## Schedule

A week-by-week breakdown of the material.

# Week 1 (01/07-1/11)

**Day 1** A taste of statistics<sup>1</sup>
Basic Terminology<sup>2</sup>

**Day 2** HW1 due Fri<sup>3</sup>
Visualizing Variables<sup>4</sup>
Quiz 1 due Sun<sup>5</sup>

**Day 3** Lab 1<sup>6</sup>

# Week 2 (01/14-09/18)

**Day 1** Percentiles<sup>7</sup>

Measures of Center<sup>8</sup>

Measures of Spread<sup>9</sup>

HW2 due<sup>10</sup>

Quiz 2 due Mon of week 3<sup>11</sup>

Day 2 No class

**Day 3** Lab 2<sup>12</sup>

# Week 3 (01/21-01/25)

**Day 1** Data Collection<sup>13</sup>

HW3 due<sup>14</sup>

<sup>&</sup>lt;sup>1</sup>notes/taste.html

<sup>&</sup>lt;sup>2</sup>notes/basic terminology.html

<sup>&</sup>lt;sup>3</sup>assignments/hw1.html

<sup>&</sup>lt;sup>4</sup>notes/visualizing\_distributions.html

<sup>&</sup>lt;sup>5</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14001

<sup>&</sup>lt;sup>6</sup>https://hanoverstatslabs.github.io/resources/labs/Lab1Instructions.html

<sup>&</sup>lt;sup>7</sup>notes/percentiles.html

<sup>&</sup>lt;sup>8</sup>notes/measures\_center.html

<sup>&</sup>lt;sup>9</sup>notes/measures\_spread.html

<sup>&</sup>lt;sup>10</sup>assignments/hw2.html

<sup>11</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14002

<sup>&</sup>lt;sup>12</sup>https://hanoverstatslabs.github.io/resources/labs/Lab2Instructions.html

<sup>&</sup>lt;sup>13</sup>notes/data collection.html

<sup>&</sup>lt;sup>14</sup>assignments/hw3.html

```
Day 2 Linear Transformations<sup>15</sup>
Standardized scores<sup>16</sup>
Density Curves<sup>17</sup>
The Normal Distribution<sup>18</sup>
Quiz 3<sup>19</sup>
Day 3 Lab 3<sup>20</sup>
```

### Week 4 (01/28-02/01)

**Day 1** The Normal Distribution (cont)<sup>21</sup>

**Day 2** Relationships between two variables<sup>22</sup> HW4 due<sup>23</sup>

**Day 3** Lab  $4^{24}$  HW5 due<sup>25</sup>

## Week 5 (02/04-02/08)

Day 1 HW6 due<sup>26</sup>

**Day 2** Scatterplots and Correlation<sup>27</sup>
Quiz 4<sup>28</sup>

## Day 3 MIDTERM (study guide<sup>29</sup>)

```
15notes/linear_transformations.html
16notes/linear_transformations.html
17notes/density_curves.html
18notes/normal_distribution.html
19https://moodle.hanover.edu/mod/quiz/view.php?id=14005
20https://hanoverstatslabs.github.io/resources/labs/Lab3Instructions.html
21notes/normal_distribution.html
22notes/relationships.html
23assignments/hw4.html
24https://hanoverstatslabs.github.io/resources/labs/Lab4Instructions.html
25assignments/hw5.html
26assignments/hw6.html
27notes/scatterplot_correlation.html
28https://moodle.hanover.edu/mod/quiz/view.php?id=14010
29notes/midterm1_study_guide.html
```

### Week 6 (02/11-02/15)

**Day 1** General Theory on Modeling and Data Fitting<sup>30</sup> Linear Models and Regression Lines<sup>31</sup> HW7 due<sup>32</sup>

**Day 2** Linear Models and Regression Lines (cont)<sup>33</sup>

**Day 3** Lab 5<sup>34</sup>

## Week 7 (02/18-02/22)

**Day 1** The question of causation<sup>35</sup>
Quiz 5<sup>36</sup>

**Day 2** Introduction to Probability<sup>37</sup>

**Day 3** Lab 6<sup>38</sup>

## Week 8 (02/25-03/01)

WINTER BREAK

# Week 9 (03/04-03/08)

**Day 1** Conditional Probability<sup>39</sup>
HW8 due<sup>40</sup>

**Day 2** Probability rules<sup>41</sup> Independent Events<sup>42</sup> Quiz 6<sup>43</sup>

#### **Day 3** Lab 7<sup>44</sup>

<sup>&</sup>lt;sup>30</sup>notes/modeling\_general.html

<sup>&</sup>lt;sup>31</sup>notes/linear regression.html

<sup>&</sup>lt;sup>32</sup>assignments/hw7.html

<sup>&</sup>lt;sup>33</sup>notes/linear\_regression.html

<sup>&</sup>lt;sup>34</sup>https://hanoverstatslabs.github.io/resources/labs/Lab5Instructions.html

<sup>&</sup>lt;sup>35</sup>notes/correlation\_causation.html

<sup>36</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14011

<sup>&</sup>lt;sup>37</sup>notes/probability\_intro.html

<sup>&</sup>lt;sup>38</sup>https://hanoverstatslabs.github.io/resources/labs/Lab6Instructions.html

<sup>&</sup>lt;sup>39</sup>notes/probability\_conditional.html

<sup>&</sup>lt;sup>40</sup>assignments/hw8.html

<sup>&</sup>lt;sup>41</sup>notes/probability rules.html

<sup>&</sup>lt;sup>42</sup>notes/independent events.html

<sup>43</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14014

<sup>44</sup>https://hanoverstatslabs.github.io/resources/labs/Lab7Instructions.html

#### Week 10 (03/11-03/15)

```
Day 1 Tree Diagrams<sup>45</sup>
HW9 due<sup>46</sup>
Quiz 7<sup>47</sup>
```

#### Day 2 Review

HW11 due<sup>48</sup>

Day 3 MIDTERM (study guide<sup>49</sup>)

### Week 11 (03/18-03/22)

```
Day 1 Random Variables<sup>50</sup>
HW10 due<sup>51</sup>
```

**Day 2** Random Variables (cont)<sup>52</sup>

**Day 3** Lab 8<sup>53</sup> HW12 due<sup>54</sup>

## Week 12 (03/25-03/29)

**Day 1** The Binomial Setting and Distribution<sup>55</sup>
Quiz 8<sup>56</sup>

**Day 2** Mean and Standard Deviation of Random Variables<sup>57</sup> HW13 due<sup>58</sup>

## Day 3 Project work

<sup>45</sup>notes/decision\_trees.html
46assignments/hw9.html
47https://moodle.hanover.edu/mod/quiz/view.php?id=14018
48assignments/hw11.html
49notes/midterm2\_study\_guide.html
50notes/random\_variables.html
51assignments/hw10.html
52notes/random\_variables.html
53https://hanoverstatslabs.github.io/resources/labs/Lab8Instructions.html
54assignments/hw12.html
55notes/binomial.html
56https://moodle.hanover.edu/mod/quiz/view.php?id=14020
57notes/rv\_mean.html
58assignments/hw13.html

### Week 13 (04/01-04/05)

```
    Day 1 Combining Random Variables<sup>59</sup>
        Mean and Standard Deviation of the Binomial<sup>60</sup>
        Binomial: Approximating by Normal<sup>61</sup>
        Quiz 9<sup>62</sup>

    Day 2 The Sample Mean / IID Setting<sup>63</sup>
```

```
Day 2 The Sample Mean / IID Setting<sup>63</sup>
HW14 due<sup>64</sup>
Quiz 10<sup>65</sup>
```

**Day 3** Inference I: Confidence Intervals<sup>66</sup>
HW15 due<sup>67</sup>

## Week 14 (04/08-04/12)

```
Day 1 Inference II: Hypothesis Tests<sup>68</sup>
HW16 due<sup>69</sup>
Quiz 11<sup>70</sup>
```

**Day 2** TBA HW17 due<sup>71</sup>

**Day 3** Presentations

<sup>59</sup> notes/rv\_combine.html
60 notes/binomial\_mean.html
61 notes/binomial\_mean.html
62 https://moodle.hanover.edu/mod/quiz/view.php?id=14023
63 notes/iid\_setting.html
64 assignments/hw14.html
65 https://moodle.hanover.edu/mod/quiz/view.php?id=14026
66 notes/confidence\_intervals.html
67 assignments/hw15.html
68 notes/hypothesis\_tests.html
69 assignments/hw16.html
70 https://moodle.hanover.edu/mod/quiz/view.php?id=14028
71 assignments/hw17.html