ECG 740 – Computer Analysis Methods for Power Systems

SPRING 2013

Instructor: Dr. Y. Baghzouz
Office Room # TBE - B320
Tel. # 895-0887
Fax # 895-4075
Email address: eebag@ee.unlv.edu


References:
1. Power system analysis and design / J. Duncan Glover, Mulukutla Sarma, Boston PWS Pub., 1994
4. IEEE Transactions on Power Systems
5. IEEE Transactions on Power Delivery

Course Content:
- Review of basic concepts (including transformers, transmission lines and generators)
- The Admittance Model and Network Calculations
- The Impedance Model and Network Calculations
- Power Flow Solutions
- Symmetrical Faults
- Symmetrical Components and Sequence Networks
- Unsymmetrical Faults
- Z-bus Methods in Contingency Analysis
- State Estimation of Power Systems
- Economic dispatch and unit commitment
- Introduction to power system stability.

Tests, Homework, Projects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1 Review, Impedance &amp; admittance models,</td>
<td>20 Points</td>
</tr>
<tr>
<td>power flow</td>
<td></td>
</tr>
<tr>
<td>Test 2 Symmetrical and unsymmetrical faults</td>
<td>20 Points</td>
</tr>
<tr>
<td>Final Test Power flow, faults, contingency</td>
<td>30 Points</td>
</tr>
<tr>
<td>analysis, state estimation, economic dispatch.</td>
<td></td>
</tr>
<tr>
<td>Projects TBA</td>
<td>30 Points</td>
</tr>
<tr>
<td>Homework TBA</td>
<td>30 Points</td>
</tr>
<tr>
<td>Total</td>
<td>130 Points</td>
</tr>
</tbody>
</table>

Grading:
A ≥ 110 > B ≥ 90 > C ≥ 75

Notes:
- Late homework will not be accepted
- There will be no make-up tests
- Class attendance and participation is highly encouraged
- EasyPower software is to be used for power flow and fault analysis.