Statistics 2.1X

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Lecture 1.1

Stat 2.1X is the first of three courses that make up Stat 2X.

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Well then, what is Stat 2X?

Stat 2X

Stat 2X is an introduction to Statistics.

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Statistics is the science of drawing conclusions from data.

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Statistics is the science of drawing conclusions from data.

The goal of Stat 2X is to make you an informed user of numerical information.

Stat 2.3X

Starting at the end . . .

Stat 2.3X

Starting at the end . . .

The third course in Stat 2X:

Stat 2.3X

Starting at the end . . .

The third course in Stat 2X:

- How do scientists figure out whether something is good for you?

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- How do polls make accurate predictions based on data from only a small percent of voters?

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STAT 2.3X: INFERENCE

Starting at the end . . .

The third course in Stat 2X:

- How do scientists figure out whether something is good for you?
- How do polls make accurate predictions based on data from only a small percent of voters?

STAT 2.3X: INFERENCE
Making conclusions based on data from random samples

The second course in Stat 2X:

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STAT 2.2X: PROBABILITY

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- If my last three lottery tickets all lost, is the next one more likely to be a winner?
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STAT 2.2X: PROBABILITY
Understanding and quantifying randomness

And now, the one we've all been waiting for ...

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- How do I make sense of a large dataset?

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STAT 2.1X: Descriptive Statistics

And now, the one we've all been waiting for ...
The first course in Stat 2X:

- How do I make sense of a large dataset?

STAT 2.1X: Descriptive Statistics
  Describing and summarizing data

Why summarize?

41 39 88 81 60 8 22 35 95 2 49 72 10 84 7 76 51 80 8 15 5 33 29 75 1 38
6 49 60 63 64 43 93 42 71 32 33 91 2 43 51 90 69 75 6 23 14 2 78 81 39
39 13 67 42 51 36 63 29 41 82 33 96 57 83 94 16 77 76 60 74 13 82 16 37
52 43 81 27 93 81 28 39 53 45 86 15 23 32 43 46 29 97 98 24 47 27 40 41
35 27 47 36 95 37 87 8 88 79 79 14 47 97 56 78 13 47 2 0 94 53 31 4 57
84 16 6 24 76 23 52 60 57 24 25 59 20 65 66 36 88 63 48 16 91 24 15 33
99 79 95 31 75 17 60 68 20 28 21 74 73 42 35 62 56 61 67 80 18 73 12 51
32 35 80 65 16 20 78 46 43 96 81 25 31 3 9 5 24 2 67 20 76 36 3 88 74
51 8 18 2 99 68 88 80 55 45 18 59 99 50 13 18 63 39 22 98 48 45 55 85
59 58 6 33 4 11 33 82 27 89 80 76 7 40 45 68 19 54 91 4 25 70 96 58 11
77 38 26 62 66 33 26 90 5 80 97 2 81 91 32 41 74 76 99 46 65 64 84 47 6
11 97 33 11 92 43 83 49 5 33 8 40 30 76 60 80 51 65 18 79 26 68 29 35
23 36 15 31 77 74 31 64 30 53 90 65 58 45 13 61 34 80 32 40 6 56 60 12
51 46 94 6 78 81 4 70 59 61 80 70 94 90 8 27 96 48 27 87 53 92 52 18 85
44 31 28 48 1 24 33 38 57 62 50 26 26 22 50 65 80 73 86 3 100 45 90 50

- Graphical descriptions

Methods covered in Stat 2.1X

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- Numerical summaries

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First, descriptions and summaries of a single variable: for example, educational level, or income, or favorite color;

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- Numerical summaries

First, descriptions and summaries of a single variable: for example, educational level, or income, or favorite color;

and then of the relation between two variables, for example educational level and income.