

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Syllabus – Discrete Option

- Do all of your homework problems....Make sure you TRY all of them!
- Check all of your answers.
- After you have checked your answers, ASK questions on the problems you can't figure out.
- BEFORE test get any additional help needed on concepts not mastered.

**NP = Not Proficient****P = Proficient****M = Mastery**

| Section   | Learning Targets                            | Homework Questions   | Score |
|-----------|---|--|-------|
| 1.1 - 1.2 | Pigeonhole Principle                        | pg 1500 #1, 3-5, 8, 9, 11, 13, 14, 17, 19, 24, 25, 27, 28, 30b, 31, 32 |       |
| 1.3       | Greatest Common Divisor/Euclidean Algorithm | pg 1513 # 1, 7, 11, 13, 14, 17, 20, 21, 26, 29                         |       |
| 1.4       | Fundamental Theorem of Arithmetic           | pg 1521 #1, 2, 4, 6, 7a, 8a, 9, 12, 17-19, 24                          |       |
| 2.1       | Congruence                                  | pg 1529 #1-4, 8, 14, 17, 19, 29-32, 34, 37, 40, 41                     |       |
| 2.2       | Diophantine Equations                       | pg 1538 # 1,2a, 3a, 4, 7, 11, 12, 14, 16                               |       |
| 2.3       | Linear Congruence                           | pg 1540 #1, 4, 14, 15, 17, 20, 21                                      |       |
| 2.4       | Integer Representations and Operations      | pg 1557 #1,2 5, 6, 7, 8, 9, 12,  |       |
| 2.5       | Fermat's Little Theorem                     | pg 1560 #1, 3, 6, 10, 12, 13, 16-18,                                   |       |
| 2.6 - 2.8 | Recurrence Relations                        | pg 1574 #2, 3, 5, 11   |       |
| 3.1 - 3.2 | Graph                                       | pg 1590 #1, 3, 5-11  |       |
| 3.3       | Graph Representations                       | pg 1599 #1ab, 2af, 3, 4bd, 5   |       |
| 3.4       | Paths, Walks, and Trails                    | pg 1614 #1, 2ac, 4 (only for 1 & 2ac), 5, 6, 9abd                      |       |
| 3.5       | Planar Graphs                               | pg 1622 #1, 4-6, 8   |       |
| 4.1 - 4.3 | Trees                                       | pg 1633 #1, 4-6, 9   |       |

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| 4.4    | Weighted Graphs and Greedy Algorithms                                 | pg 1641 #1,2, 6, 12            |  |
| 4.5    | Shortest Path, Route, Inspections and the Travelling Salesman Problem | pg 1658 #1, 3, 4, 7, 8, 10, 12 |  |
| Review |   |                                |  |