

PHY7669 - Quantum Field Theo 2

Quantum Field Theory 2

Spring 2024

Instructor: Wei Xue

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This course is a synchronous class. It carries 3 credits.

Class Meetings: T Th (9:00 - 10:15 AM)

Office Hours: Th 3:30 - 4:20 PM or by appointment

Prerequisites: QFT 1

Books: the books that I recommended are

- 1) Quantum Field Theory and the Standard Model
- 2) The Quantum Theory of Fields I & II by S. Weinberg

Course Description and Goals: Introduce the gauge theory and Standard Model to students. The course will tell students how to do path integral and solve RG equations and what is the Standard Model.

Homework: Solving problems is the best approach to understanding physics in depth. There will be 7 homework assignments. If at all possible, do the homework entirely on your own. Only if you are hopelessly stuck, is it alright to seek help from the instructor or other students. Any help must be explicitly acknowledged at the end of the corresponding problem. In that case, you will not be penalized for having received help.

Exams: There will be No exams

Grading: the final grade will be based on homework (100%)

Tentative grading scheme (subject to change):

A	100%	to 90%
A-	< 90%	to 85%
B+	< 85%	to 80%
B	< 80%	to 75%
B-	< 75%	to 70%
C+	< 70%	to 65%

C	< 65%	to 60%
C-	< 60%	to 50%
D+	< 50%	to 40%
D	< 40%	to 30%
D-	< 30%	to 20%
E	< 20%	to 0%

These thresholds may be lowered if appropriate, but they will not be raised.

Attendance: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> (Links to an external site.).

University Policies

Accommodating Students With Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should [connect with the Disability Resource Center](#) (Links to an external site.). It is important for students to share their accommodation letter with the course instructor and discuss their access needs as early as possible in the semester because accommodations are not retroactive.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of

format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Honor Code

UF students are bound by The Honor Pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: The [Student Conduct Code](#) [Links to an external site.](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the course instructor.

Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/Links to an external site.>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/Links to an external site.>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/Links to an external site.>.

Advising and Counseling

Due to the nature of the environment at the university, it is not uncommon for students to experience stressful situations, and "study harder" sometimes does not seem to work. If you find yourself in this situation, you are encouraged to seek confidential counseling, see: <http://www.counseling.ufl.edu/cwc/Links to an external site.>.