REAL ANALYSIS
SPRING 2012/13

INSTRUCTOR: ERHAN ÇALIŞKAN

TIMETABLE: Monday 09:00-11:50

CONTACT: ercalis@yahoo.com.tr

ASSESSMENT:

PRE-REQUISITIES:


PROGRAMME

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>SUBJECTS TO BE COVERED</th>
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<tbody>
<tr>
<td>1 &amp; 2</td>
<td>Measurable spaces. Measurable functions. Sequences of measurable functions. Simple functions</td>
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<tr>
<td>3 &amp; 4</td>
<td>Measure spaces. Integration of simple functions. Integration of positive functions</td>
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<tr>
<td>5 &amp; 6</td>
<td>Integration of real functions. Functions depending on one parameter. Normed spaces. Linear operators</td>
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<td>7 &amp; 8</td>
<td>Hölder inequality for sums. Hölder inequality for integrals. Banach $L^p(X, \Sigma, \mu)$ spaces</td>
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Will be announced

Mid-term Exam

9 & 10 | Decompositions of real measures. Radon-Nikodym theorem |
11 & 12 | Riesz representation theorem. Measures in algebras |
13 & 14 | Extensions of measures. Product of measures. Integration on product space |

Final Examination

Will be announced

SUGGESTED READING: