

## Stat 515 — Practice Exam 1: Topic & Point Summary

| #                               | Topic                                                                                                                                    | Points     |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1                               | Population & Sample — target/sampled population, sampling unit, observation unit, response; coverage bias (flu vaccine telephone survey) | 15         |
| 2                               | Descriptive Stats — variance comparison, mean vs. median, skewness                                                                       | 12         |
| 3                               | Standard Normal — finding $z_0$ and interval probability                                                                                 | 6          |
| 4                               | Combinations / Counting (committee selection)                                                                                            | 6          |
| 5                               | Normal Distribution probability (birth weights)                                                                                          | 8          |
| 6                               | Discrete Distribution — $E(X)$ , $\text{Var}(X)$ , $P(X \geq k)$                                                                         | 15         |
| 7                               | Contingency Table — joint, union, conditional, independence                                                                              | 25         |
| 8                               | Binomial — mean, SD, exact probability                                                                                                   | 12         |
| 9                               | Poisson — single period, scaled mean, cumulative                                                                                         | 16         |
| 10                              | Conditional Probability / Bayes' Theorem                                                                                                 | 10         |
| <b>TOTAL (Q1–Q10 = 125 pts)</b> |                                                                                                                                          | <b>125</b> |