

COMP2003J

Introduction to Network Security

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Beijing-Dublin International College (BDIC)

April 29, 2021

Course Title

COMP2003J Introduction to Network Security

1 Details

Date: 29-April-2021

Time: 16:15 hours

Duration: 5 minutes (approximately)

Venue: Online via zoom.

2 Learning Objectives

Computing devices are ubiquitous; and they have possible use cases in all fields of technology such as computer vision, military operation, remote sensing *etc.* Network Security is the area of endeavor concerned with safeguarding such computing devices and networks. The world of connected devices may be exciting, but there are serious technical challenges that need to be addressed, especially by developers. In this module, the students will learn how to meet the security, analytics, and testing requirements for such connected devices in order to have a secured network.

At the successful completion of this course, the audience will be able to have a fundamental understanding of the following four major themes in security:

- Cryptography;
- Access Control;
- Protocols; and
- Software.

In this course, the learner starts with the fundamental concepts of network security. Sufficient background knowledge and theoretical understanding are introduced at the beginning. And building on the lecture, the student will have an understanding on the broad spectrum of various security algorithms and protocols in today's devices.

3 Prerequisites

No essential prerequisites are required for this course. A general understanding of mathematics and logic is sufficient – the course will be delivered from the fundamentals of network security.

It will be good, if the students have access to a smart-phone/tablet/laptop with internet connection during the presentation. However, it is *not* mandatory - teachings in the class will be conducted in an interactive fashion with the instructor.

4 Course Notes

The course website is <https://soumyabrata.dev/bdic.html>, and slides are available via <https://soumyabrata.dev/files/bdic-course-slides.pdf>.

Instructor

Soumyabrata Dev is an Assistant Professor at the School of Computer Science, University College Dublin. Prior to that, he was a postdoctoral researcher at ADAPT SFI Research Centre, Dublin, Ireland. He obtained his PhD from Nanyang Technological University (NTU) Singapore, in 2017. From Aug-Dec 2015, he was a visiting student at Audiovisual Communication Laboratory (LCAV), École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. He graduated *summa cum laude* from National Institute of Technology Silchar, India with a B.Tech. in 2010. His research interests include remote sensing, statistical image processing, machine learning, and deep learning.