I. Assessment Outcomes from the Course Syllabus

☒ (A) Ability to apply knowledge of mathematics, science and engineering.
☐ (B) Ability to design and conduct experiments as well as analyze and interpret data.
☐ (C) Ability to design a system, component, or process to meet desired needs.
☐ (D) Ability to function on multidisciplinary teams.
☐ (E) Ability to identify, formulate, and solve engineering problems.
☒ (F) An understanding of professional and ethical responsibility.
☐ (G) Ability to communicate effectively in written and oral formats.
☐ (H) A broad education necessary to understand the impact of engineering solutions in global, economic, and societal context.
☐ (I) Recognize the need for, and have the ability to engage in life long learning.
☐ (J) Have a broad education and knowledge of contemporary issues.
☐ (K) Ability to use techniques, skills and modern engineering tools necessary for engineering practices.

II. List of Course Topics from the Course Syllabus

1. Introduction and General Philosophies.
2. Fundamental Units: Per Unit and Percent Values.
4. Relay Input Sources and Burden Calculations.
5. Protection Fundamentals.
6. Phasors, polarity, directional sensing.
7. Differential protection.
8. Time overcurrent relays.
9. Distance relays.
10. Analog Relay Fundamentals.
11. Line Protection.
12. Power system component protection.
III. Course Assessment Summary Table: one row of the table should be devoted to each of the checked outcomes in part I.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Topics</th>
<th>Specific Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Ability to apply knowledge of mathematics, science and engineering.</td>
<td>2 - 12</td>
<td>Final exam</td>
</tr>
</tbody>
</table>

IV. Using the table as a guide, for each outcome summarize your evaluation of the students’ achievement of that outcome; cite student performance on the identified measures as evidence to support your conclusions.

(A) Ability to apply knowledge of mathematics, science and engineering.

Student scores on the take-home final exam ranged from 85% to 98%.

V. Qualitative Assessment of Student Performance: using the arguments above and other data support the claim that students who completed this course with a grade of C or better have achieved each of the intended outcomes of this course.

All five students convinced me that they were able to apply engineering knowledge of power protection systems sufficiently well to achieve grades of B or better in this course.

VI. Concerns: state any concerns you may hold about this class – were the students adequately prepared coming into it? Are there topics or outcomes where (some) students were weak after completing the course? Other concerns? Were there any comments on students’ course evaluations that should be addressed in future instances of the course? This section is very important for improving our program: it provides critical input to the curriculum committee for identifying areas requiring attention.

Students are not as comfortable using computer tools as they could be.

Signature: Robert Henry  Date: 2007-05-11

Please email a copy of the completed form to Patricia Arnold, patricia@eeecs.wsu.edu and deliver a signed hardcopy to her mailbox.