Quantum Mechanics I

Instructor: Oksana Ostroverkhova, oksana@science.oregonstate.edu
http://www.science.oregonstate.edu/~ostroveo/index.html

Textbook: Modern Quantum Mechanics, J.J. Sakurai

References: 1. Principles of Quantum Mechanics, R. Shankar
2. Quantum Mechanics, B. H. Bransden and C. J. Joachain
3. Quantum Mechanics (vol. 1), C. Cohen Tannoudji, B. Diu, F. Laloe
4. Quantum Mechanics, D. McIntyre

Office hours: Weniger 413, M 1PM – 2 PM, Fri 1PM – 2 PM

Course outline:

Waves and particles: fundamentals (Ch. 1.1) week 1
Mathematical tools: kets, bras, operators (Ch.1.2-1.3) week 2
Measurements, observables, uncertainty principle (Ch. 1.4-1.7) week 3-4
Schroedinger’s equation (Ch. 2.1, 2.2, 2.4) week 5-7
1D problems, simple harmonic oscillator (Ch. 2.3) week 8-10

Homework:

There will be 1-2 homework assignments per week; check the course web for current assignments due. Homework is to be turned in at the beginning of the class; late homework is not accepted. The homework solutions will be available immediately after the due time.
Worksheets:
In order to help you check your understanding of the material and provide feedback for me, worksheets will be handed out every lecture for in-class work. Filled out worksheets will be collected in the end of every lecture, graded and returned at the next lecture.

Exams:
We will have one in-class midterm (tentative date October 27) and a final exam (Registrar-set date is Thursday, December 7 at 2 PM)

Grading Policy:

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework (total)</td>
<td>30%</td>
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<tr>
<td>Worksheets (total)</td>
<td>10%</td>
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<tr>
<td>Midterm</td>
<td>20%</td>
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<td>Final</td>
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