Common Syllabus

PHYSICS SEMINAR, COURSE 21:750:491
DOCTORAL SEMINAR, COURSE 26:755:791
FALL 2020

Instructors: Dr. Claudiu Stan; claudiu.stan@rutgers.edu; 369 Smith Hall
Office Hours: Tuesday 2:30-3:30 pm over Zoom.
Bonnie Fong, MLS; bonnie.fong@rutgers.edu; John Cotton Dana Library
Office Hours: Available by appointment (online only)

Class Time & Location:
Lecture/seminar: Fridays 11:30am-12:50pm,
Classes will start online, either over Conferences in Canvas, or over Zoom. Check Canvas before class for the online method that will be used.

Required Materials:
Laptop or tablet for attending online classes/seminars, accessing Canvas materials and doing research for the class assignments
Library course guide, available at https://libguides.rutgers.edu/PhysicsSeminar2020Fall

Course Description: The undergraduate-level Physics seminar (1 credit) and the graduate-level Doctoral seminar (graduate school requirement, 0 credits) are held together. In this class, the students will attend several Physics seminars, learn how to find and how to evaluate scientific publications, and prepare a presentation that reviews a contemporary area of research in Physics.

Learning Goals:
- Comprehension of technical seminars in the field of physics.
- Development of critical thinking skills in physics.
- Develop strategies to deliver effective talks.
- Carry out thorough literature searches.
- Develop abilities to prepare a scientific manuscript.

Grading:

Attendance and in-class assignments 40%
Micro-presentation 20%
Final presentation 40%

Special grading rules for graduate students who take the class for the 3rd time:
- library classes are not mandatory and no grade credit is given for their attendance
- in addition to the presentation, a short review article on the same topic must also be submitted by the last class.
- attendance is 20% of the grade, final presentation and the article are 60% of the grade
## Lecture and classes schedule:

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/4</td>
<td>Class introduction</td>
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<tr>
<td></td>
<td>Presentation of available topics</td>
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<tr>
<td><strong>Fri 9/11</strong></td>
<td><strong>Last day to add the class</strong></td>
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<tr>
<td>9/11</td>
<td>Due date for selection of the presentation topic</td>
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<tr>
<td>9/11</td>
<td>Lecture/Activity – Bonnie Fong Library class</td>
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<tr>
<td><strong>Mon 9/14</strong></td>
<td><strong>Last day to withdraw without a W grade</strong></td>
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<tr>
<td>9/18</td>
<td><strong>Seminar: Thomas Miller, Caltech</strong> Machine Learning Methods for Quantum Simulation</td>
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<tr>
<td>9/25</td>
<td>Lecture/Activity – Bonnie Fong Library class</td>
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<td>10/2</td>
<td>Lecture/Activity – Bonnie Fong Library class</td>
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<tr>
<td>10/9</td>
<td><strong>Seminar: Andrei Sirenko, NJIT</strong> Competition between orbital and spin angular momenta of light at the antiferromagnetic resonances</td>
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<tr>
<td>10/16</td>
<td>Lecture/Activity – Bonnie Fong Library class</td>
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<tr>
<td>10/23</td>
<td><strong>Seminar: Maitra group, Rutgers-Newark</strong> TBD</td>
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<tr>
<td>10/30</td>
<td>Micro-presentations</td>
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<tr>
<td><strong>Mon 11/2</strong></td>
<td><strong>Last day to withdraw with a W grade</strong></td>
</tr>
<tr>
<td>11/6</td>
<td><strong>Seminar: Alina Umberkova, Rutgers-Newark</strong> Quantum embedding for electron-nuclear dynamics of molecules and materials</td>
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<tr>
<td>11/13</td>
<td><strong>Seminar: Andrew Baczewski, Sandia</strong> Useful Quantum Simulation: How classical and quantum computers can team up to tackle matters of substance</td>
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<tr>
<td>11/20</td>
<td><strong>Seminar: Claudiu Stan, Rutgers-Newark</strong> How to make the loudest possible sound in a liquid, using X-ray lasers</td>
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<tr>
<td>Wed 11/25</td>
<td>Student presentations. Special classes schedule due to Thanksgiving</td>
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<tr>
<td>12/4</td>
<td>Student presentations &amp; Review article due for 3rd time students</td>
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</table>

**Assignment details:**

For undergraduate students, and graduate students taking the class for the first or second time, the presentation subject must be chosen from a list of topics that will be presented in the first class.

Graduate students taking the class for the third time must prepare a review presentation and article on a current research pursued in their group, which is different from their own research project(s).
**Attendance & Other Course Policies:** You are expected to attend all classes. Only absences due to significant special circumstances with documentation are excused, such as death in the family or illness with doctors note. We are unable to accommodate lateness or absences due to traffic.

Because issues do arise, students are permitted one undocumented lecture absence. **Students with more than three undocumented absences will automatically receive a failing grade.** If you think attendance may be a problem for you due to outside obligations, please meet with the instructor at the beginning of the semester or prior to your absences to discuss possible accommodations or solutions.

**Religious Holiday Policy and Accommodations:** Students are advised to provide timely notification to instructors about necessary absences for religious observances and are responsible for making up the work or exams according to an agreed-upon schedule. The Division of Student Affairs is available to verify absences for religious observance, as needed: (973) 353-5063 or DeanofStudents@newark.rutgers.edu.

**Rutgers Academic Integrity Policy:** As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University’s educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. The entire Academic Integrity Policy can be found here: [http://academicintegrity.rutgers.edu/academic-integrity-policy/](http://academicintegrity.rutgers.edu/academic-integrity-policy/)

**Accommodation and Support Statement**
Rutgers University Newark (RU-N) is committed to the creation of an inclusive and safe learning environment for all students and the University as a whole. RU-N has identified the following resources to further the mission of access and support:

**For Individuals with Disabilities:** The Office of Disability Services (ODS) is responsible for the determination of appropriate accommodations for students who encounter barriers due to disability. Once a student has completed the ODS process (registration, initial appointment, and submitted documentation) and reasonable accommodations are determined to be necessary and appropriate, a Letter of Accommodation (LOA) will be provided. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at ods.rutgers.edu. Contact ODS at (973)353-5375 or via email at ods@newark.rutgers.edu.

**For Individuals who are Pregnant:** The Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy. Students may contact the Office of Title IX and ADA Compliance at (973) 353-1906 or via email at TitleIX@newark.rutgers.edu.

**For Absence Verification:** The Office of the Dean of Students can provide assistance for absences related to religious observance, emergency or unavoidable conflict (e.g., illness, personal or family emergency, etc.). Students should refer to [University Policy 10.2.7](http://academicintegrity.rutgers.edu/academic-integrity-policy/) for information about
expectations and responsibilities. The Office of the Dean of Students can be contacted by calling (973) 353-5063 or emailing deanofstudents@newark.rutgers.edu.

**For Individuals with temporary conditions/injuries:** The Office of the Dean of Students can assist students who are experiencing a temporary condition or injury (e.g., broken or sprained limbs, concussions, or recovery from surgery). Students experiencing a temporary condition or injury should submit a request using the following link: https://temporaryconditions.rutgers.edu.

**For English as a Second Language (ESL):** The Program in American Language Studies (PALS) can support students experiencing difficulty in courses due to English as a Second Language (ESL) and can be reached by emailing PALS@newark.rutgers.edu to discuss potential supports.

**For Gender or Sex-Based Discrimination or Harassment:** The Office of Title IX and ADA Compliance can assist students who are experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking. Students can report an incident to the Office of Title IX and ADA Compliance by calling (973) 353-1906 or emailing TitleIX@newark.rutgers.edu. Incidents may also be reported by using the following link: tinyurl.com/RUNReportingForm. For more information, students should refer to the University’s Student Policy Prohibiting Sexual Harassment, Sexual Violence, Relationship Violence, Stalking and Related Misconduct located at http://compliance.rutgers.edu/title-ix/about-title-ix/title-ix-policies/.

**For support related to interpersonal violence:** The Office for Violence Prevention and Victim Assistance can provide any student with confidential support. The office is a confidential resource and does not have an obligation to report information to the University’s Title IX Coordinator. Students can contact the office by calling (973) 353-1918 or emailing run(vpva@rutgers.edu). There is also a confidential text-based line available to students; students can text (973) 339-0734 for support.

**For Crisis and Concerns:** The Campus Awareness Response and Education (CARE) Team works with students in crisis to develop a support plan to address personal situations that might impact their academic performance. Students, faculty and staff may contact the CARE Team by using the following link: tinyurl.com/RUNCARE or emailing careteam@rutgers.edu.

**For Stress, Worry, or Concerns about Well-being:** The Counseling Center has confidential therapists available to support students. Students should reach out to the Counseling Center to schedule an appointment: counseling@newark.rutgers.edu or (973) 353-5805. If you are not quite ready to make an appointment with a therapist but are interested in self-help, check out TAO at Rutgers-Newark for an easy, web-based approach to self-care and support: https://tinyurl.com/RUN- TAO.

**For emergencies,** call 911 or contact Rutgers University Police Department (RUPD) by calling (973) 353-5111.