2. Textbook

3. Syllabus

<table>
<thead>
<tr>
<th>WEEK</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Extension and contraction.</td>
</tr>
<tr>
<td>4</td>
<td>Tensor products of modules. Exactness.</td>
</tr>
<tr>
<td>5</td>
<td>Rings and Modules of Fractions. Local properties. Extension &amp; contraction in rings of fractions</td>
</tr>
<tr>
<td>6</td>
<td>Integral Dependence and Valuations. Integral dependence. Going-up and going-down theorems.</td>
</tr>
<tr>
<td>7</td>
<td>Valuation rings. Hilbert's Nullstellensatz.</td>
</tr>
<tr>
<td>8</td>
<td>Chain Conditions.</td>
</tr>
<tr>
<td>9</td>
<td>Noetherian Rings.</td>
</tr>
<tr>
<td>10</td>
<td>Artinian Rings.</td>
</tr>
<tr>
<td>11</td>
<td>Discrete Valuation Rings.</td>
</tr>
<tr>
<td>12</td>
<td>Dedekind Domains.</td>
</tr>
<tr>
<td>13-14</td>
<td>Topologies &amp; Completions.</td>
</tr>
<tr>
<td>14-15</td>
<td>Dimension Theory. (Project) <strong>CANCELLED</strong></td>
</tr>
</tbody>
</table>

4. Grading Policy

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentations</td>
<td>200</td>
</tr>
<tr>
<td>Take-home Exam 1</td>
<td>100</td>
</tr>
<tr>
<td>Take-home Exam 2</td>
<td>100</td>
</tr>
</tbody>
</table>