MA 2025: Bridge to Advanced Mathematics, Winter 2011

Homework:

- **Chapter 1:**
  - 1.1: 1, 5, 9, 10, 13, 23, 27, 29
  - 1.2: 5, 9, 11, 14, 15, 25, 28, 29
  - 1.3: 1, 5, 9, 11, 13, 16, 17, 33, 35, 36
  - 1.4: 3, 9, 26, 27, 31
  - 1.5: 3, 5, 7, 15, 16, 17, 19, 20, 23
  - 1.6: 3, 6, 9, 10, 11, 12, 15, 17, 19, 20, 27, 28
  - 1.7: 1, 3, 6, 9, 11, 12, 17
  - Appendix A2: 1-6

- **Chapter 2:**
  - 2.1: 1, 3, 4, 5, 6, 7, 9, 15, 17, 20, 21, 23, 27, 33, 35
  - 2.2: 3, 5, 6, 7, 13, 14, 19, 29, 45, 46, 48
  - 2.3: 1, 2, 7, 9, 12, 13, 16, 17, 21, 23, 25, 27, 29, 32, 33, 35, 39, 55, 59, 65

- **Chapter 3:**
  - 3.4: 5, 8, 9, 17, 18, 19, 21, 23. Optional: 27, 29, 31
  - 3.5: 3, 11, 13, 21, 23, 24, 27
  - 3.6: 1, 3, 5, 23, 24, 29

- **Chapter 4:**
  - 2.4: 3, 5, 13, 15, 17, 19
  - 4.1: Covered on Tue: 3, 4, 5, 7, 15, Covered on Wed: 19, 21, 23, and 31, 33, 34

- **Chapter 5:**
  - 5.1: 1, 3, 7, 10, 11, 21, 23, 27, 31-33, 41, 42, 43, 52
  - 5.2: 1, 3, 9, 13, 31, 33
  - 5.3: 1, 2, 5, 7, 11, 19, 21, 27, 31

Topics:

- Hours 3-3 Propositional Logic and Applications 1.1, 1.2
- Hours 2-5 Propositional Equivalences 1.3 2-7 Predicates and Quantifiers 1.4
- Hours 2-9 Nested Quantifiers 1.5
- Hours 2-11 Rules of Inference 1.6
- Hours 3-14 Introduction to proofs 1.7
- Hours 1-15 Proof Methods and Strategy 1.8
- Hours 2-17 Sets 2.1 2-19 Set Operations 2.2
- Hours 2-21 Functions 2.3
- Hours 1-22 Exponential and Logarithmic Function A.2
- Hours 2-24 Divisibility and Modular Arithmetic 4.1
- Hours 1-25 Integer Representations and Algorithms 4.2
- Hours 1-26 Primes and Greatest Common Divisors 4.3
- Hours 2-28 Sequences and Summations 2.4
- Hours 3-31 Mathematical Induction 5.1
- Hours 1-32 The Basics of Counting 6.1
- Hours 2-34 The Pigeonhole Principle 6.2
- Hours 2-36 Permutations and Combinations 6.3
- Hours 7-43 Exams, Reviews, and Holidays

Calendar:

### January 2011

<table>
<thead>
<tr>
<th>Sat/Sun</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>4</td>
<td>Section 1.1 and Section 1.2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8/9</td>
<td>Section 1.3 10</td>
<td>Section 1.4 11</td>
<td>Section 1.5 12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15/16</td>
<td>No Class 17</td>
<td>Exam 1 18</td>
<td>Section 1.6 (direct and contrapositive proofs) 19</td>
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<td>22/23</td>
<td>Section 1.6 (contradiction) 24</td>
<td>Section 1.7 and Appendix A2 25</td>
<td>Review 26</td>
<td>Can be available if needed 27</td>
<td>28</td>
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<td>29/30</td>
<td>Exam 2 31</td>
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### February 2011

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<td>Section 2.1 and Section 2.2 1</td>
<td>Section 2.3 2</td>
<td>(Office hours 1-3pm) 3</td>
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<td>5/6</td>
<td>Section 3.4 7</td>
<td>Section 3.5 and Section 3.6 8</td>
<td>Review 9</td>
<td>Can be available if needed from 1-3pm 10</td>
<td>Can be available if needed 10-11:30 am 11</td>
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<tr>
<td>12/13</td>
<td>Exam 3 14</td>
<td>Section 2.4 and Section 4.1 15</td>
<td>Section 5.1 16</td>
<td>Section 5.2 and Section 5.3 17</td>
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<td>19/20</td>
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<td>Review 22</td>
<td>No Class 23</td>
<td>24</td>
<td>Can be available if needed the whole day 25</td>
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<td>Final Exam 28</td>
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