



DIGITAL LOGIC DESIGN I

CS1026

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WELCOME!

Trinity College was founded in 1592, Ireland's oldest University

Catholics and Dissenters allowed entry in 1793 (professorships, fellowships and scholarships were reserved for Protestants until 1873)

From 1871 to 1970, Catholics were required to get permission from their bishop before taking up a place

Women first admitted in 1904

Top ranked university in Ireland

In 2018, there are approx.

- 17000 students College-wide
- 1000 in the School of Computer Science and Statistics
- 135 in CS1026

SUPPORT SERVICES

Library

- Largest in the country
- A “copyright library” for Ireland and the UK
- Excellent online resources
- Library HITS

Student Learning Development

- Academic skills

Student Life

- Visit the Book of Kells
- Join one of the 170 college societies and sports clubs
- Support your Student Representative
- Attend talks/lectures

YOUR RESPONSIBILITIES

Attend lectures

Come prepared for class

Engage

- Ask questions
- Participate in labs
- Share information

Submit assignments on time

Meet the assignment criteria

Study outside of lectures



HOUSE RULES

No bad language

No electronic devices

No disruptive behaviour

COURSE STRUCTURE

Two 1 hour lectures every week

- Monday, 1pm in LB04
- Thursday, 11pm in LB04

Lectures cover the course material

Slides will be made available on Blackboard in advance of the lecture

One 2 hour lab session every 3 weeks

- Thursday, 2-6pm in LG35/LG36
- Class will be divided into 6 groups and scheduled accordingly, details will be posted on Blackboard

Gain experience of physical reality underlying the theory of digital logic

ASSESSMENT

80% End of Year Examination

- Previous exam papers available online

20% Coursework

- Reports of Lab Sessions
- Marked continuously throughout the semester
- Submitted at end of semester for final marking

40% overall mark required to Pass

- Includes satisfactory coursework and attendance

In the Supplemental Examinations, assessment is by written examination only, which contributes 100% of the overall mark

TEXT BOOKS

Digital Design, 5th Edition

- M. Morris Mano, Michael D. Ciletti
- Prentice Hall

Digital Fundamentals

- Thomas L. Floyd
- Prentice Hall

FREE ICS STUDENT MEMBERSHIP

The Irish Computer Society are a not-for-profit organisation, promoting the development of professional IT knowledge and skills, and they act as an independent representative voice for the IT industry. They were founded in 1967, and have approximately 5000 members. So you'll be joining a vast group of individuals from many different sectors, looking to develop their careers and prove their competence with professional membership of ICS.

Why join?

Besides the fact that membership for students and recent graduates is free, ICS membership is a great way to get a head start. It gives you an opportunity to set yourself apart from your peers by demonstrating your commitment to the IT community and your own career. You'll get an opportunity to attend top-class events throughout the year, hear inspiring talks from industry leaders and develop your skills and experience, ready for your future career before you graduate.

You'll also have a chance to find out which direction you'd like to take your career, as we have courses and networking events for a variety of areas, from data protection to IT service management, and from business analysis to healthcare informatics.

How to join

Joining takes just 3 minutes, so don't hesitate and register online today. Third-level students on a course relating to the field of IT and computing are eligible to join, and we'll even throw in a free year of Associate membership as a helping hand into a first job after graduation.

https://www.ics.ie/signup/plan_id/2

FREE WITS STUDENT MEMBERSHIP

Sent on behalf of WITS (Women in Technology and Science) Ireland

Dear students,

I would like to alert you to a relevant free membership for students. WITS is offering free student membership for 2018-2019.

Do I need to be a female to join? No

How do I sign up? Full-time student affiliate membership: €0 for 2018-2019

Email: info@witsireland.com with your name, course, college and year

What is WITS?

Women in Technology and Science (WITS) is an active forum for women in science, technology, engineering and mathematics (STEM)

Now in its 28th year, WITS has a proven track record in delivering initiatives that improve the recruitment and retention of women in STEM roles. WITS is also a strong advocate for celebrating the past and current successes of women in STEM. Members come from a broad range of backgrounds within STEM. WITS members range in age and experience from third level students to some of the country's most eminent senior academics and business people. Individual membership is open to women and men throughout Ireland who are involved in any aspect of science, engineering or technology. WITS is proud to have Michael D. Higgins, President of Ireland as Patron.

Do take this great opportunity and join!

LEARNING OUTCOMES

State and apply the laws and standard methods of Boolean algebra to the manipulation of logic functions

Analyse and design combinatorial logic functions

Implement digital logic designs in hardware

Conduct and describe experiments to verify the correct behaviour of a digital logic circuit and, where necessary, locate and correct faults

WHAT IS DIGITAL LOGIC DESIGN?

Digital: (of signals or data) expressed as series of the digits 0 and 1, typically represented by values of a physical quantity such as voltage or magnetic polarization

Logic: a system or set of principles underlying the arrangements of elements in a computer or electronic device so as to perform a specified task

Design: a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made

Ref: Oxford Dictionaries