ECG 740 – Computer Analysis Methods for Power Systems
SPRING 2016

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

Course Content:
- Review of power system component and their circuit models (including renewable generation)
- The admittance model and load flow studies
- Optimal system operation (economic dispatch, unit commitment and optimal load flow)
- Automatic generation and control
- Symmetrical fault analysis
- Symmetrical Components and Sequence Networks
- Unsymmetrical Faults
- Power system security (contingency analysis)
- State estimation of power systems
- Load forecasting

Computer Usage:
Matlab/Simulink, PowerWorld

Tests:

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>Part in class and part take-home</td>
<td>20 Pts</td>
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<tr>
<td>Quizzes &amp; Assignments</td>
<td>Some assignments will require computer usage</td>
<td>20 Pts</td>
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<tr>
<td>Individual Projects</td>
<td>Requires short report and 10 min class presentation</td>
<td>20 Pts</td>
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<tr>
<td>Final Exam</td>
<td>Part in class and part take-home</td>
<td>40 Pts</td>
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<tr>
<td>Total</td>
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<td>100 Points</td>
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Grading:
A ≥ 85 > B ≥ 70 > C ≥ 60 > D ≥ 50

Notes:
- There will be no make-up tests or quizzes.
- Late assignments will not be accepted.
- Class attendance and participation is highly encouraged.

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Missed Class(es) / Student –
As a general rule, a student missing a class or laboratory assignment because of observance of a religious holiday shall have the opportunity to make up missed work. Students must notify the instructor of anticipated absences by the last day of late registration, January 28, 2008, to be assured of this opportunity. Faculty may give students an additional week, but are encouraged to set a clear deadline. NOTE: Students who represent UNLV at any official extracurricular activity shall also have the opportunity to make up assignments, but the student must provide official written notification to the instructor no less than one week prior to the missed class(es).

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