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Northeast Wisconsin Technical College

10-660-101 053713 Digital 1: Logic

Course Outcome Summary

Course Information

Description	10-660-101 DIGITAL 1: LOGIC ...AND , OR, NOT, NAND, NOR, logic operation using switch logic, ladder logic, and gate logic. Simplification methods using Boolean theorems and Karnaugh Maps, and timing diagram analysis.
Total Credits	1
Total Hours	36

Course History

Last Revision Date	12/14/2017
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Employability Skills

1. Communicate Effectively
2. Demonstrate Personal Accountability
3. Solve Problems Effectively
4. Think Critically and Creatively
5. Value Individual Differences and Abilities
6. Work Cooperatively and Professionally

Course Competencies

1. Convert between decimal and binary whole numbers.
2. Describe the operation of switch-based logic using truth tables and Boolean expressions.
3. Contrast the operation of an integrated circuit AND, OR, and NOT gates to that of switch logic.
4. Analyze gate circuits using truth tables and timing diagrams.
5. Analyze complex combination of AND, OR and NOT gates.
6. Perform the steps to implement gate circuits from Boolean expression without simplification.
7. Describe the operation of integrated circuit NAND and NOR gates.
8. Use relays to implement Boolean expressions.

9. Use Tautology theorems to simplify simple expressions.
10. Use Boolean theorems to simplify simple expressions.