Lecture Outline for Exam 1

Lectures as given

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Date</th>
<th>Topic</th>
<th>Material covered (see outline below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19 Jan</td>
<td>Intro</td>
<td>0.1.-0.3.</td>
</tr>
<tr>
<td>2</td>
<td>21 Jan</td>
<td>Intro</td>
<td>1.1.</td>
</tr>
<tr>
<td>3</td>
<td>23 Jan</td>
<td>I.01</td>
<td>1.2.1.</td>
</tr>
<tr>
<td>4</td>
<td>26 Jan</td>
<td>I.02</td>
<td>1.2.2.-1.2.4.</td>
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<tr>
<td>5</td>
<td>28 Jan</td>
<td>I.03</td>
<td>1.3.1.</td>
</tr>
<tr>
<td>6</td>
<td>30 Jan</td>
<td>I.04</td>
<td>1.3.2.-1.3.6.</td>
</tr>
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<td>7</td>
<td>2 Feb</td>
<td>I.05</td>
<td>1.3.7.</td>
</tr>
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<td>8</td>
<td>4 Feb</td>
<td>I.06</td>
<td>1.4.</td>
</tr>
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<td>9</td>
<td>6 Feb</td>
<td>I.07</td>
<td>1.5.</td>
</tr>
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<td>10</td>
<td>9 Feb</td>
<td>I.08</td>
<td>1.6.</td>
</tr>
<tr>
<td>11</td>
<td>11 Feb</td>
<td>I.09</td>
<td>1.7.1.-1.7.4.</td>
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<td>12</td>
<td>13 Feb</td>
<td>I.10</td>
<td>1.7.5.</td>
</tr>
<tr>
<td>13</td>
<td>16 Feb</td>
<td>Exam 1</td>
<td>Review</td>
</tr>
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<td></td>
<td></td>
<td>Intro and Unit I</td>
<td></td>
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</tbody>
</table>

Outline

0. Introduction
   0.1. The Course
   0.2. The Subject
0.3. The Grand Tour
   0.4. The Scientific Method
   0.5. Astronomy Funding
   0.6. The (Very) Big Picture

1. The Birth of Astronomy
   1.1. How Science Works
      1. Introduction
      2. The Scientific Method
      3. Astronomy Funding
      4. The (Very) Big Picture
   1.2. The Celestial Sphere
      1. Celestial Motions
      2. Timekeeping
      3. The Appearance of the Skies
      4. The Motions of the Planets
   1.3. Ancient Astronomy
      1. Overview from Pythagoras to the Middle Ages
      2. The Role of Astronomy
      3. Mesopotamia
      4. From Thales to Aristotle
      5. The Alexandrian School
   1.4. The European Dark Ages
      1. The Fall of Rome
      2. Science in the Dark Ages
      3. Moslem Astronomy
      4. The Rise of Scholasticism
      5. The Roots of the Renaissance
   1.5. The Copernican Revolution
      1. Background
      2. Nicholas Copernicus
      3. The Heliocentric Model of Copernicus
      4. Tycho Brahe
   1.6. Johannes Kepler
      1. Biography
      2. Kepler’s Laws
      3. Measuring the AU
   1.7. Galileo Galilei
      1. Biography
      2. Observations
      3. Galileo, Physics, and Science
      4. Galileo and the Church
   1.8. Isaac Newton
      1. Background
      2. Biography
      3. Newton’s Three Laws of Motion
      4. The Universal Law of Gravitation
   1.9. The Scientific Method
      1. Halley’s Comet
      2. Uranus and Neptune
      3. Pluto
      4. Historical Review