

Quantum Mechanics PHYS:5741

Fall 2021

www.physics.uiowa.edu/~cpryor/5741

Instructor	Craig Pryor 402 VAN 319-335-0099 craig-pryor@uiowa.edu
Lectures	The course will meet in person MWF 9:30-10:20 in 358 VAN.
Office Hours	M 2:30-3:30, Tu 1:00-2:00, W 1:00-2:00, or by appointment.
Course Description	Nonrelativistic quantum mechanics, Schrödinger wave mechanics, Hilbert space methods, scattering, spin and angular momentum, selected applications.
Text	<i>Modern Quantum Mechanics</i> , 3rd Ed., by J.J. Sakurai and Jim Napolitano Optional: <i>Quantum Mechanics</i> , 4th Ed., by F. Schwabl This book is available online as part of the University's Springer e-book subscription at https://link-springer-com.proxy.lib.uiowa.edu/article/10.1007/s00214-003-0435-5 . You may download pdf's for free, or order a softcover copy of the entire book for \$25. I do not recommend buying the book elsewhere since it will be much more expensive.
Homework	Homework will be assigned each Wednesday and due the following Wednesday. Homeworks will be self-graded. You must submit to ICON a scan of your assignment by 5:00 PM on the due date. The solution, with scoring instructions, will be posted on ICON that evening. You will then turn in your graded assignment at the next class meeting. The "grader" (for the course will then check your self-graded papers for consistency.
Exams	Two one-hour midterms will be given in class. The final exam will be in person, the day and time of the which will be announced by the registrar around the fifth week of classes.
Grading	Homework 20%, Midterms 25% each, Final 30%. Each homework assignment will contribute equally to the homework total, regardless of the number points in an assignment.

Department of Physics and Astronomy Main Office

203 Van Allen Hall

319-335-1686

Chair -- Professor Philip Kaaret, philip-kaaret@uiowa.edu

COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS)
Graduate Course Syllabus Insert
Fall 2021

ATTENDANCE AND CLASSROOM EXPECTATIONS

Students are responsible for attending class and for knowing an instructor's attendance policies, which vary by course and content area. All students are expected to attend class and to contribute to its learning environment in part by complying with University policies and directives regarding appropriate classroom behavior or other matters.

ABSENCES

Students are responsible for communicating with instructors as soon they know that an absence might occur or as soon as possible in the case of an illness. Delays in communication could result in a forfeit of what otherwise might be an excused absence.

ABSENCES: ILLNESS, UNAVOIDABLE CIRCUMSTANCES, AND UNIVERSITY SPONSORED ACTIVITIES

Students who are ill, in an unavoidable circumstance affecting academic work, or who miss class because of a University sponsored activity are allowed by UI policy to make up a missed exam. Documentation is required by the instructor except in the case of a brief illness. Students are responsible for communicating with instructors as soon as the absence is known (<https://opsmanual.uiowa.edu/students/absences-class#8.1>).

ABSENCES: HOLY DAYS

Reasonable accommodations are allowed for students whose religious holy days coincide with their classroom assignments, tests, and attendance if the student notifies the instructor in writing of any such religious Holy Day conflicts within the first days of the semester and no later than the third week. (See the University Operations Manual: <https://opsmanual.uiowa.edu/students/absences-class#8.2>).

ABSENCES: MILITARY SERVICE OBLIGATIONS

Students absent from class due to U.S. veteran or U.S. military service obligations (including military service-related medical appointments, military orders, and National Guard Service obligations) must be excused without penalty. Instructors must make reasonable accommodations to allow students to make-up exams or other work. Students must communicate with their instructors about the expected possibility of missing class as soon as possible. (For more information, see <https://opsmanual.uiowa.edu/iv-8-absences-class%C2%A0-0>).

ACADEMIC MISCONDUCT

Plagiarism and the process for addressing academic misconduct of graduate students are defined in [Section IV, Article F "Plagiarism by Graduate Students" of the UI Graduate College Manual of Rules and Regulations](#). Please contact the CLAS Associate Dean for Graduate Education for any necessary assistance in navigating the process mandated by the Graduate College.

ACADEMIC ACCOMMODATIONS

UI is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as a mental health, attention, learning, vision, and a physical or health-related condition) through the Student Disability Services (SDS) office. The student is responsible for discussing specific accommodations with the instructor. Note that accommodations are not granted retroactively but from the time of the student's request to the instructor onward; additionally, accommodations must be requested at least two weeks in advance of the related assignment or exam (<https://sds.studentlife.uiowa.edu/>). Graduate students serving as Teaching Assistants, Research Assistants, or Fellows must contact Faculty and Staff Disability Services (<https://hr.uiowa.edu/support/faculty-and-staff-disability-services>) for assistance with accommodations.

CLASS RECORDINGS: PRIVACY AND SHARING

Course lectures and discussions are sometimes recorded or live-streamed. These are only available to students registered for the course and the intellectual property of the faculty member. These materials may not be shared or reproduced without the explicit written consent of the instructors. Students may not share these recordings with those who are not enrolled in the course; likewise, students may not upload recordings to any other online environment. Doing so is a breach of the Code of Student Conduct and could be a violation of the Federal Education Rights and Privacy Act (FERPA); also see <https://dos.uiowa.edu/policies/code-of-student-life/>.

COMMUNICATION: UI EMAIL

Students are responsible for all official correspondences sent to their UI email address (uiowa.edu) and must use this address for any communication with instructors or staff in the UI community ([Operations Manual, III.15.2](#)). Emails should be respectful and brief, with complex matters addressed during the instructor's drop-in hours, for example. Faculty are not expected to answer email after business hours or during the weekends.

FREE SPEECH AND EXPRESSION

The University of Iowa supports and upholds the First Amendment protection of freedom of speech and the principles of academic and artistic freedom. We are committed to open inquiry, vigorous debate, and creative expression inside and outside of the classroom. Visit Free Speech at Iowa for more information on the University's policies on free speech and academic freedom: <https://freespeech.uiowa.edu/>.

COMPLAINTS ABOUT ACADEMIC MATTERS

Students with a complaint about a grade or a related academic matter should first visit with the instructor and then with the course supervisor (if applicable), and finally with the director of the school, department, or program offering the course. If a graduate student has not been able to resolve the issue through the director of the school, department, or program, they should contact the associate dean for graduate education in the College of Liberal Arts and Sciences.

FINAL EXAMINATION POLICIES

The final exam schedule is published during the fifth week of the fall and spring semesters or on the first day of summer classes; students are responsible for knowing the date, time, and place of their final exams. Students should not make travel plans until knowing this information. A student with exams scheduled on the same day and time or who have more than two final exams on the same day should visit this page for how to resolve these problems by the given deadline (<https://registrar.uiowa.edu/makeup-final-examination-policies>). No exams are allowed the week before finals, but with some exceptions made for labs, language courses, and off-cycle courses (<https://registrar.uiowa.edu/final-examination-scheduling-policies>).

HOME OF THE COURSE

The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the policies and procedures for its courses. Graduate students, however, must adhere to the academic deadlines set by the Graduate College. See <https://grad.uiowa.edu/academics/deadlines>.

MENTAL HEALTH

Students are encouraged to seek help as a preventive measure or if feeling stressed or overwhelmed. Students should talk to their instructors for guidance with specific class-related concerns and are encouraged to contact University Counseling Service (UCS) at 319-335-7294 during regular business hours to schedule an appointment. UCS offers group and individual therapy as well as counseling for couples about relationships while making referrals to other resources (<https://counseling.uiowa.edu/>). Student Health can also address related concerns (<https://studenthealth.uiowa.edu/>). These visits are free to students. After hours, students are encouraged to call the Johnson County Community Crisis Line at (319) 351-0140 or dial 911 in an emergency.

NONDISCRIMINATION IN THE CLASSROOM

The University of Iowa is committed to making the classroom a respectful and inclusive space for people of all gender, sexual, racial, religious, and other identities. Toward this goal, students are invited in MyUI to optionally share the names and pronouns they would like their instructors and advisors to use to address them. The University of Iowa prohibits discrimination and harassment against individuals based on race, class, gender, sexual orientation, national origin, and other identity categories indicated by the University's Human Rights policy. For more information, contact the Office of Equal Opportunity and Diversity at <https://diversity.uiowa.edu/division/office-equal-opportunity-and-diversity-eod>.

SEXUAL HARASSMENT

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff; all members of the UI community are expected to conduct themselves in a manner that maintains an environment free from sexual harassment and sexual misconduct. Those experiencing incidents of sexual harassment are strongly encouraged to report incidents and to seek help (<https://osmrc.uiowa.edu/>).