

MSC IN MATHEMATICAL AND THEORETICAL PHYSICS
AND
MMATHPHYS IN MATHEMATICAL AND THEORETICAL PHYSICS
2022

Fourth Notice to Candidates

This circular contains information about Trinity term week 0 examinations.

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Chairman of Examiners
March 2022

Trinity term week 0 examinations

Courses: Advanced Fluid Dynamics
Advanced Quantum Field Theory
Supersymmetry and Supergravity
Quantum Matter

Format of Papers

Examinations will be in person, partially open book exams: students will be permitted to bring one summary sheet of A4 notes (with notes permitted on both sides, on a piece of paper) into the examination. Naturally there will be appropriate individual modifications to the “one sheet of A4” constraint for students with relevant disabilities. The summary sheet is not part of your assessment therefore, you are not required to submit your summary sheet with your scripts. To better understand what to expect from a partially open book examination question, please see the appendix for the checklist given to assessors who are setting the questions.

Exam	Time Allowed to Write the Exam	Materials allowed/not allowed
Advanced Fluid Dynamics	2 hours	Calculator allowed (but not needed)
Advanced Quantum Field Theory	3 hours	Calculator allowed (but not needed)
Supersymmetry and Supergravity	2 hours	Calculator allowed
Quantum Matter	2 hours	Calculator NOT allowed

Computer algebra packages are not permitted for written examinations.

Examination Timetable

The timetable for the examination will be set by the Examination Schools and will be sent to each candidate. The timetable will also be posted on the Examination Schools' website at <http://www.ox.ac.uk/students/academic/exams/timetables>.

Conduct of Examination Sessions

You should arrive 20 minutes before the start of each of your papers. **You must take your University card with you to each examination and it must be displayed on your desk with the photograph side facing upwards.**

Desks will be numbered, and alphabetised lists will be displayed throughout the reception areas and outside individual examination rooms telling each candidate in which room and at which desk they will take their exam in that session. On reaching your desk you should check that the correct question paper has been provided but should not open the paper until the invigilator declares the start of the examination.

The invigilator will read out a list of instructions on procedure at the start of each examination. You should note in particular that you are not permitted to leave the examination room except with the permission of the invigilator. Candidates are not permitted to leave during the first 30 minutes nor the last 30 minutes of an examination. You may take your question paper and summary sheet with you at the end of the examination but no other paper may be removed from the examination room.

Scripts

You may write on both sides of the paper. You should take careful note of the rubric for each paper. **It is essential that your candidate number be written correctly and legibly on the front page of each answer booklet. You must start each question in a new booklet.**

Handing in of Scripts

You must order your answer booklets by question number and secure with the treasury tag provided. Then, on the front page of the top booklet, list the question numbers of the questions attempted. If you have not attempted any questions, you must hand in an empty booklet, with the front page completed, stating that no questions were attempted.

Rough work

No special paper is provided for rough work. A separate answer booklet may be used for rough working, and should be labelled as such: these booklets must be handed in at the end of the examination. Alternatively, you may do rough working in the same booklet as your fair copy. In this case you should cross through all rough working to indicate very clearly to the Examiners what is to be marked and what is not.

Illegible Scripts

Please write legibly and remember that you must not write in pencil, except to draw diagrams. Examiners may require illegible scripts to be transcribed. The cost of transcription is charged to the candidate

Illness

If you are prevented by illness or other cause from attending any part of the examination you should ensure that the Senior Tutor of your college is informed immediately. In the case of illness a medical certificate will be required.

Formula Sheets

No formula sheets will be provided.

MSc in Mathematical and Theoretical Physics and MMathPhys in Mathematical and Theoretical Physics

The formal procedures determining the conduct of University examinations are established and enforced by the Proctors.

The Examiners are nominated by the Nominating Committee in the Mathematical Institute and Department of Physics. These nominations are submitted for approval by the Vice-Chancellor and the Proctors. Assessors are appointed to assist the examiners and in particular the core course lecturers take on the role of assessors in setting, checking and marking the written exam papers.

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 Examiners.

Appendix

A4 Summary Sheet

Students are permitted but not required to take one sheet of A4 paper (with material on both sides) containing material they have prepared.

Students must prepare their sheets according to the following rules, which are designed to ensure fairness and consistency for all students.

- A4 paper must be used, with at least 2.5cm margins on all four sides. Margins must be empty.
- Typed content (not including standard superscripts and subscripts etc) must be in font size at least 10. No more than 58 lines of typed text may be used.
- Handwritten material must be written on lined paper (or its electronic equivalent) supplied by the departments, with no more than one line of handwriting per line (subscripts, superscripts, and natural stacking such as $\lim_{n \rightarrow \infty} x_n$ are all allowed. Diagrams should be drawn at a commensurate scale.
- Handwritten content must not be in pencil.
- It is acceptable to mix typed and handwritten content, subject to the constraints above.
- All sheets will need to be on paper (one sheet of A4 per student) to go into the exam. They may be created on paper, or created electronically and printed.
- In all cases, these rules are subject to appropriate individual variation for students who require adjustments for reasons of disability. This will be coordinated between the Disability Advisory Service and the departments.

The departments will make available a LaTeX template for those who wish to use it. The departments will also provide suitable (bespoke) lined paper, both in physical form and via a

printable pdf. (The lines will not be too dark, because we know students will want to draw diagrams.) These will be available before the end of Michaelmas Term.

There is no requirement that students prepare their sheets individually. They are free to collaborate if they wish. They are also permitted to copy material from their lecture notes to include on their sheets (subject to the bullet point rules above). It is expected that producing these sheets will be a useful aspect of student revision, so students who do not play an active role in producing the sheets they use are likely to be at a disadvantage in the exam.

Students should, as always, feel free to consult their college tutors or supervisor for general revision support, but should not expect their college tutors to provide significant course-specific support in producing summary sheets, in looking over draft summary sheets, or in discussing what material to include.

Qualitative Criteria for Mini-Projects and Take-Home-Exams

The mark awarded to a mini-project, whether marked according to model solutions or blind, double marked, or to a take-home-exam should be according to the following qualitative criteria.

70 – 100 marks The candidate has demonstrated an excellent understanding of almost all the material covered with a commensurate quality of presentation, and has completed almost all of the assignment satisfactorily - further subdivided by;

90 – 100 marks The candidate has shown originality or insight that goes beyond a basic completion of the task set.

80 – 89 marks The work submitted shows a near-perfect completion of the task in hand, but does not meet the additional requirements above, or does but has defects in presentation.

70 – 79 marks The work submitted is of a generally high order, but may have minor errors in content and/or deficiencies in presentation.

65 – 69 marks The candidate has demonstrated a very good understanding of much of the material, and has completed most of the assignment satisfactorily.

60 – 64 marks The candidate has demonstrated a good understanding of much of the material, and has completed most of the assignment satisfactorily.

50 – 59 marks The candidate has demonstrated an adequate understanding of the material and an adequate ability to apply his or her understanding.

40 - 49 marks The work submitted, while sufficient in quantity, suffers from sufficient defects to show a lack of adequate understanding or ability to apply results.

30 - 39 marks The candidate, while attempting a significant part of the mini-project, has displayed a very limited knowledge or understanding at the level required.

0 – 29 marks The candidate has either attempted only a fragment of a mini-project or has shown an inadequate grasp of basic material.