EE 533 Computer Applications in Power System Analysis Fall 2014

Instructor: Dr. Ali Feliachi
Office: ESB: 841 B, Phone: 304-293-9690,
E-mail: alfeliachi@mail.wvu.edu
Office Hours: TR: 11 – 12 or by appointment

Time/Place: TR, 9:30-10:45, 501 ESB

Prerequisite: EE 436 or consent

Recommended Text: G.T. Heydt "Computer Analysis Methods for Power Systems,
Stars in a Circle Publications, Scottsdale, AZ

Objective: Steady state analysis by digital computers of large integrated electrical power systems. Bus admittance and impedance matrices, load flow studies, economic dispatch and optimal power flow, steady state security analysis, fault studies.

Grading Policy: Homework: 20%; Project: 25%; Tests: 55%

Contact/Attendance: Mix email is the official contact means. Students should attend all classes. In case of absences, students are responsible for missed classes and announcements.

Tentative Calendar: Test#1 Oct. 9, 2014
Test #2 Dec. 2, 2014

Some Project Topics: Distributed Load Flow, State Estimation, Situation Awareness
Congestion Management, Reconfiguration, Energy Markets
Voltage Stability/Voltage Profile/Voltage Control
Any topic related to class material and approved by instructor

<table>
<thead>
<tr>
<th>Syllabus</th>
<th>Introduction</th>
<th>System Modeling</th>
<th>Bus Admittance Matrix</th>
<th>Load Flow</th>
<th>Economic Dispatch</th>
<th>Bus Impedance Matrix</th>
<th>Short Circuit Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 minute sessions</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>18</td>
<td>8</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Inclusivity Statement: The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (293-6700). For more information on WVU’s Diversity, Equity, and Inclusion initiatives, please see http://diversity.wvu.edu.

Academic Integrity. The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code at http://www.arc.wvu.edu/admissions/integrity.html. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.