

Advanced Quantum Field Theory

MSci 4245/QMUL PHY7007U/P

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Practicalities:

- Webpage: ph.qmul.ac.uk/course/phy7007up
- Lectures: Fridays 10.00-13.00, UCL Physics A1, first lecture 11/1/2013, final lecture 22/3/2013
- Assessment: 90% 2.5 hour exam, 10% homework
- Homework: available online every Friday, due the Friday after in the lecture, solutions will be made available online
Marker: Robert Mooney, email: r.j.b.mooney@qmul.ac.uk. Questions regarding marking should be directed to him directly.

Books and Lecture Notes

- Main Book: "Quantum Field Theory" 2nd edition by Mandl and Shaw, Wiley. To a large extent the course will try to follow this book. It was also used for "Relativistic Waves and Quantum Fields".
- Other good books are "An Introduction to Quantum Field Theory" by Peskin and Schroeder and "Quantum Field Theory" by Mark Srednicki. The latter is also available as pdf on the webpage <http://web.physics.ucsb.edu/~mark/qft.html>. Both are very thorough, use modern approaches (and cover much more than you will see in my course) and are more advanced than Mandl and Shaw.
There are also the classic but somewhat dated books by Bjorken and Drell.
And finally there is the conceptually very deep but difficult series of books "The Quantum Theory of Fields" by Stephen Weinberg.
- Lecture Notes: from time to time I will scan my handwritten notes and make them available online. You also might want to look at the Lecture Notes on this webpage <http://www.strings.ph.qmul.ac.uk/~andreas/RWQF/rwqf.html>, which are from an older incarnation of the course Relativistic Waves and Quantum Fields I taught in the past. In particular notes Part I and Part II are relevant for the early parts of the course.