# Physics 772/773 Quantum Field Theory

Instructor: Jason Kumar

WAT 436

jkumar@hawaii.edu (808)956-2972

#### Class meets:

M W 11:00am-12:15pm WAT 417A Office hours by arrangement

#### Recommended Textbook:

An Introduction to Quantum Field Theory Michael Peskin and Daniel Shroeder

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. Students may work together on homework, but are expected to write up their own assignments, and should understand all submitted work.

60% -- homework 20% -- midterm(s) 20% -- final

## Student Learning Objectives:

1) introduction to the fundamental concept of quantized field theory

2)	development of skills in computing basic cross-sections relevant to quantum electrodynamics