

BENG 100. Introduction to Probability for Bioengineering

Homework Assignments

There are 5 problems in each homework assignment. Each problem has 20 points. Each assignment has 100 points.

Please provide all steps used for deriving the results. Simply providing the answer for a problem without showing the way it was derived will result in zero points. In fairness to all students, work will only be re-graded after consideration of a request made through Gradescope when there is an evidence of a grading error.

Please consult “Course Evaluation”, a separate document, for the recommended start time, the due date and time of each assignment. Please note that the solution to each assignment will be posted in one hour after each assignment is due.

The homework assignments are based on the Solved Problems and the End of Chapter Problems of the textbook: <https://www.probabilitycourse.com/>. Please note that answers to the Solved Problems are available in the textbook. When a problem in a homework assignment is chosen from the Solved Problems, the students can read the solution from the textbook to answer that problem. However, the student is not expected to copy the solution. Instead, the student after reading the solution is expected to hide the solution (using the fold function in the online book) and answer the problem. In addition, all students are encouraged but not obligated to solve that problem without reading the solution, to increase the challenge.

Homework Assignment 1

1. 1.3.6 Solved Problems: Random Experiments and Probabilities: Problem 4.
2. 1.5.0 End of Chapter Problems: Problem 3.
3. 1.5.0 End of Chapter Problems: Problem 9.
4. 1.5.0 End of Chapter Problems: Problem 12.
5. 1.5.0 End of Chapter Problems: Problem 16.

Homework Assignment 2

1. 1.4.5 Solved Problems: Conditional Probability: Problem 4.
2. 1.5.0 End of Chapter Problems: Problem 24.
3. 1.5.0 End of Chapter Problems: Problem 29.
4. 1.5.0 End of Chapter Problems: Problem 30.
5. 1.5.0 End of Chapter Problems: Problem 35.

Homework Assignment 3

1. 2.2.0 End of Chapter Problems: Problem 10.
2. 2.2.0 End of Chapter Problems: Problem 11.
3. 2.2.0 End of Chapter Problems: Problem 12.
4. 3.1.6 Solved Problems: Discrete Random Variables: Problem 8.
5. 3.3 End of Chapter Problems: Problem 10.

Homework Assignment 4

1. 3.2.5 Solved Problems: More about Discrete Random Variables: Problem 2.
2. 3.2.5 Solved Problems: More about Discrete Random Variables: Problem 5.
3. 3.3 End of Chapter Problems: Problem 13.
4. 3.3 End of Chapter Problems: Problem 14.
5. 3.3 End of Chapter Problems: Problem 20.

Homework Assignment 5

1. 4.2.6 Solved Problems: Special Continuous Distributions: Problem 4.
2. 4.4 End of Chapter Problems: Problem 9.
3. 7.3.0 End of Chapter Problems: Problem 3.
4. 8.4.6 Solved Problems: Problem 5.
5. 8.6.0 End of Chapter Problems: Problem 20.