



COURSE SYLLABUS

COURSE TITLE: EECT 112 Digital Fundamentals
NUMBER/SECTION: 51C
CRN: 18760

CONTACT INFORMATION

Instructor:

First Name: Andrew
Last Name: Bell
Phone Number: 260.481.2288
Email (Ivy Tech Email): abell118@ivytech.edu
Blackboard IM ID: abell118
Office/Campus Location: Tech Center, TC1111
Office Hours: Monday and Thursday 1:30PM – 5:00PM
Wednesday 8:30 AM – 11:30 AM

Instructor's Supervisor:

First Name: John
Last Name: Walter
Phone Number: 260.481.4287
Email (Ivy Tech Email): jwalter@ivytech.edu
Blackboard IM ID: jwalter
Office/Campus Location: Tech Center, TC1133
Office Hours: By appointment only

COURSE OUTLINE OF RECORD

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 or MATH 050 Basic Algebra.

SCHOOL: Technology

PROGRAM: Electronics and Computer Technology

CREDIT HOURS: 3

CONTACT HOURS: Lecture: 2.5 Lab: 3

DATE OF LAST REVISION: Summer, 2011

EFFECTIVE DATE OF THIS REVISION: Fall, 2011

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

REQUIRED TEXT & MATERIALS

Title: Digital Systems
Author: Tocci
Edition: 11th
Publisher: Pearson Education
ISBN: 9780135103821

Title: Digital Systems (LAB:Troubleshooting Appr)
Author: Tocci
Edition: 11th
Publisher: Pearson Education
ISBN: 9780135123959

How to Order Textbook/Materials

All books and materials, unless otherwise noted, should be purchased from the Ivy Tech online bookstore. To order the texts required for this class or any other course, go to <http://www.ivytech.bkstr.com>. Students can order all books and materials for all courses from this site – regardless of whether it is an online or on-campus course.

In the future, it is advised that students order textbooks and materials *before* the start of the semester. Students should use a copy of their course schedule to accurately order books and materials. Schedules can print a copy of their course schedule from Campus Connect at <http://cc.ivytech.edu>.

Students who live in Indiana and surrounding states will normally receive their book order within one day from the time the book is shipped from the warehouse. Paying for overnight shipping on textbook orders from the bookstore is normally not a good use of money as it does not ensure overnight processing of the order – it only ensures that once the book order has been processed, it will be shipped out overnight.

COLLEGE POLICIES

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 students need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

Ivy Tech Growing Greener

Ivy Tech Community College–Northeast is committed to the development and implementation of a comprehensive sustainability plan. We're emphasizing our responsibility to go green. To that end, we are asking students, faculty, and staff to actively participate in energy conservation measures and proper recycling on campus. The recycling bins located in classrooms and offices are for paper and paper products only. Ivy Tech participates in single-stream recycling for other items. All aluminum, glass, and plastic beverage containers can co-mingle in the same recycling bins located in the hallways. Please remember to empty the liquid from your containers before depositing them in the bins. Any materials that cannot be recycled should be placed in garbage cans. It is also important to turn off lights and computers when leaving a room. Together, we can make an impact on conserving our limited resources. Remember to reduce, reuse, and recycle!

ATMAE – Requirements

Students wishing to graduate from a School of Applied Science and Engineering or the School of Technology, from Ivy Tech Community College Northeast must complete at least 12 semester hours of Management and/or Technical training. This requirement is concurrent with the college requirement that each student must complete 15 semester hours at this institution. Students transferring to Ivy Tech Community College Northeast and entering into the School of Applied Science and Engineering or the School of Technology must also meet the 12 semester hours of Management and/or Technical training. Credits considered for transfer may be from another Ivy Tech ATMAE accredited campus or obtained from an ATMAE accredited institution.

Breathe Easy

Ivy Tech–Northeast is committed to providing a healthy, comfortable and productive environment for the students, faculty and staff of this campus. The use or sale of any tobacco product is prohibited on college-owned, operated, or leased property or vehicles at any time. The policy applied to all Ivy Tech–Northeast facilities and grounds, regardless of location. Smoking, including the use of an e-cigarette, shall not be permitted in any enclosed space and is also prohibited outdoors on all college campus property, including parking lots. This policy applies to all students, faculty, staff and visitors. **Tickets and fines will be issued to violators.**

COURSE POLICIES & PROCEDURES

Due Dates & Deadlines

The Syllabus and Course Calendar are 2 important tools to help students understand the course, student and instructor expectations, and deadlines. Both documents can be found under the “Start Here” button in the course within Blackboard.

Students are required to submit work on time for a chance to receive credit. Deadlines for each week/assignment are summarized on the course calendar. Students should check the calendar frequently for deadlines and to be aware of what to expect next. Deadlines are subject to change.

Students are responsible for timely assignment submission. Should a computer system or network go down, students must still turn in work in a timely manner. Don't wait until the last

minute. Plan ahead by seeking alternative means for submitting work before needed. Local libraries and all Ivy Tech Community College campuses can serve as alternative resources. Contact the closest/most convenient campus or other public lab for schedules and Internet availability. Not having access to the required software on a home or work computer is **not** a legitimate excuse for turning in homework late.

Attendance Policy – Don’t Get Dropped from Class!

While it is important to be timely and on-schedule throughout any course, students need to be aware of an important college policy. Ivy Tech performs administrative drops for students who do not “attend” class early in the semester. Attendance in an online course is determined by whether a student has submitted work or not. Assignments may actually be due on another day (see course calendar), but students need to turn in something worth points before the NSW deadline in order to avoid being dropped for non-attendance.

To avoid being dropped for non-attendance, students must submit *some* assignment from the course calendar no later than 11:59 p.m. **Monday, May 28th.**

Instructional Method

This is an online distance-learning course. Each week’s assignments and readings are summarized on the Course Calendar, accessed from the “Start Here” button in Blackboard. It takes a great deal of discipline, self-motivation and effective time management skills to successfully complete an online course. Many students find it helpful to set aside specific times each week to work on course assignments.

Grades

All grades will be maintained in Blackboard’s online grade book. Students are responsible to track their progress by referring to the online grade book.

Make-Up Policy

If a student has a SERIOUS problem that can be verified and that keeps the student from submitting a paper or test on time, please contact the professor immediately. The professor will determine if the seriousness of the problem warrants an exception to the late assignment rule. Late assignments will be assigned a grade of “0” unless a student has received prior approval from the Professor. There are No make-ups for discussion boards.

If students have known special events (vacation, wedding, birth of a child, surgery, etc.), students can work ahead on assignments with prior approval of the professor. In all cases, communication with the professor in advance is desired, whenever possible.

Last Day to Withdraw

If a student wishes to withdraw from this course, students are responsible for completing an official withdrawal form with the registrar. The last day to withdraw from this course is 11:59 p.m. **Sunday, July 15.**

Attendance Policy

Registered students are expected to arrive on time. Come to class prepared for scheduled activities. At the start of class each week we will review the Blackboard quiz over assigned reading. If you are tardy or absent and miss the quiz review your quiz grade for that week will be penalized 50%. **Please note that after missing (3) classes you will receive a grade of “F” for the class.** *NOTE: Failure to attend is not an official class withdrawal. Students wanting to withdraw must complete and sign an official Drop/Add form and return it to the registrar **by Sunday July 15th**, otherwise a Grade of “F” for the class will be entered on the student’s grade record.*

Lab

The lab is owned by the college. You are guests in this lab. As such I expect that you will conduct yourself accordingly. Drinks with a sealed cap are allowed (i.e. water or soda bottles). Drinks with an open top are not allowed (i.e. coffee cups or soda cans). Non-messy food items are allowed. If you have a spill or make a mess you are expected to clean it up. You must **log-on** using your campus connect username and password. Please notify the instructor of any problems.

Required Equipment & Protecting Data

You are responsible for maintaining your data. I strongly recommend that you backup your flash drive to your computer's hard drive. Graphing or Scientific Calculator, USB Flash Drive (min 4 GB) to save your work. 8 GB cost \$10 - \$15. Recommended brands; SanDisk, PNY, Kingston, or Memorex (not Lexar).

Right of Revision

The college reserves the right to change any statements, policies or scheduling as necessary. Students will be informed promptly of any and all changes.

COURSE COMMUNICATION

Instructor Commitment

Ivy Tech Community College instructors are committed to responding to students within two business days. If a student sends communication, but does not receive a response, they should double-check that the correct communication method was used and that the correct location is being checked for a reply. Students can contact their local Distance Education Support with questions.

NOTE: Messages are very different from Email. Students should carefully review the information below to ensure they are sending and receiving course communication properly.

Messages: all students must use the messages function of the course for course-related communications. Using messages, students can send and receive information from within the course. Messages can *only* be sent and received from within the course in Blackboard. Please check messages frequently.

To access messages (send and receive):

1. Log into Blackboard & enter the course.
2. Click on 'Communication & Tools', then Messages.
3. There are two folders: Inbox and Sent. The Inbox folder will contain all received messages (so look there for messages from the instructor or other students). The Sent folder will contain sent.
4. At the top left corner, above the folders, is the button to start a Create Message.
5. After clicking on Create Message, clicking on the "To" button students can select the name of the person to write. Use the right-facing arrow to move the person into the "recipient" box.
6. Then, type a message and click on the Submit button when ready to send it.

Email: all students must use the email function of the course for course-related communications. Students can send email from within the course in Blackboard, but will not receive responses inside the course. All emails are received in the Campus Connect email system. Students can also use the Campus Connect email system to send email.

To access email from within the course:

1. Log into Blackboard & enter the course.
2. Click on 'Communication & Tools', then send email.
3. Please DO NOT use the MESSAGES feature inside Communication & Tools.
4. Select "All Instructor Users" to email the instructor.
5. To send an email to another member of the class, choose Select Users and choose the name(s) from the list. Use the right-facing arrow to move the person into the "recipient" box.

To access Campus Connect, go to: <http://cc.ivytech.edu>.

Online Communication Etiquette: Students are expected to uphold their responsibilities in terms of appropriate and professional communication with faculty and peers. Please review the 'Students Rights and Responsibilities' section of the student handbook and review common netiquette (Internet etiquette) practices, like those found at: <http://www.albion.com/netiquette/>.

ASSIGNMENTS & GRADING

How is my grade calculated?

Grades in this course are determined by the following criteria:

Discussions	5%
Lab Notebook	25%
Homework	10%
Midterm Exam	20%
Project	15%
Final Exam	25%

Grading Scale

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

ADDITIONAL SUPPORT

Optional Campus Support

Students are welcome to use the services and equipment available at the most convenient Ivy Tech Campus. Services include academic advising, equipment, libraries, and tutoring. Please locate the most convenient Ivy Tech campus by reviewing the information at <http://ivytech.edu/campuses/>.

Library

The Ivy Tech Library is available to students on- and off-campus, offering full text journals, books, and other resources essential for course assignments. The Library can be accessed from the “Library” tab in Blackboard or from the “Library” tab in Campus Connect.

Click for Help

Log into Blackboard at <http://online.ivytech.edu> and visit the “Click for Help” tab for information about computer downloads. This tab provides students with important computer information, including security software, viewer software for users without Microsoft products, adobe reader, flash player, java, and more.

Disabilities Services

Students with questions or needs for disabilities support services should contact their local Disabilities Support Services director/coordinator. In the future, it is recommended that students contact Disabilities Support Services at least 30 days before the start of the semester. *The contact information listed here is for the disabilities support director/coordinator at the instructor’s local campus.* For information about disabilities support services at another campus, please visit: <http://ivytech.edu/dss/> or Campus Connect (<http://cc.ivytech.edu>).

Disabilities Support Contact:

First Name:	Todd
Last Name:	Nichols
Phone Number:	260.481.2210
Email (Ivy Tech Email):	wnichols3@ivytech.edu
Blackboard IM ID:	wnichols3
Office/Campus Location:	Harshman Hall Room 1710
Office Hours:	Mon - Fri 8:00 AM - 5:00 PM

SCHEDULE OF ACTIVITES

*Schedule of activities is subject to change