• The following *Honor Statement* and rules will appear on the exam cover page for your signature.

<div align="center">HONOR STATEMENT</div>

"I affirm that my work upholds the highest standards of honesty and academic integrity at the University of Washington, and that I have neither given nor received any unauthorized assistance on this exam."

Exam Notes:

1. Your exam should consist of this cover sheet, followed by 5 problems. Check that you have a complete exam.

2. Pace yourself. You have 50 minutes to complete the exam and there are 5 pages. Try not to spend more than 10 minutes on each page.

3. You may use a straight edge for graphing.

4. Unless otherwise indicated, show all your work and justify your answers.

5. You may use one 8.5×11-inch sheet of handwritten notes and a TI-30X IIS scientific calculator for computation. All other electronic devices are strictly forbidden.

6. Unless otherwise indicated, your answers should be exact values rather than decimal approximations. (For example, $\pi/4$ is an exact answer and is preferable to its decimal approximation 0.7854.)

7. You are not allowed to use scratch paper. If you need more room, use the back of the page and indicate to the reader that you have done so.

8. *TURN OFF YOUR PHONE AND PUT IT OUT OF SIGHT!* If the proctor sees or hears a phone during the exam, you will be asked to either surrender either the phone or your exam.

9. The use of headphones or earbuds during the exam is not permitted without prior permission.

10. You have signed an honor statement. Cheating is a hassle for everyone involved. DO NOT CHEAT. If you are caught cheating, you will be given a zero on the exam and reported to the academic disciplinary board

11. You may be asked to present a photo ID at any point during the exam. If you do not have one, then you will be asked to surrender your exam.

Exam Content: The exam is worth a total of 50 points. The content of each question can build on the content of the questions that come before it. However, each question has a motivating theme loosely corresponding to the chapter sections we have covered. The theme of each question is as follows.

Question 1: (Sec. 12.1 - 12.3) Coordinate systems, vectors, the dot product, and projections of one vector onto another.

Question 2: (Sec. 12.4) The cross product and its properties.

Question 3: (Sec. 12.5) Lines, planes, nearest points, and projections onto lines and planes.

Question 4: (Sec. 12.6) Cylinders, quadratic surfaces, and parametrization of their intersections.

Question 5: (Sec 13.1 - 13.4) Vector functions and space curves and their derivatives. Arc length and curvature. Normal and tangential components of acceleration.

The questions on the midterm will be modeled on those from the published previous midterm and final exams.