked to show your log-book and answer some questions. On other occasions, a report will be required. If your log-book record is

adequate, you will have ready all the information needed to write up any previous experiment at any time.

Some suggestions about writing reports on laboratory exercises are included in section 9.7.

10.4 Timetabling and attendance

Detailed lab timetables are published on Canvas.

Usually the lab timetables provide for working in pairs, and a specific day and time will be allocated to each pair, for each experiment. You are responsible for finding out in advance the times of your experiments and for attending at those times, even if it happens to be on the first Monday of term. Apparatus is usually fully used and it may be impossible to reschedule an experiment that has been missed. If you are ill, it is important to inform the laboratory organiser as soon as possible, and try to exchange times with another group. However, if this is not possible and you are unable to complete a laboratory through illness you should obtain medical evidence as soon as possible - usually from your doctor or college nurse – where it states which laboratory sessions were affected. Notification of such matters to the Examiners must be undertaken by the Senior Tutor of your college and is channeled through the Proctors' Office.

10.5 Record forms and instruction sheets

You'll be given a form for each laboratory, to record completion and assessment of the exercises. It is your responsibility to obtain the necessary staff signatures for work accepted, and to keep these record forms safely so that there can be no doubt as to whether you have completed any exercise. You will be given the opportunity to check your practical record, as held by the Student Administration Office, in the Trinity Term of years one, two and three, prior to the presentation of this information to the Examiners. In the event of a query regarding the completion of a laboratory, the record will only be amended in the light of supporting evidence, normally the signing-off sheet.

Instruction sheets are issued for each experiment. To ensure full benefit from each exercise, you should obtain this sheet in time for any necessary background study before your scheduled experiment. Failure to do this can result in confusion, frustration, and waste of irreplaceable scheduled time in the laboratory. Where preparatory work is specifically required in an instruction sheet, you will not be allowed to start the experiment until this preparation is completed satisfactorily.

10.6 Assessment of practical coursework

Formal regulations for laboratory work are set out without detail in the 'Examination Regulations'. Within this framework, the Faculty of Engineering Science has to specify detailed requirements for each part of the course.

All engineering laboratory work (including Coursework Modules) is assessed on a continuous basis, with the marks being used by the examiners. The labs are normally scheduled for a 5-hour session, with the intention being that the average student should be able to complete the lab in 4 hours.

10.6.1 General Protocols for Assessment in Engineering Laboratories

These protocols for laboratory work have been agreed by the Engineering Faculty. Protocols for the assessments of your Engineering practical work in subsequent years will be confirmed at the start of each academic year. Students are expected to read the laboratory instructions before attending the lab.

Marking Scale:
The labs are assessed on a scale 0-10, and the marking is intended to be done within the timetabled lab slots. There are no plus, minus or fractional marks.

The marking scale from 0-10 will be allocated as follows:

9-10 Marks	This is broadly equivalent to a distinction/1st. These are for students who are well prepared for the lab, and show intelligent understanding when interrogated about their work.
7-8 Marks	The mark that the majority of students will obtain for work that is essentially correct and complete.
5-6 Marks	The mark for work that is either incomplete or incorrect or required a lot of help.
3-4 Marks	The mark for work that is both incomplete and incorrect.
1-2 Marks	Did little more than attend the lab and make some attempt at recording activities.
0 Marks	Non-attendance

Assessment Criteria:
Work to be assessed will be the student's record in their laboratory log-book using the marking scale above. There is no requirement for a separate write up.

The minimum generic skill set to be assessed consists of:

- Clear and precise record-keeping of experimental details.
- Clear, full and precise recording of experimental data obtained.
- The appropriate use of basic statistical treatments of data (use of the various means, averages, standard deviation, standard errors, linear regression, correlation coefficients).
- Clear design drawings, design calculations and statements of design ideas and final proposals for Design-Build-Test (DBT) activities. Lab instruction sheets will specify the required details.

Assessment of log-books will normally be done within the laboratory, in the presence of (and in discussion with) the student, towards the end of the timetabled laboratory period (typically in the last hour).

Attendance:
It is the responsibility of the student to ensure that their presence is recorded in the register, by a demonstrator, before the start of the lab. Students who arrive later than 10 minutes after the start may be penalised by 1 mark. You are expected to arrive within the first 5 minutes, and the 10 minute rule is a concession.

Design-Build-Test (DBT) Activities Assessment:
For the DBT exercises, assessment may be done after the end of each session or just twice. For example, if an exercise consists of 2x5 hours of preparatory experimental labs and 3x5 hours of DBT-

type activity, the assessment could be done first at the end of the 10 hours of labs, and again at the end of the whole exercise.

Additional Assessment Regulations:

- No-shows because of certified justifiable reasons (e.g. medical) will be allowed to attend in another empty lab slot, if available, or (as always) to appeal to the Proctors for exemption. Late arrivals (beyond 30 minutes), without prior permission or agreement by the lab organiser that there are exceptional circumstances, may be refused access to the lab.
- Planned absences: if you wish to attend an outside event (e.g. job interview, funeral, award of a prize), then you should contact the Lab Organiser [copying the message to your tutor and the Student Administration team (student.administration@eng.ox.ac.uk)], normally at least a week in advance so as to obtain an alternative slot. If you can arrange a swap with another student, so much the better, but inform the Lab Organiser.
- There is *only a single opportunity for the work to be marked and signed-off*. In other words, you cannot do additional work after a 'first marking' in order to try and attain an improved mark.
- If any *dispute about marking cannot be resolved* by the Senior Demonstrator present, then it should be referred to the Lab Organiser, or failing that the Associate Head (Teaching).
- *If work is done on loose sheets of paper* it will be marked on a 'provisional' basis, and the mark will only be 'validated' and entered into the Marks Register once the loose sheets have been stuck into a logbook.

Exemptions to Standard Lab Assessment Protocol:

The two *Drawing Exercise* sessions are special cases in that the written work to be assessed will be solely drawings instead of log-books. *Workshop Practice* is another special case: it lasts 2 hours, there will be no assessment, but there is a mark of 5 for attendance and satisfactory completion.

10.7 Reports on Laboratory Exercises

The reports that you will be required to write will be on a very diverse range of activities, so it is difficult to give more than very general advice. For any particular activity, advice is often given at the time. The following is offered here:

- Log-books are not normally 'handed in' to anyone. A short report on a set experiment that will be marked in the laboratory should be written in the log-book, on the pages following the results taken at the time. But something that is going to be handed in, whether to demonstrators or examiners, should be produced as a separate item.
- Untidiness in log-books is sometimes unavoidable, but if producing a separate report, aim at a good standard of presentation. After all, you might want to show it to someone in the hope of making a good impression. If that is not the case with the one you are doing now, it might be with a later one, so practise now.
- Spelling and grammar are important.
- Levels of explanation should normally be such that another reasonably competent undergraduate in your own year, and reading the same subject, should be able to understand it.

- If you are reporting decisions you took, give reasons for them. 'Reasons' do not necessarily have a mathematical basis, even in engineering. 'Because it seemed more elegant' or 'because it was readily available' are perfectly respectable reasons for choosing between alternatives that are otherwise technically acceptable.
- There should be a 'conclusion', and it should match the object of the exercise. For instance, if the exercise is to produce a working example of something, then the conclusion should state to what extent, and how well, it did work.
- Try to make your reports readable and interesting. Extraneous information, if it must be included, can go in Appendices.

10.8 Project work

Project and design work forms a major part of the Engineering courses - the first-year course includes three Design, Build and Test (DBT) type activities.

Projects differ from laboratory class exercises in that the objective is defined but the details of the task are not. Instead, time is allowed for initiative and individual creative thinking. The final product is either a piece of engineering equipment that works, or a full technical report, or both. In all cases the necessary specialist information and equipment are made available and appropriate supervision is offered, but the role of the supervisor or demonstrator is to help and encourage rather than to control what is done. You are expected to exercise initiative and engineering judgement, and to make appropriate use of all relevant knowledge from the preceding parts of the course.

To assist with the projects there is a Teaching and Design Support Group (TDSG) and the University has appointed Visiting Professors in the Principles of Engineering Design.

11. SKILLS AND LEARNING DEVELOPMENT

11.1 Academic progress

The monitoring of academic progress is carried out on both collegiate and Departmental levels. The Department is responsible for recording and tracking your attendance, any issues related to your teaching and learning and for timetabling your lectures and labs. Your college is responsible for your tutorial support, feedback using the college's reporting system, OxCORT and your overall pastoral care. Please refer to your college handbook for full details of what they provide for you.

11.2 Learning development and skills

Having access to high quality teaching material and dedicated tutors is the starting point for your university education; the rest is up to you. There is no replacement for patient and well-planned personal study. It is essential that you invest the time and effort to absorb the concepts and facts presented in lectures. The tutorial sheet problems provide an opportunity to apply new knowledge and to discover how solutions develop. Like any skill you wish to develop further it is necessary to practice without rushing and pay attention to detail. Avoid the temptation to learn superficially, and work consistently well throughout the academic year is good advice. Your College Tutors will have a lot more to say on this topic during the tutorials and preparation for the Preliminary examinations to follow.

11.3 Induction

A separate induction programme has been issued to you in the pre-course pack, sent to you by your colleges in August. You will also have access to the online induction videos on Canvas

1.4 Opportunities for skills training and development

A wide range of information and training materials are available to help you develop your academic skills – including time management, research and library skills, referencing, revision skills and academic writing – through the Oxford Students website:
http://www.ox.ac.uk/students/academic/guidance/skills.

11.5 Careers information and advice

Information and advice regarding careers is available at the University Careers Service (www.careers.ox.ac.uk).

12. STUDENT LIFE AND SUPPORT

12.1 Help and advice

It's possible that at some point during your time here, you may run into a problem. It could be that your work gets on top of you. You might have health problems, or difficulties with your personal life. All of these things can stop you from enjoying your time at Oxford, and prevent you from studying effectively.

If you do get into difficulties, the main thing to remember is that, although it may not feel like it, you are unlikely to be the only person to have had a particular problem, and many people are available to offer advice and support.

Do ask for help if you need it - don't struggle on and wait for the problem to go away of its own accord.

Who to contact?

In your college

The natural person for you to turn to first is your college tutor. He or she can help you if you are having a work crisis, maybe by rescheduling tutorials or offering extra help on a part of the course you are finding difficult. Your tutor may also be able to help with non-academic problems, but if you don't feel able to turn to them, there are many alternatives within the college community, such as the Senior Tutor, JCR Welfare Officers, Chaplain, Nurse, Doctor, and Tutor for Women. Your college handbook or website may also be a useful source of information on who to contact and what support is available through your college.

In the Department

In the Department, your first port of call for any problems concerned with teaching provision should be the Student Administration Office on the eighth floor of the Thom Building (ask to speak to the Undergraduate Studies Officer).

Staff with a particular responsibility for undergraduate issues are:

Professor Ronald Roy	Head of Department
Professor Thomas Adcock	Associate Head (Teaching)
Jo Valentine	Head of Student Administration
Julia Hemprich	Undergraduate Studies Officer
Dr Joanna Rhodes	Head of Finance and Administration

At University level

At University level, you can seek advice and counselling from:

- The University Counselling Service (270300)
- Nightline: Listening and Information Service (270270)
- OUSU Student Advice Helpline (280440) or www.ox.ac.uk/students/welfare

Harassment

The University condemns harassment as an unacceptable form or behaviour, and has an advisory system to help people who think they are being harassed. Harassment includes any unwarranted behaviour directed towards another person which disrupts that person's work or reduces their quality of life.

Further information and guidance is available at www.admin.ox.ac.uk/eop/harassmentadvice.

The Department of Engineering Science has a team of confidential advisors. At present these are Jo Valentine, Professor Harvey Burd, Karen Bamford, Daniel Eakins, Caroline Brown, John Coull, David Gillespie, Laura O'Mahony, Nicholas Hawes, Grahame Faulkner, Wendy Poole, and Jarlath Brine; any of whom may be consulted in relation to matters of harassment.

Equality and Diversity

Information about the University's Equality and Diversity Unit can be found at www.admin.ox.ac.uk/eop.

Disabilities

If you have any form of disability, we strongly encourage you to disclose this to Jo Valentine, Head of Student Administration, in order that we can make provision for you. Furthermore, your college will advise you of your Disability Contact who will be pleased to talk to you in the strictest confidence.

Students who have already declared a disability (for example on their UCAS form), will be contacted by the Disability Advisory Service by early Michaelmas Term to discuss their specific needs.

Students with a disability may also find useful advice and guidance on the University of Oxford Disability Office web page at https://www.ox.ac.uk/students/welfare/disability.

Mobility issues

If you experience mobility issues due to illness or injury (even if only temporary), please report this to the Department Safety Officer, Gary Douglas (gary.douglas@eng.ox.ac.uk). This is so that appropriate help can be arranged at a local level which will be available in the event of an emergency evacuation.

12.2 Complaints and appeals

Complaints and academic appeals within the Department of Engineering Science

The University, the MPLS Division and the Department of Engineering Science all hope that provision made for students at all stages of their course of study will result in no need for complaints (about that provision) or appeals (against the outcomes of any form of assessment).

Where such a need arises, an informal discussion with the person immediately responsible for the issue that you wish to complain about (and who may not be one of the individuals identified above) is often the simplest way to achieve a satisfactory resolution.

Many sources of advice are available from colleges, faculties/departments and bodies like the Counselling Service or the OUSU Student Advice Service, which have extensive experience in advising students. You may wish to take advice from one of these sources before pursuing your complaint.

General areas of concern about provision affecting students as a whole should be raised through Joint Consultative Committees or via student representation on the faculty/department's committees.

Complaints

If your concern or complaint relates to teaching or other provision made by the Department of Engineering Science, then you should raise it with the Associate Head (Teaching), Professor Thomas Adcock, as appropriate. Complaints about departmental facilities should be made to the Head of Student Administration, Jo Valentine. If you feel unable to approach one of these individuals, you may contact the Head of Department, Ron Roy. The officer concerned will attempt to resolve your concern/complaint informally.

If you are dissatisfied with the outcome, you may take your concern further by making a formal complaint to the Proctors under the University Student Complaints Procedure: https://www.ox.ac.uk/students/academic/complaints.

If your concern or complaint relates to teaching or other provision made by your college, you should raise it either with your tutor or with one of the college officers or Senior Tutor (as appropriate). Your college will also be able to explain how to take your complaint further if you are dissatisfied with the outcome of its consideration.

Academic appeals

An academic appeal is an appeal against the decision of an academic body (e.g. boards of examiners, transfer and confirmation decisions etc.) on grounds such as procedural error or evidence of bias. There is no right of appeal against academic judgement.

If you have any concerns about your assessment process or outcome it is advisable to discuss these first informally with your subject or college tutor, Senior Tutor, course director, director of studies, supervisor or college or department administrator as appropriate. They will be able to explain the assessment process that was undertaken and may be able to address your concerns. Queries may not be raised directly with the examiners.

If you still have concerns you can make a formal appeal to the Proctors who will consider appeals under the University Academic Appeals Procedure: https://www.ox.ac.uk/students/academic/complaints.

12.3 Policies and Regulations

The University has a wide range of policies and regulations that apply to students. These are easily accessible through the A-Z of University regulations, codes of conduct and policies available on the Oxford Students website at https://www.ox.ac.uk/students/academic/regulations.

13. APPENDIX A Health and Safety

Introduction

In England and Wales, everyone has a 'duty of care' under Common Law both to themselves and others. Each one of us must take reasonable care of our own health and safety and that of others who may be affected by our acts and omissions. Further, under Statute Law in Great Britain, everyone has a duty to co-operate with their employer, in this case the department, so far as is necessary to enable the department to comply with its duties under the Health and Safety at Work Etc. Act 1974. Undergraduates, as visitors to the department, do not have the same responsibilities under Sections 7 and 8 of the Act. However, as visitors, you will be expected to comply both with the spirit of the law and, when the occasion demands, the letter. To this end, the department has a basic set of safety rules that apply to all undergraduates and these are listed below.

Departmental safety rules for undergraduates, applying to all years of study

1. Undergraduates may use apparatus in laboratories only when supervised and within normal working hours, for the following purposes:

   (a) Programmed experiments as timetabled, under the direct supervision of the laboratory organiser and which satisfy current safety regulations.

   (b) Programmed experiments outside timetabled hours (see Access Hours and Lone working information in Appendix B) by specific permission of the organiser of the relevant laboratory class which satisfy current safety regulations and which are directly supervised. Fourth year undergraduate students working on project work may be granted access outside these hours following completion of an extended access permit.

   (c) Project work by arrangement between the project supervisor, the staff member responsible for safety in the relevant laboratory and the staff member responsible for the apparatus required providing all necessary risk assessments under current safety regulations have been completed before the project work starts.

   (d) For the purposes other than programmed experiments or project work by permission of:

      . the member of staff responsible for the safety in the relevant laboratory or,

      . the Administrator or,

      . the head of the relevant workshop

      providing all necessary risk assessments under current safety regulations have been completed before the work starts.

2. Outside normal working hours, undergraduates may use apparatus only if there is a specific reason for which approval is granted by the Head of Department or Associate Head (Teaching). This use must be in the presence of a member of staff. Such approval is currently granted for supervised access to computing facilities only.

3. Machine tools in the Staff/Student Workshop may be used only when supervised by an authorised person or by the technician in charge. The technician must be satisfied that the undergraduate is competent to operate the required machinery safely. The technician in charge has full authority to refuse anyone the use of machine tools if evidence of competency cannot be provided.

4. Except by permission of the member of staff responsible, undergraduates are not permitted to enter research laboratories, staff offices, stores, workshops, roof areas, service areas, photographic darkrooms, reception areas (except public spaces), or any room displaying a specific hazard warning notice. Except in the case of fire, undergraduates will not access the seventh floor balcony of the Thom Building.
5. Each practical and experimental exercise will provide more detailed safety requirements. All undergraduates will be expected to abide by these additional specific safety requirements and act on them accordingly.
6. It is an offence under law for anyone to intentionally interfere with or misuse anything provided in the interests of health, safety and welfare. It is also an offence not to use any personal protective equipment (PPE) provided in the interests of health and safety. PPE must be maintained in good order and you have a duty to report any PPE that is damaged or if it does not suit your needs. Report the fact to your supervisor or member of staff responsible for the laboratory or workshop.

NB: Any student experiencing mobility problems due to injury/illnesses (even if only temporarily) should advise the Department Safety Officer, Gary Douglas (gary.douglas@eng.ox.ac.uk), of their situation. This is so that appropriate help can be arranged which will be readily available in the event of an emergency.

APPENDIX B Department of Engineering Science – Access and Lone Working

This table provides guidance for undergraduates, postgraduates and members of staff. Detailed guidance is available on the department's health & safety intranet page at this link: https://intranet.eng.ox.ac.uk/health-safety

Category/Hours	Core Hours 08:00-18:00	Non-Core Hours Monday to Friday 18:00-22:00	Weekends 08:00 - 22:00	Late Working 22:00 – 08:00	Departmental closed periods *e.g.* Easter, Christmas and Bank Holidays outside term
Undergraduate	Access allowed from 08:00 – 18:00, 0-10th week inclusive (Hilary and Michaelmas Terms) and 0-8th week inclusive (Trinity Term). Undergraduates are allowed to remain until 18:00 apart from the 8th floor study area where access is allowed until 19:00	Access requires Extended Hours Permit& Risk Assessment	Access requires Extended Hours Permit & Risk Assessment	No access	No access
Postgraduate & Staff Members (Academic, Research Assistants, Support Staff)	Access allowed	Access allowed	Permitted for office-based work only	Permitted for office-based work only	Permitted for office-based work only

Note: Core hours for IBME are 08:00 – 18:00 (Monday to Friday)

Lone Working

Lone working (other than for solely office-based activities) is only permitted for students and staff subject to a Risk Assessment by their Line Manager or Supervisor. In all cases arrangements for summoning assistance in the event of an accident should be established and this information communicated to all relevant persons. Please check current local restrictions before accessing the department.

August 2021

APPENDIX C Access to Departmental Buildings

1. Undergraduate Students are permitted to use the main entrances to the Thom (including 8th floor study area) and Holder Buildings in the Keble Triangle between the hours of 08:00hrs and 18:00hrs during the following periods:

    a. Weeks 0th -10th (inclusive) in the Michaelmas and Hilary terms

    b. Weeks 0th – 8th of the Trinity term

2. This permission is granted for the purposes of attending lectures and other course related meetings, visiting the 8th floor study area and undertaking work related to Third Year Projects (3YP) or Fourth Year Projects (4YP).

3. This permission is granted on the strict condition that the only activities that can be undertaken are desk based, e.g. computer analysis of data, literature reviews or writing up of results but not the use of mechanical, electrical or chemical equipment and materials which would in other circumstances require the Undergraduate Student to be supervised in its use.

4. In certain circumstances and under conditions set by the Departmental Safety Officer (DSO), this access permission can be extended to allow activities by the Undergraduate Student which involve tests and experiments using mechanical, electrical or chemical equipment and materials which are deemed by the DSO to be hazardous to health and safety. The minimum condition will normally be that the Undergraduate Student is supervised by a competent person (usually a member of academic staff).

5. If an Undergraduate Student applies for extended access permission to undertake activities of the nature described in clause 4, the application must include a full description to enable the DSO to fully assess the risk and determine whether the activity can be allowed and, if so, the precautions that need to be taken and the supervision that will be required. At the discretion of the DSO extended access to nominated areas may then be permitted for a short, specified period under clearly defined conditions.

6. This permit, together with a current University Identity Card, must be carried at all times within the department, and produced upon request. Any Undergraduate Student that is unable to meet these requirements will be asked to immediately leave the department premises.

7. IMPORTANT NOTE: Random checks on Undergraduate Students present in the department during the periods and hours listed in Clause 1 will be conducted by the Head of Finance and Administration and the DSO. Students found to be not complying with the conditions of issue of the extended access permission or undertaking works or activities that have not been specifically authorised (including the manner in which this authority was given) will have their extended access permission withdrawn and the Head of Department notified.

APPENDIX D Guidance in the event of an attack by an armed person or persons

1. Be prepared and stay calm

The purpose of this guidance is to alert and not to alarm – it is not being provided in response to any specific information. Although students are asked to be mindful and alert, please do not be overly concerned. You are asked to carry on with your day-to-day life as normal.

In the event of an incident, quickly determine the best way to protect yourself.

2. Evacuate

- If it is possible to do so safely, exit the building or area immediately
- Have an escape route in mind (Fire Exit signs are a good point of reference)
- Evacuate regardless of whether others agree to follow
- Help others, if possible
- Prevent others from entering the area of danger
- Do not attempt to move wounded people
- When you are safe, call 999 and ask for the police

3. Hide

- If evacuation is not possible, find a place to hide where the offender is less likely to find you
- If you are in a room/office, stay there
- If you are in a corridor, get into a room/office
- Lock the door and blockade it with furniture
- Silence your mobile phone and remain quiet
- Turn off the lights and draw any blinds
- Hide out of view and behind something solid (desk or cabinet)
- If it is possible to do so safely, call 999 and ask for the police

4. Inform

If you contact the police, provide the following information:

- Location of and the number of offenders
- Any physical descriptions of the offenders
- Number and type of weapons used by the offenders
- Number and potential victims at the location
- Your location

STAY SAFE

Further information and advice is available from Oxford University Security Services on 01865 (2) 72944 or security.control@admin.ox.ac.uk

APPENDIX E Expanded Syllabus for Prelims 2022

Paper P1: Mathematics

Calculus 1

The function concept. Definition and simple properties of elementary functions. Differentiation of a product, quotient and function of a function. Elementary integration, including substitutions, integration by parts, partial fractions, tan half-angle, recursive formulae.

Elementary series: sum to n terms of linear and geometric series, and the concept of a limit. Maclaurin and Taylor expansions in one variable and their use for linearization of elementary functions. The error term. de l'Hopital's theorem.

Calculus 2

Partial differentiation: the chain rule and simple transformations of first-order partial differential coefficients. Multiple integrals and their evaluation, with applications to finding areas, volumes, masses, centroids, inertias etc. (excluding line and surface integrals and using Cartesian, cylindrical and spherical coordinate systems only).

Vector functions: differentiation of a vector function: gradient, divergence and curl – definitions and physical interpretations; product formulae. Description of space curves, Frenet-Serret relationships.

Linear Algebra and Complex Algebra

Rudiments of vector algebra including dot and cross product, geometrical applications. Addition, multiplication and inversion of matrices. Determinant and trace of matrices. Axes and linear transformations. Orthogonal matrices. Properties of rotation matrices. Solution of simultaneous equations using matrices (Gaussian elimination and LU decomposition).

Eigenvalues and eigenvectors of real symmetric matrices. Concept of orthogonality of eigenvectors. Expansion of an arbitrary vector in eigenvectors.

Complex Algebra: Definition of i, complex arithmetic and the Argand plane, polynomials of the complex variable with real coefficients. The complex exponential, nth-roots of complex numbers. Elementary functions of complex variables. Loci in the complex plane. Differentiation and integration of complex functions. Phasors.

Ordinary Differential Equations 1

Homogeneous and inhomogenous equations. Principle of superposition for linear ODEs. Complementary function and particular integral. The auxiliary equation: distinct and repeated roots. Finding PIs for forcing functions which are constants, polynomials, and exponentials. Special cases. Full treatment of second-order ODEs: damping factor ratio and natural frequency, poles and zeros. Elementary simultaneous ODEs. Sinusoidal forcing functions and the use of the complex exponential. Frequency response functions.

Definition of Fourier series (including the complex form), orthogonality, Fourier series of basic waveforms (square, saw-tooth, finite pulse train). Fourier series of odd and even functions, implications of half-wave symmetry. Parseval's theorem. Use of Fourier series in solving ODEs.

Ordinary Differential Equations 2

Definition of the Laplace transform: transforms of elementary functions and derivatives. Transfer functions. Solving ODEs by Laplace transforms. Inverse Laplace transform by partial fractions and by using tables. Shifting in time. The Heaviside step function and the Dirac delta function. The concept of a transfer function.

Application of transfer functions: modelling of the physics of mechanical, electro-mechanical, thermal and fluid systems mathematically in terms of ordinary differential equations. Linearization. Block diagram representations and manipulation of block diagrams to simplify systems.

Paper P2: Electrical and Information Engineering

Components and Circuits 1

Charge conservation, Kirchhoff's laws, mesh/nodal analysis. Concepts of ideal voltage and current sources, and resistances. Thevenin and Norton theorems with emphasis on concepts of input and output impedances.

Components and Circuits 2

Gauss's Law. Electric field D, E, ε, potential V, capacitance, stored energy. Magnetism, flux, flux density, flux over a closed surface = 0. Ampere's law, calculating magnetic fields, fields around conductors. Inductance, stored energy.

Frequency response of a.c. networks including Bode diagrams, second-order and resonant circuits, damping and Q factors. Laplace transform methods for transient circuit analysis with zero initial conditions. Impulse and step responses of second-order network and resonant circuits.

Digital Electronics

Basic gates, truth tables, combinational functions (AND, OR, NOT, EX-OR). The MOSFET as a switch; CMOS inverter, NOR and NAND gates. Karnaugh maps; algebraic laws (such as distribution and association).

Digital Electronics 2

Multiplexers, ROMs and PLAs. Binary arithmetic: adders/subtractors. Sequential logic I: D-type flip-flops, registers, asynchronous counters. Sequential logic II: synchronous counters, Karnaugh transition maps.

Data converters; basic principles of DACs and ADCs. R-2R ladder based DAC. Principles of ADC (Flash and SAD).

Active Circuits and Devices

Active Circuits and Devices 1

Electrical conduction in semiconductors, PN junctions. Diodes, rectification. Junction Field Effect Transistors.

Active Circuits and Devices 2

Incremental models and equivalent circuits including calculation of parameters from simple models. Single transistor circuits as switches, amplifiers and buffers. Calculation of voltage and current gain, input and output impedances.

Active Circuits and Devices 3

Characteristics of an ideal op-amp. Inverting and non-inverting op-amp configurations including voltage follower. Summing and differential amplifiers. A.C. response of ideal op-amp circuits. Op-amp filter circuits. Comparators.

Paper P3: Structures and Mechanics

Statics

Equilibrium of force systems. Internal and external forces. Forces in pin-jointed frames. Method of sections. Method of joints. Equilibrium matrix methods. Cables and arches. Stresses in thin walled cylindrical and spherical shells. One-dimensional stress and strain. Displacements of simple pin-jointed frames. Simple redundant systems.

Bending and Torsion

Shear force and bending moment diagrams. Elastic bending stresses and deflections. Properties of sections: neutral axis, second moment of area. Use of standard solutions and symmetry. Analysis of simple redundant beams. Elementary elastic torsion.

Materials and Solid Mechanics

Classes of materials (e.g. metals, polymers, ceramics, glasses and composites): engineering properties and selection of materials for engineering applications. Elastic properties and their relation to interatomic bonding and structure. Crystalline and amorphous materials. Stress and strain under multi-axial loading. Hooke's law in 3D. Plane stress and plane strain. Transformation of stress and strain – Mohr's circle. Relationship between elastic constants for isotropic materials. Yield stress, yield as a shear phenomenon. Microscopic aspects of yield: theoretical yield stress and dislocations. Tresca yield criterion under multi-axial loading. Post yield behaviour under uniaxial loading: True stress and natural strain. Plastic instability and tensile strength. Griffith Theory of fracture. Materials selection on the basis of weight, stiffness, strength, toughness, and cost.

Dynamics

Plane kinematics of particles: rectilinear and curvilinear motion in rectangular, normal-tangential, and polar coordinates; relative motion (translating, not rotating, axes). Plane kinematics of rigid bodies: translation, rotation, and general plane motion; relative motion; rotation about a fixed axis. Dynamics of particles: Newton's second law; work, energy, power; impulse and momentum (linear and angular); conservation of energy and momentum (linear and angular); impact; central-force motion. Dynamics of rigid bodies: equations of motion for translation and fixed-axis rotation; moment of inertia; work and energy; impulse and momentum (linear and angular). Simple variable mass problems, i.e. rockets.

Paper P4: Energy

Heat and Mass Transfer

Overview of heat transfer mechanisms. Conduction in solids. Convection in laminar and turbulent flows. Determination of heat transfer coefficients. Thermal radiation. Mass diffusion and Fick's law. Mass transfer coefficients. Analogies between heat, mass and momentum transfer. Correlations for convection of heat and mass using dimensional analysis.

Fluid Mechanics

Hydrostatics, forces on immersed bodies. Stationary control volumes, continuity, momentum, Euler equations, streamline analysis in steady flow. Conservation of energy and application of Bernoulli's equation in simple inviscid incompressible flows. Introduction to stream functions.

Definition of viscosity. Simple laminar Couette and Poiseuille flow. Introduction to boundary layers, laminar and turbulent flow. Characterising flow through Reynolds number. Loss of total pressure in pipe flows. The integral momentum equation, displacement and momentum thickness. Friction and form drag; flow separation.

Thermodynamics

Compressibility, temperature coefficient of expansion, specific heat, conductivity, viscosity, diffusion. One-dimensional heat conduction, use of heat transfer coefficients. Properties of ideal gases. Properties of mixtures. Use of tabulated data for steam and other fluids involving liquid and vapour phases. Properties of real gases.
Basic concepts and terminology of thermodynamics. Heat, work and the First law. Definition of internal energy. Applications and examples. First law applied to open systems. Definition of enthalpy, mass and energy balance. Chemical balance equations, examples to include combustion and fuel production (e.g. biodiesel and bioethanol). Formal definitions of imep, bmep, volumetric efficiency; the effect of AFR in SI engines on efficiency and bmep.

Simple cycle analysis to cover Rankine, Joule, Otto and Diesel cycles.

Dimensional Analysis

Dimensional homogeneity, dimensional parameters, dimensional analysis of governing equations, geometric and dynamic similarity, Buckingham pi theorem, worked examples in energy systems, limitations of dimensional analysis.

APPENDIX F Jargon Buster

There is a general Glossary of Terms available on the University of Oxford website here: https://www.ox.ac.uk/about/organisation/history/oxford-glossary . The list below are a few terms that may come up during your time with Engineering Science.

Canvas	This is the University of Oxford's Virtual Learning Environment (VLE) – an online resource where all of your course material and timetable is available.
Collections	These are internal exams held in the colleges each term which provide your college with an indication of your progress.
College	This is where students live - your rooms and meals will all be provided by your college, and you will also have your tutorials there. Oxford has a collegiate system, which means that every student and most of the teaching staff are members of a college.
Coming Up/Going Down	Arriving at the beginning of term/leaving at the end of term.
Demonstrating	The supervision or assistance of practical classes or labs.
Department	This is your area/course of study, and where you will spend the majority of your time in teaching. The Department of Engineering Science provides your labs and your lectures.
Design-Build-Test (DBT)	These are lab activities that involve students creating and constructing a project that tests theoretical engineering principles i.e. programming robots, building a small bridge etc.
Division	This is the term used to group departments, or academic subjects, together under one theme. Engineering Science is part of the Division of Mathematical, Physical and Life Sciences.
EEM	The acronym for the Engineering Science, Entrepreneurship and Management pathway of the MEng Engineering Science programme. This is available for students to apply for at the end of their second year.
Example/ Tute Sheet	The worksheet that is provided for you to complete before your tutorial.
FHS	The acronym for the Final Honour School of Engineering Science which relates to the last 3 years of the MEng degree (the years that count towards your final degree classification)
Finals	The set of examinations that you will sit in years two, three and four (Part A, Part Ba and Part C)./ The outcome of these exams. Along with your coursework marks, determine your final degree classification
General Scheme	A summary of the lecture timetable across three terms
JCC	The acronym for Joint Consultative Committee, which is a meeting held once a term between academic staff and undergraduate students to discuss administrative and academic issues.
Labs	This is shorthand for laboratories or practical classes
Matriculation	This is the formal process of University enrolment and takes place in the form of a ceremony held just before the start of Michaelmas term. You must participate in this ceremony within two terms of starting the course or you will not be allowed to sit your exams.
Pidge	This is the term, often used in colleges, for pigeon holes.
Prelims	Shorthand for 'preliminaries,' which are the exams that you sit at the end of your first year. These exams cover the four different subject areas within

	Engineering Science and you must pass them in order to progress onto the rest of the course – however, they do not count towards your final degree classification.
Proctor	These are members of staff that officiate and are in charge of enforcing University regulations and discipline.
Radcliffe Science Library (RSL)	This is the main science, engineering and technology Library and is located just five minutes' walk away from the Department. As well as lending books, the library provides access to electronic books and journals, and the science subject librarians also run training courses to help you make the most of the library, and maximise the efficiency of your study time. This is provided alongside the wide range of College libraries available to you.
Rustication	The withdrawal of access to University facilities, buildings etc. for a certain period of time or until certain conditions have been met. This is usually a consequence of misconduct or disciplinary procedure.
Sending Down	Another term for the termination of course – student expulsion for failing prelims, or major disciplinary offences.
Solution	The sheet that provides the answers to the questions on your example sheet.
Sub fusc	The term used for formal academic dress, which you must wear to matriculate and during examinations. It comprises of a black gown, white blouse, black ribbon, black skirt or trousers, black stockings or tights, black shoes for women; black gown, dark suit, white shirt, white or black bow tie or black tie, black socks and shoes for men. Carnations are also often worn with sub fusc clothing.
Suspension	The term for a student temporarily withdrawing from studies, usually on a voluntary basis e.g. for medical reasons.
Term	This is the phrase used for the 8 week teaching block that occurs three times in an academic year. Michaelmas is the first term which runs from October to December. Hilary is the second term, and runs from approximately mid-January to March. Trinity is the last term, and runs from April into June. Each week of the term is referred to by number, e.g. Week 1 of Michaelmas term.
Tutor	This is a member of the academic teaching staff, usually a Fellow in your college, who gives tutorials.
Tute/Tutorial	A small, group session with an academic member of staff held at your college. Engineering Science students should expect a one-hour tutorial after approximately every fourth lecture. This amounts to approximately two tutorials a week during term time.
3YP	The acronym for Third Year Project. This is chosen towards the end of the second year, and is a group project that is intended to give experience and insight into the engineering design process.
4YP	The acronym for Fourth Year Project. This is chosen towards at the end of the third year, and tends to be taken by individual students although very occasionally larger projects may be split between a team of two or three people. It involves original research or design and construction, and is undertaken in close consultation with an academic supervisor.