Instructor(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Office</th>
<th>Phone</th>
<th>Web</th>
<th>Office Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>İnanç Adagideli</td>
<td><a href="mailto:adagideli@sabanciuniv.edu">adagideli@sabanciuniv.edu</a></td>
<td>FENS-G054</td>
<td>9605</td>
<td><a href="http://myweb.sabanciuniv.edu/adagideli/">http://myweb.sabanciuniv.edu/adagideli/</a></td>
<td></td>
</tr>
</tbody>
</table>

Course Content


Objectives

To learn the approximation methods commonly used in QM; to learn the applications of QM to fundamental problems.

Recommend or Required Reading

Textbook

Introduction to Quantum Mechanics by David Griffiths
### Assessment Methods and Criteria

<table>
<thead>
<tr>
<th>Assessment Method</th>
<th>Percentage(%)</th>
<th>Number of assessment methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final</td>
<td>40.5</td>
<td></td>
</tr>
<tr>
<td>Midterm</td>
<td>40.5</td>
<td>1</td>
</tr>
<tr>
<td>Exam</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

### Course Outline


### Learning Outcomes

Upon completion of this course, students will be able:

- Solve the Schrödinger equation in two or three dimensions approximately for a range of more realistic problems (such as the Hydrogen atom in weak electromagnetic field) where the system is perturbed weakly.
- Use these solutions to predict outcomes of measurements done on more realistic quantum systems. (by calculating e.g. transition rates.)
- Calculate expectation values and probabilities for simple observables
- Solve the relativistic Dirac equation for a range of selected problems
- Describe how a general initial state will evolve with time under various perturbations,
- Calculate how a simple initial state will evolve with time under specific perturbations.

### Course Policies

Academic Integrity: Cheating is subject to disciplinary action and a zero grade.
Health reports must be endorsed by the SU Health Center.
Letter grades will be given on an individual basis: there will be no curve based on the class average.