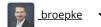


<u>Help</u>

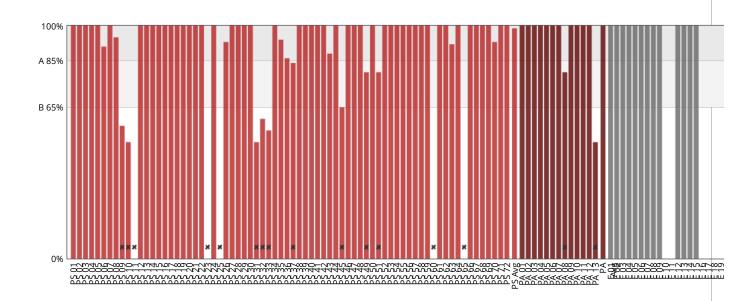


# Course Progress for 'broepke' (broepke@gmail.com)

#### Your certificate is available

You've earned a certificate for this course.

#### **View Certificate**



Introduction and Course Information How This Course is Run (3/3) 100%

Engagement

**Problem Scores:** 1/1 1/1 1/1

**Syllabus** (5/5) 100%

Engagement

Problem Scores: 1/1 1/1 1/1 1/1 1/1

<u>Introduce Yourself</u> (1/1) 100%

Engagement

Problem Scores: 1/1

Help us help you! (1/1) 100%

Engagement

Problem Scores: 1/1

Topic 1:

Introduction to Probability and Statistics 1.1 Introduction to Probability and Statistics (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1 0/0

1.2 What is Probability Theory (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1

**1.3 What is Statistics** (2/2) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/0

**1.4 A Puzzle** (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1

1.5 History of Probability and Statistics (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1

Lecture Notebook 1 (1/1) 100%

Engagement

Problem Scores: 1/1

Programming Assignment 1 (3/3) 100%

**Programming Assignment** 

**Problem Scores:** 1/1 1/1 1/1

Topic 2: Sets

2.1 Notation

Engagement

No problem scores in this section

2.2 Basic Sets (10/11) 91%

**Problem Sets** 

**Problem Scores:** 0/1 1/1 0/0 0/0 9/9

2.3 Venn Diagrams

Engagement

No problem scores in this section

2.4 Relations (8/8) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 0/0 0/0 1/1 0/0 3/3 3/3

**2.5 Operations** (18/19) 95%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/0 0/1 1/1 15/15 0/0 0/0

0/0

2.6 Cartesian Products (4/7) 57%

**Problem Sets** 

**Problem Scores:** 1/1 0/3 3/3 0/0

**2.7 Russell's Paradox** (1/1) 100%

Engagement

No problem scores in this section

**Lecture Notebook 2** 

No problem scores in this section

Programming Assignment 2 (4/4) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1 1/1

Topic 3: Counting

# **Counting**

No problem scores in this section

# **3.1 Counting** (1/2) 50%

**Problem Sets** 

Problem Scores: 1/1 0/1

# 3.2 Disjoint Unions (0/1) 0%

**Problem Sets** 

**Problem Scores:** 0/1 0/0 0/0

#### 3.3 General Unions (10/10) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 0/0 3/3 3/3 0/0 3/3

#### 3.4 Cartesian Products (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1

# 3.5 Cartesian Powers (30/30) 100%

**Problem Sets** 

Problem Scores: 1/1 0/0 0/0 1/1 3/3 18/18 3/3 3/3

#### **3.6 Variations** (12/12) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 2/2 9/9

# 3.7 Trees (1/1) 100%

Engagement

Problem Scores: 1/1

#### **Lecture Notebook 3**

No problem scores in this section

# Programming Assignment 3 (4/4) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1 1/1

# Topic 4: Combinatorics

# **Combinatorics**

No problem scores in this section

#### 4.1 Permutations (8/8) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 0/0 0/0 1/1 0/0 6/6

# 4.2 Partial Permutations (5/5) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/0 0/0 3/3

#### 4.3 Combinations (24/24) 100%

**Problem Sets** 

Problem Scores: 1/1 3/3 5/5 0/0 0/0 12/12 3/3 0/0

0/0 0/0 0/0

# **4.4 Applications of Binomial Coefficients** (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1

# 4.5 Properties of Binomial Coefficient (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1

#### **4.6 Binomial Theorem** (5/5) 100%

**Problem Sets** 

Problem Scores: 2/2 3/3 0/0

#### **4.7 Multinomials** (10/10) 100%

**Problem Sets** 

Problem Scores: 3/3 0/0 3/3 0/0 4/4 0/0

# **4.8 Stars and Bars** (0/9) 0%

**Problem Sets** 

**Problem Scores:** 0/0 0/3 0/6

#### **Lecture Notebook 4**

No problem scores in this section

# Programming Assignment 4 (4/4) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1 1/1

# Topic 5: Probability

Introduction

**5.1 Probability** (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1

5.2 Distribution Types (0/2) 0%

**Problem Sets** 

**Problem Scores:** 0/1 0/1 0/0 0/0

**5.3 Events** (14/15) 93%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/1 0/0 0/0 0/0 0/0 3/3

/9

5.4 Repeated Experiments (8/8) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 3/3 3/3

5.5 Games of Chance (19/19) 100%

**Problem Sets** 

Problem Scores: 1/1 3/3 0/0 0/0 0/0 0/0 6/6 9/9

5.6 Axiomatic Formulation (12/12) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/0 0/0 7/7 0/0 0/0 0/0

3/3

**5.7 Inequalities** (6/6) 100%

**Problem Sets** 

Problem Scores: 6/6

**Lecture Notebook 5** 

No problem scores in this section

Programming Assignment 5 (2/2) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1

Topic 6: Conditional Probability

**6.1 Conditional Probability** (4/8) 50% **Problem Sets** 2/4 0/0 Problem Scores: 0/0 0/0 0/1 0/0 2/3 6.2 Independence (3/5) 60% **Problem Sets** 0/0 Problem Scores: 0/1 0/1 3/3 0/0 0/0 0/0 0/0 6.3 Sequential Probability (6/11) 55% **Problem Sets** Problem Scores: 0/0 2/3 0/0 3/3 0/3 1/2 0/0 **6.4 Total Probability** (4/4) 100% **Problem Sets** Problem Scores: 0/0 3/3 0/0 1/1 **6.5 Bayes' Rule** (16/17) 94% **Problem Sets** Problem Scores: 0/1 2/2 1/1 0/0 3/3 0/0 3/3 6/6 **Lecture Notebook 6** No problem scores in this section Programming Assignment 6 (1/1) 100%

Topic 7: Random Variables, Expectation, and Variance Programming Assignment
Problem Scores: 1/1

7.1 Random Variables (6/7) 86%

**Problem Sets** 

Problem Scores: 3/3 0/1 3/3

7.2 Cumulative Distribution Function (16/19) 84%

**Problem Sets** 

**Problem Scores:** 6/9 4/4 6/6

**7.3 Expectation** (9/9) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 0/0 1/1 3/3 3/3 0/0 0/0

0/0 0/0

**7.4 Variable Modifications** (1/1) 100%

Engagement

Problem Scores: 1/1

7.5 Expectation of Modified Variables (12/12) 100%

**Problem Sets** 

Problem Scores: 4/4 4/4 4/4

**7.6 Variance** (30/30) 100%

**Problem Sets** 

**Problem Scores:** 1/1 2/2 12/12 15/15 0/0 0/0 0/0

**7.7 Two Variables** (16/16) 100%

**Problem Sets** 

**Problem Scores:** 1/1 3/3 0/0 0/0 12/12

**7.8 Linearity of Expectations** (5/5) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1 3/3

**7.9 Covariance** (7/8) 88%

**Problem Sets** 

Problem Scores: 1/1 0/1 0/0 0/0 1/1 0/0 1/1 0/0

4/4

**Lecture Notebook 7** 

No problem scores in this section

Programming Assignment 7 (5/5) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1 1/1 1/1

Topic 8: Discrete Distribution Families

**8.0 Introduction** (4/4) 100%

**Problem Sets** 

Problem Scores: 1/1 3/3

8.1 Bernoulli Distribution (8.5/13) 65%

**Problem Sets** 

**Problem Scores:** 2/2 0/1 1/1 0/0 0/0 1.5/2 3/3 1/3

0/1

8.2 Binomial Distribution (18/18) 100%

**Problem Sets** 

Problem Scores: 3/3 2/2 3/3 3/3 4/4 0/0 3/3

8.3 Poisson Distribution (29/29) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 3/3 3/3 9/9 9/9 1/1 3/3

8.4 Geometric Distribution (17/17) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1 3/3 3/3 6/6 3/3

**8.5 Geometric Distribution Example** (4/5) 80%

**Problem Sets** 

**Problem Scores:** 2/2 0/1 1/1 1/1

**Lecture Notebook 8** 

No problem scores in this section

Programming Assignment 8 (4/5) 80%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1 0/1 1/1

Topic 9: Continuous Distribution Families

9.1 Continuous Distributions (3/3) 100%

**Problem Sets** 

Problem Scores: 1/1 2/2

9.2 Functions of Random Variables (4/5) 80%

**Problem Sets** 

Problem Scores: 0/1 4/4 0/0

9.3 Uniform Distribution (5/5) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 3/3

9.4 Exponential Distribution (12/12) 100%

**Problem Sets** 

**Problem Scores:** 1/1 2/2 3/3 6/6

9.5 Gaussian Distribution (7/7) 100%

**Problem Sets** 

Problem Scores: 1/1 0/0 0/0 0/0 0/0 0/0 3/3 3/3

9.6 Gaussian Distribution - Probabilities (16/16) 100%

**Problem Sets** 

**Problem Scores:** 3/3 1/1 3/3 9/9

**Lecture Notebook 9** 

No problem scores in this section

Programming Assignment 9 (3/3) 100%

**Programming Assignment** 

**Problem Scores:** 1/1 1/1 1/1

Topic 10: Inequalities and Limit Theorems

**10.1 Markov Inequality** (8/8) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1 6/6

10.2 Chebyshev Inequalities (14/14) 100%

**Problem Sets** 

**Problem Scores:** 1/1 9/9 1/1 3/3

**10.3 Law of Large Numbers** (4/4) 100%

**Problem Sets** 

**Problem Scores:** 1/1 0/0 3/3

10.4 Moment Generating Functions (13/13) 100%

**Problem Sets** 

Problem Scores: 1/1 0/0 2/2 1/1 3/3 0/0 3/3 3/3

**10.5 Chernoff Bound** (0/6) 0%

**Problem Sets** 

Problem Scores: 0/3 0/3

**10.6 Central Limit Theorem** (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1 0/0

**10.7 Central Limit Theorem Proof** (1/1) 100%

Engagement

Problem Scores: 1/1

**Lecture Notebook 10** 

No problem scores in this section

Programming Assignment 10 (3/3) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1

Topic 11: Statistics, Parameter Estimation and Confidence Interval

**11.1 Statistics** (6/6) 100%

**Problem Sets** 

Problem Scores: 3/3 3/3

11.2 Mean and Variance Estimation (12/13) 92%

**Problem Sets** 

Problem Scores: 0/1 1/1 1/1 1/1 0/0 3/3 3/3 3/3

**11.3 Variance Estimation** (2/2) 100%

**Problem Sets** 

Problem Scores: 2/2

11.4 Unbiased Variance Estimation (0/1) 0%

**Problem Sets** 

Problem Scores: 0/1 0/0

11.5 Estimating Standard Deviation (0/1) 0%

Engagement

No problem scores in this section

11.6 Confidence Interval (2/2) 100%

**Problem Sets** 

Problem Scores: 1/1 1/1

11.7 Confidence Interval - Sigma Unknown (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1

**Lecture Notebook 11** 

No problem scores in this section

Programming Assignment 11 (8/8) 100%

**Programming Assignment** 

**Problem Scores:** 1/1 2/2 1/1 2/2 2/2

Verify Today! (0/3) 0%

Practice Scores: 0/1 0/1 0/1

Topic 12: Regression and PCA

12.1 Review of Linear Algebra (8/8) 100%

**Problem Sets** 

**Problem Scores:** 1/1 1/1 3/3 3/3

12.2 Matrix Notation and Operations (26/26) 100%

**Problem Sets** 

**Problem Scores:** 1/1 6/6 4/4 15/15 0/0 0/0 0/0 0/0

12.3 Solving a System of Linear Equations (0/1) 0%

Engagement

No problem scores in this section

**12.4 Linear Regression** (13/14) 93%

**Problem Sets** 

Problem Scores: 0/1 1/1 12/12 0/0 0/0

12.5 Polynomial Regression (1/1) 100%

Engagement

Problem Scores: 1/1

12.6 Regression Towards the Mean (1/1) 100%

Engagement

Problem Scores: 1/1

12.7 Principle Component Analysis (1/1) 100%

Engagement

Problem Scores: 1/1

**12.8 Discussion Forum** (1/1) 100%

Engagement

Problem Scores: 1/1

**Lecture Notebook 12** 

No problem scores in this section

Programming Assignment 12 (3/3) 100%

**Programming Assignment** 

Problem Scores: 1/1 1/1 1/1

Topic 13: Hypothesis Testing

13.1 Hypothesis Test - Introduction (1/1) 100%

**Problem Sets** 

Problem Scores: 1/1

13.2 Hypothesis Testing - p-Values (5/5) 100%

**Problem Sets** 

**Problem Scores:** 2/2 2/2 1/1 0/0

13.3 Lady Tasting Tea

**Problem Sets** 

No problem scores in this section

13.4 Hypothesis Testing - Z and T Tests

**Problem Sets** 

No problem scores in this section

**Lecture Notebook 13** 

No problem scores in this section

Programming Assignment 13 (1/2) 50%

**Programming Assignment** 

Problem Scores: 0/1 1/1

Final Exam

**Preparing for the Final Exam** (25/31) 81%

**Practice Scores:** 1/2 2/2 2/2 2/2 5/5 3/3 2/2 2/2

2/2 0/5 4/4

**Final Exam Instructions** 

No problem scores in this section

**Final Exam** (12.8/25) 51%

**Final Exam** 

**Problem Scores:** 1.5/2 2/3 3/3 0/3 2/2 0/2 0/2 2/2

1.33/4 1/2

Please let us know how things went!

No problem scores in this section