PHYS 634: Quantum Field Theory “0”
Fall 2011

Text: Srednicki: Quantum Field Theory
http://www.physics.ucsb.edu/~mark/qft.html

Other References: There are many! I’ll suggest additional references as needed.

Instructor: Prof. Graham Kribs

Office: 470 Willamette Hall

Office Hours: Anytime my door is open.

E-mail: kribs@uoregon.edu
(This is the best way to reach me)

Class Website: http://wingate.uoregon.edu/phy634
(Announcements, homework, solutions, syllabus, etc.)

Homework: Homework will be assigned periodically and due roughly one week later. There will be one homework assignment due either the last week of classes and/or the exam week.

Grade: 100% Homework

Grading Policy: Pass (B- and above): A solid attempt on virtually all problems of all homework sets turned in on-time.
Fail (C+ and below): Habitually late homework, > 1 missed homework sets, several missed problems on several problem sets.

Late Homework: Homework turned in more than 6 hours after the due date/time is not accepted without prior approval from me. Any variation in this policy is at my discretion; contact me well in advance (or have a documented medical emergency).

Class Cancellation: In the unlikely event that I have to cancel class at the last minute (bad weather or otherwise), I will attempt to email everyone.
Syllabus

This course is designed as the first quarter of a three-quarter sequence on Quantum Field Theory. Historically, I have focused on scalar quantum field theory for the first quarter, but depending on time and interests, we may do a bit of fermions and QED before winter, we'll see.

A rough outline of topics includes:

(1) Canonical Quantization of Scalar Fields
(2) LSZ Reduction
(3) Path Integrals in Field Theory
(4) Amplitudes, Feynman Rules, Cross Sections, Decay Rates
(5) Applications

I'll be more precise about exactly what we are covering (sections in Srednicki) and where I'm headed as the course progresses.