COLLEGEWIDE COURSE OUTLINE OF RECORD

EECT 112, DIGITAL FUNDAMENTALS

COURSE TITLE: Digital Fundamentals
COURSE NUMBER: EECT 112
PREREQUISITES: Demonstrated competency through appropriate assessment or earning a grade of "C" or better in MATH 015 Fundamentals of Algebra I or MATH 023 Essentials of Algebra I
SCHOOL: Technology
PROGRAM: Electronics and Computer Technology
CREDIT HOURS: 3
CONTACT HOURS: Lecture: 2 Lab: 2
DATE OF LAST REVISION: Fall, 2012
EFFECTIVE DATE OF THIS REVISION: Fall, 2013

COURSE DESCRIPTION: Introduces basic gate and flip-flop logic devices and their application in combinational and sequential digital circuits. Topics include decoders, displays, encoders, multiplexers, demultiplexers, registers, and counters. Logic circuit analysis, implementation of circuits using standard IC chips or programmable logic devices, circuit testing and troubleshooting are emphasized.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Construct, test, and troubleshoot combinational and sequential logic circuits using standard logic chips.
2. Analyze the theoretical operation of given combinational and sequential logic circuits.
3. Design combinational logic circuits for specified applications using Boolean algebra and Karnaugh mapping techniques.
4. Convert between binary, hexadecimal, BCD, and decimal numbers.
5. Apply standard combinational functional logic blocks in various circuit applications.
6. Apply standard counter chips in specified sequential circuit applications.
7. Apply PLDs in various combinational logic circuit applications using logic compiler software on a personal computer.
8. Describe the historical and cultural impact of digital logic.

COURSE CONTENT: Topical areas of study include –

Number conversions	Multiplexers
Truth tables	Demultiplexers
Boolean expressions	Parity generators
Logic simplification	Parity checkers
Karnaugh mapping	Encoders
Counters	Decoders

Flip Flops
Oscilloscopes
Logic probes
Boolean theorems
Logic pulsers
Number systems
EIA and IEEE logic symbols
Data manuals
Programmable logic arrays

HOW TO ACCESS THE IVY TECH COMMUNITY COLLEGE LIBRARY:

The Ivy Tech Library is available to students' on- and off-campus, offering full text journals and books and other resources essential for course assignments. Go to http://www.ivytech.edu/library/ and choose the link for your campus.

ACADEMIC HONESTY STATEMENT:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

COPYRIGHT STATEMENT:

Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contain nothing unlawful, unethical, or libelous and do not constitute any violation of any right of privacy.

ADA STATEMENT:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.

SYLLABUS FOR EECT 112, DIGITAL FUNDAMENTALS

The instructor will provide students with a course syllabus on the first scheduled class meeting. The syllabus should communicate clear and concise information to help the student understand the scope of the course and expectation for successful completion. The following information will appear on the syllabus and be identical to information on the Course Outline of Record (COR):

Required Syllabus Information from (COR)

- Course title
- Course prefix and number
- Prerequisite(s)
- Corequisite(s)
- Program
- Division
- Credit hours
- Contact hours
- Catalog description
- Major course learning objectives
- Course content
- Academic honesty statement
- ADA statement

Additional Required Syllabus Information

The syllabus must also contain the following additional information. The instructor may determine the content of this information.

- Instructor
- Course section number
- Additional course learning objectives (if required)
- Required text, or other instructional materials
- Required consumable materials and equipment supplied by student
- Instructor phone number
- Instructor e-mail address
- Instructor office location and hours
- Method(s) of instructional delivery
- Method(s) of evaluation
- Grading scale
- Make-up policy
- Attendance policy
- Activities schedule, including calendar of topics, assignment, test, etc.

- Last date to drop course without grade
- The name and location of the Disability Service Coordinator
- Right of revision statement

Optional Syllabus Information

Faculty are encouraged to provide additional information that will help the student understand in more detail how the class will be conducted.

- Extra credit work, if applicable
- Class/lab relationship
- References or reading that are optional but recommended
- Format for papers, projects, or other assignments
- Computer room/lab rules if applicable
- Withdrawal process and responsibility
- Other