



UNIVERSITY OF OXFORD

# DEPARTMENT OF MATERIALS

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**To: All Candidates for Preliminary Examination in Materials Science 2021**  
**From: Professor David Armstrong, Chair of Moderators, Prelims 2021**  
**Subject: Prelims Examination Trinity term 2021**  
**Date: Thursday, 04 March 2021**  
**cc: Director of Undergraduate Studies, Tutorial Fellows**

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## Information on the Prelims Examination Trinity term 2021

I am writing with information about the arrangements for your forthcoming examination and to provide you with a copy of the Examination Conventions for 2021.

The Prelims Moderators in Trinity 2021 are: Prof. David Armstrong (Chair), Prof. Lapo Bogani, Prof. Chris Grovenor and Prof. Michael Moody. Candidates are reminded that in order to preserve the independence of the moderators, **you are not allowed** to make contact directly about matters relating to the content of the exams or the marking of papers. Any communication must be via your college, who will, if the matter is deemed of importance, contact the Proctors. The Proctors in turn communicate with the Chair of Moderators. If you have any queries about the Examinations or anything related to the Examinations, for example, illness or personal issues, please don't hesitate to seek further advice from your College tutor, or one of the Department's academic support staff as listed in your course handbook.

## Examination conventions

The Examination Conventions for the Prelims Examination are enclosed.

## Open-Book Exam Papers

The Materials Science papers 1-3 in Trinity Term 2021 will be sat as open-book exams via the online assessment platform, [Inspera](#). The mode of completion of each of these papers will be **fully handwritten answers** which will need to be scanned and uploaded. (It is possible to apply for an alternative mode on the grounds of disability or medical condition as an exam adjustment.) For these online exams, there will be a technical time allowance of 30 minutes per exam for upload and technical difficulties.

There is additional information and guidance available at [www.ox.ac.uk/students/academic/exams/open-book/trinity-term](http://www.ox.ac.uk/students/academic/exams/open-book/trinity-term) and you are recommended to familiarise yourself with the process by completing a practice submission, including creating the file by scanning. The recommended app for scanning is MS Lens which is available as a free download (others may be used if you prefer. For each exam you will be required compile your answers to all questions into **one single pdf file** for submission (do check the order of your pages!).

Note that the maximum file size for submission is 1 GB. Attached is a guide about open-book exams using Inspira.

The formal timetable for the exam papers will be released by Examination Schools shortly. It is anticipated that the start time for all papers is 9.30 am British Summer Time (GMT+1). If you are in any other time zone, please refer to the information at [www.ox.ac.uk/students/academic/exams/open-book/trinity-term](http://www.ox.ac.uk/students/academic/exams/open-book/trinity-term) for clarity.

Each paper will last for 3 hours with an additional 30 minutes 'technical time' to allow for subsequent scanning and uploading to Inspira of the completed script.

The structure, content and academic effort will be similar to conventional exam papers: these typically include questions designed to assess understanding rather than memory-recall of facts – the questions in the open-book papers will continue in this style.

The University has an honour code for open-book exams:

[www.ox.ac.uk/students/academic/exams/open-book/honour-code](http://www.ox.ac.uk/students/academic/exams/open-book/honour-code)

When you submit your exam answers at the end of your open-book exam, you will be asked to agree to the following pledge:

***I acknowledge the University Honour Code and I hereby confirm that the submitted work is entirely my own and I have not (i) used the services of any agency or person(s) providing specimen, model or ghostwritten work in the preparation of the work I submit for this open book examination; (ii) given assistance in accessing this paper or in providing specimen, model or ghostwritten work to other candidates submitting for this open-book examination.***

### **Closed-Book Exam Papers**

The Prelims paper on Mathematics for Materials Science, also 3 hours, will be sat as a closed-book exam. Depending on circumstances, this will either be sat as an in-person exam in Oxford, or as an online exam via the assessment platform, with remote invigilation. The mode of completion will be **fully handwritten answers** which, if online, will need to be scanned and uploaded. Again, this will be using the online assessment platform, Inspira.

### **Format of the examination papers**

Past papers can be found on WebLearn at

<https://weblearn.ox.ac.uk/portal/hierarchy/oxam> (or go to the University's homepage, click on "Oxford Students – Academic Matters" and select "OXAM" from the drop down list of Systems and Services).

There are **four** written papers, each 3 hours in length (+30 minutes technical time if using Inspira):

**Materials Science 1** – Physical Foundations of Materials

**Materials Science 2** – Structure and Mechanical Properties of Materials

**Materials Science 3** - Transforming Materials

**Mathematics for Materials Science**

The **Materials Science papers 1 - 3** each comprise eight questions from which candidates must attempt five. Each question is worth 20 marks, so the total marks available on each paper are 100.

**The examiners would like to remind you that there is no strict rule about how many questions are set on each lecture course in the Preliminary examination papers. As a result, (i) you must not assume that a question will be set on every lecture course and (ii) some questions may require knowledge from more than one lecture course.**

The rubric on each paper indicates a prescribed number of answers required (e.g. "candidates are required to submit answers to no more than (x) questions"). You will be asked to indicate on a covering sheet which questions, up to the prescribed number, you are submitting for marking. Excepting section A of the Maths paper, if this information is not provided then the examiners will mark questions in numerical order by question number. The examiners will NOT mark questions in excess of the prescribed number. If fewer questions than the prescribed number are attempted:

- i) each missing attempt will be assigned a mark of zero,
- ii) for those questions that are attempted **no** marks beyond the maximum per question indicated on the paper will be awarded and
- iii) the mark for the paper will still be calculated out of 100.

**NOTE: Each question is to be started on a new page.**

As in previous years, questions are, where possible, likely to have some mathematical or analytical content.

The Prelims paper on **Mathematics for Materials Science** consists of two sections, candidates are required to answer all questions in Part A and 4 from Part B. The total marks available for this paper are 180; the mark achieved then being scaled by a factor of 0.555' such that the paper contributes a maximum of 100 marks to the Preliminary Examination.

In the event that you feel there is a mistake or error in a question, please note your concerns at the start of your answer and, if necessary, state your understanding of the question. The examiners will consider the validity of the error and assess the impact of the error on candidates' choice of questions and on the answers written by those who attempted a question that contained an error, and will take this impact into account when marking the paper.

The **fifth paper** consists of continuous assessment of the Materials practicals, the Crystallography coursework taken throughout the year, and the Computing for Materials Science (CMS) project. Your attention is drawn to the **requirement** for coursework to be completed to a **satisfactory level**, as defined in your course handbook. For practical coursework to be judged as satisfactory candidates must have achieved at least 40% overall on this practical coursework and have submitted a report for marking on each practical listed in the course handbook.

For crystallography coursework to be judged as satisfactory candidates must have achieved at least 40% overall on this crystallography coursework, and have submitted a report on each of the crystallography classes. For the CMS project work to be judged as satisfactory candidates must have achieved at least 40% on this coursework.

Coursework cannot normally be retaken and failure of coursework will normally constitute failure of the Preliminary Examination.