Physics 772
Quantum Field Theory

Instructor: Jason Kumar
WAT 436
jkumar@hawaii.edu
(808)956-2972

Class meets:
T Th 10:30-11:45am
WAT 417

Recommended Textbook:
An Introduction to Quantum Field Theory
Michael Peskin and Daniel Shreoder

Supplemental Textbook: (optional)
The Quantum Theory of Fields (vol. I, II, III)
Steven Weinberg

Topics to be covered:

Quantization of scalar and fermionic fields

Quantization of gauge fields

Perturbation theory and scattering

Renormalization and quantum corrections

Quantum electrodynamics

Grading:

The course grade will be based on homework and exams

60% -- homework
20% -- midterm
20% -- final

Student Learning Outcomes:
At the successful completion of this course, students will be expected to:

1) Understand the quantization of scalar, fermionic and gauge fields

2) Compute basic cross-sections in quantum electrodynamics

3) Have a basic understanding of renormalization in quantum field theory