## 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>

**Day 3** Lab 3<sup>17</sup>

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

**Day 1** Density Curves<sup>18</sup>

The Normal Distribution<sup>19</sup>

Quiz 3<sup>20</sup>

Day 2 Class cancelled

**Day 3** Lab 4<sup>21</sup> HW4 due<sup>22</sup>

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

**Day 1** Relationships between two variables<sup>23</sup> HW5 due<sup>24</sup>

**Day 2** Scatterplots and Correlation<sup>25</sup> HW6 due<sup>26</sup>

**Day 3 MIDTERM** (study guide<sup>27</sup>)

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

**Day 1** Scatterplots and Correlation (cont) $^{28}$  General Theory on Modeling and Data Fitting $^{29}$  Quiz  $4^{30}$ 

<sup>&</sup>lt;sup>15</sup>notes/linear transformations.html

<sup>&</sup>lt;sup>16</sup>notes/linear transformations.html

<sup>&</sup>lt;sup>17</sup>https://hanoverstatslabs.github.io/resources/labs/Lab3Instructions.html

<sup>&</sup>lt;sup>18</sup>notes/density\_curves.html

<sup>&</sup>lt;sup>19</sup>notes/normal\_distribution.html

<sup>&</sup>lt;sup>20</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14005

<sup>&</sup>lt;sup>21</sup>https://hanoverstatslabs.github.io/resources/labs/Lab4Instructions.html

<sup>&</sup>lt;sup>22</sup>assignments/hw4.html

<sup>&</sup>lt;sup>23</sup>notes/relationships.html

<sup>&</sup>lt;sup>24</sup>assignments/hw5.html

<sup>&</sup>lt;sup>25</sup>notes/scatterplot\_correlation.html

<sup>&</sup>lt;sup>26</sup>assignments/hw6.html

<sup>&</sup>lt;sup>27</sup>notes/midterm1 study guide.html

<sup>&</sup>lt;sup>28</sup>notes/scatterplot correlation.html

<sup>&</sup>lt;sup>29</sup>notes/modeling\_general.html

<sup>30</sup> https://moodle.hanover.edu/mod/quiz/view.php?id=14010

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Day 2 Linear Models and Regression Lines<sup>31</sup>
Day 3 HW7 due<sup>32</sup>
      Lab 5<sup>33</sup>
Week 7 (02/18-02/22)
Day 1 The question of causation<sup>34</sup>
      Quiz 5<sup>35</sup>
Day 2 Introduction to Probability<sup>36</sup>
Day 3 Lab 6<sup>37</sup>
      HW8 due<sup>38</sup>
Week 8 (02/25-03/01)
WINTER BREAK
Week 9 (03/04-03/08)
Day 1 Introduction to Probability<sup>39</sup>
       Conditional Probability<sup>40</sup>
Day 2 Conditional Probability<sup>41</sup>
       Probability rules<sup>42</sup>
      Quiz 643
Day 3 Lab 7<sup>44</sup>
  <sup>31</sup>notes/linear_regression.html
  <sup>32</sup>assignments/hw7.html
  <sup>33</sup>https://hanoverstatslabs.github.io/resources/labs/Lab5Instructions.html
  <sup>34</sup>notes/correlation_causation.html
  35https://moodle.hanover.edu/mod/quiz/view.php?id=14011
  <sup>36</sup>notes/probability_intro.html
  <sup>37</sup>https://hanoverstatslabs.github.io/resources/labs/Lab6Instructions.html
  <sup>38</sup>assignments/hw8.html
  <sup>39</sup>notes/probability_intro.html
  <sup>40</sup>notes/probability_conditional.html
  <sup>41</sup>notes/probability_conditional.html
  <sup>42</sup>notes/probability rules.html
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43https://moodle.hanover.edu/mod/quiz/view.php?id=14014

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

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

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Day 1 Independent Events<sup>45</sup>

Tree Diagrams<sup>46</sup>

HW9 due<sup>47</sup>

Quiz 7<sup>48</sup>

Day 2 Review

HW10 due<sup>49</sup>

HW11 due<sup>50</sup>

Day 3 MIDTERM (study guide<sup>51</sup>)
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#### Week 11 (03/18-03/22)

```
Day 1 Random Variables<sup>52</sup>
HW10 due<sup>53</sup>
Day 2 The Binomial Setting and Distribution<sup>54</sup>
Day 3 Lab 8<sup>55</sup>
HW12 due<sup>56</sup>
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# Week 12 (03/25-03/29)

 ${f Day~1}$  Mean and Standard Deviation of Random Variables  $^{57}$  Quiz  $8^{58}$ 

**Day 2** Combining Random Variables<sup>59</sup> HW13 due<sup>60</sup>

#### Day 3 Project work

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<sup>45</sup>notes/independent events.html
46notes/decision_trees.html
<sup>47</sup>assignments/hw9.html
48https://moodle.hanover.edu/mod/quiz/view.php?id=14018
<sup>49</sup>assignments/hw10.html
<sup>50</sup>assignments/hw11.html
<sup>51</sup>notes/midterm2_study_guide.html
<sup>52</sup>notes/random_variables.html
<sup>53</sup>assignments/hw10.html
<sup>54</sup>notes/binomial.html
<sup>55</sup>https://hanoverstatslabs.github.io/resources/labs/Lab8Instructions.html
<sup>56</sup>assignments/hw12.html
<sup>57</sup>notes/rv mean.html
<sup>58</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14020
<sup>59</sup>notes/rv_combine.html
<sup>60</sup>assignments/hw13.html
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### Week 13 (04/01-04/05)

**Day 1** Mean and Standard Deviation of the Binomial<sup>61</sup>
Binomial: Approximating by Normal<sup>62</sup>
Quiz 9<sup>63</sup>

**Day 2** The Sample Mean / IID Setting  $^{64}$  HW14 due  $^{65}$  Quiz  $10^{66}$ 

**Day 3** Inference I: Confidence Intervals<sup>67</sup> HW15 due<sup>68</sup>

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

**Day 1** Inference II: Hypothesis Tests<sup>69</sup>
HW16 due<sup>70</sup>
Quiz 11<sup>71</sup>

**Day 2** TBA HW17 due<sup>72</sup>

Day 3 Presentations

<sup>&</sup>lt;sup>61</sup>notes/binomial\_mean.html

<sup>&</sup>lt;sup>62</sup>notes/binomial\_mean.html

<sup>63</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14023

<sup>64</sup>notes/iid\_setting.html

<sup>&</sup>lt;sup>65</sup>assignments/hw14.html

<sup>66</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14026

<sup>&</sup>lt;sup>67</sup>notes/confidence\_intervals.html

<sup>&</sup>lt;sup>68</sup>assignments/hw15.html

<sup>&</sup>lt;sup>69</sup>notes/hypothesis tests.html

<sup>&</sup>lt;sup>70</sup>assignments/hw16.html

<sup>71</sup>https://moodle.hanover.edu/mod/quiz/view.php?id=14028

<sup>&</sup>lt;sup>72</sup>assignments/hw17.html