Course Title: Intro to DC/AC Electronics
Submitted By: Scott Norcia
Semester Course Prefix and Number: PAS 1253
Number of Credits: 4
Course Purpose Code: 2 — Technical course related to career programs
Catalog Description:
This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic DC/AC theory is studied with a focus on electrical quantities, circuit components, schematic symbols, measurement, and the mathematical and practical analysis of series, parallel, and series/parallel circuits from a troubleshooting perspective. Lab safety and the safe and proper use of tools and test equipment is emphasized.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s): None
Reading Prerequisite: None
Composition Prerequisite: None
Mathematics Prerequisite: None

Career Programs and Transfer Majors Accessing this Course:
Process Automation Systems Diploma
Process Automation Systems AAS
Wind Energy Technology AAS

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:
(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer's approval are required.)
0. X None
1. Communications
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning
5. History and the Social and Behavioral Sciences
6. The Humanities and Fine Arts
7. Human Diversity
8. Global Perspectives
9. Ethical and Civic Responsibility
10. People and the Environment
Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Following the completion of this course the student will be able to demonstrate the ability to:

1.) Differentiate between DC and AC voltage sources.
2.) Construct basic DC and AC circuits.
3.) Analyze and troubleshoot basic DC and AC circuits.
4.) Properly use test equipment to measure voltage, current and resistance.
5.) Read a schematic.
6.) Identify basic electronic and electrical components and their schematic symbols.
7.) Observe proper safety procedures.
8.) Work cooperatively.
9.) Apply critical thinking skills.

Student Assessment Methods:

Lab assignments, worksheets, papers, and tests.

Use of Instructional Technology: (includes software, interactive video and other instructional
technologies):

Power Point Software, videos, software based lab simulators.

Outline or Statement of Major Course Content:

See “Learning Outcomes” above.

Additional Special Information: (special fees, directives on hazardous materials, etc.)

Laptop Computer Lease

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

None

Approvals:

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<th>Body</th>
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<tr>
<td>Curriculum Committee</td>
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Distribution: Original – Administrative Office
Copies: Curriculum Committee Chair, AASC Chair, Transfer Specialist, Originating Faculty Member, Scheduler, Records, Student Services, Learning Center, Library
Revised: October 2006