

(An Autonomous Institution,
Affiliated to Madurai Kamaraj University &
Re-Accredited with B Grade by NAAC)
T.V.R. NAGAR, ARUPPUKOTTAI ROAD, MADURAI-22



Program Outcomes, Program Specific Outcomes & Course Outcomes

B.Sc Computer Science

(Security System Specialization)

(To be followed for the batch 2018 – 2021

from Semester I to VI from the academic Year 2018 -19)

Department of Computer Science

SUBBALAKSHMI LAKSHMIPATHY COLLEGE OF SCIENCE

An Autonomous Institution

T.V.R. NAGAR, MADURAI – 22

B.Sc Computer Science (Security System Specialization)

Programme Code : CS1002

Choice Based Credit System

ANNEXURE – I

REGULATIONS OF THE COURSE

**SYLLABUS TO BE FOLLOWED FOR STUDENTS THOSE WHO JOINED IN
THE ACADEMIC YEAR 2018-2019 (BATCH : 2018 - 2021)**

Programme Outcomes (PO)

The Programme Outcomes of the B.Sc Computer Science (Security System Specialization) degree are

- i. To attract young minds to the potentially rich & employable field of computer Science & Security Systems.
- ii. To Train & Equip the students by providing highest quality education and professional experience to meet the requirement of the Industrial standards and excel in their career.
- iii. To develop skills in the fields of Software Development & Cyber Security, which enable the students to take up employment in Indian & global market.
- iv. To provide a strong foundation to pursue Post Graduation Programme in Computer Science/Applications.

Programme Specific Outcomes (PSO)

The Programme Specific Outcomes of the B.Sc Computer Science (Security System Specialization) degree are to make the graduates to become

- i. Software Developer.
- ii. Web Programmer.
- iii. Mobile Application Developer
- iv. Cyber Security Professional.

Course Outcomes (CO)

I SEMESTER

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Hindi - I
Internal Marks	: 25	External Marks	: 75
Part	: I [Language]	Credits	: 3

Course Outcomes:

- To encourage the students to study the National language.
- To inculcate writing habit and to develop effective writing skills.
- To make the students to learn and to be familiar with basic grammar topics, as error free communication has become mandatory.
- To prepare them to be comfortable with verbal ability.

II B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: English - I
Internal Marks	: 25	External Marks	: 75
Part	: II [Language]	Credits	: 3

Course Outcomes:

- To encourage the students to involve actively in participative learning of English and to enable them acquire communication skills.
- To inculcate writing habit and to develop effective writing skills.
- To make them write official letters to officers and editors effectively.
- To make the students to learn and to be familiar with basic grammar topics, as error free communication has become mandatory.
- To prepare them to be comfortable with verbal ability.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Programming in C
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Understand the basic programming structure.
- Have the ability in writing C Programming
- Learn permanent data storage using files.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Computer Organization
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Learn the basic functions, principles and concepts of Computer.
- Understand data representation
- Understand the concepts of ALU Unit, Memory Unit and I/O unit.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Mathematical Foundation
Internal Marks	: 25	External Marks	: 75
Part	: III [Allied]	Credits	: 4

Course Outcomes:

- It is one of the core components of mathematics at the UG level students
- Discrete mathematics is the mathematical language of Information Technology.
- The concept and motivation from discrete mathematics are useful in studying in the branches of Computer Science, Such as Computer algorithm, Programming languages like C, C++, VB and Cryptography.

- Graph theory plays a major role and acting as a background in the field of Computer Science.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Secure Programming using C – Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Learn the basic concepts in C Programming language.
- Inculcate logical thinking by writing programs.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Office Automation & HTML Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 3

Course Outcomes:

By the end of this semester, the student will be able to

- Learn some basic features of MS Word, Power point, Excel and Access.
- Understand the fundamentals of Web design and how to program using HTML and CSS.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Value Education
Internal	: 25(Practicals)	External	: 75(Theory)
Part	: IV	Credits	: 2

Course Outcomes:

This subject will enable the students to

- Know the social values, ethics which have to be reflected in one's behavior
- Get the opportunities for the continuous development of their knowledge, skills and attitudes related to certain values.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: Physical Education
Part	: V [Extension Activity]	Credit	: 1
		External	: 100 Marks

Course Outcomes:

- The Physical Education program will allow the students to participate in developmentally appropriate activities.
- The Physical Education program will develop and reinforce cooperative behavior.
- The Physical Education program will teach the students to establish lifelong fitness goals.

I B.Sc Computer Science (Security System Specialization)

Semester	: I	Batch	: 2018-2021
Subject code	:	Subject	: NSS /RRC
Part	: V (Extension Activity)	External	: 100
		Credits	: 1

Course Outcomes:

1. Understand the community in which they work and their relation
2. Identify the needs and problems of the community and involve them in problem-solving
3. Develop capacity to meet emergencies and natural disasters
4. Practice national integration and social harmony and
5. Utilize their knowledge in finding practical solutions to individual and community problems.

II SEMESTER

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Object Oriented Programming with C++
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Develop the knowledge on Object-oriented concept and programming with C++.
- Understand the buzz words inheritance, polymorphism, virtual base class etc.

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Operating System
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Understand the basic concepts and functions of operating system.
- Gain Knowledge about the scheduling process to handle multiple processes.
- Know about prevention and detection of deadlocks.

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Operations Research
Internal Marks	: 25	External Marks	: 75
Part	: III [Allied]	Credits	: 4

Course Outcomes:

Operations Research is the study of scientific approaches to decision making. Through mathematical modeling, it seeks to design, improve and operate complex systems in the best possible way.

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Object Oriented Programming with C++ Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE PRACTICAL]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Gain knowledge of the basics in C++ programming language.
- Understand the series of operations that a computer can perform to accomplish a task using C++.
- Implement stack and queue operations using C++.

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Linux Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 3

Course Outcomes:

This subject will enable the students to

- To understand the Linux fundamentals and commands
- To write shell scripts

I B.Sc Computer Science (Security System Specialization)

Semester	: II	Batch	: 2018-2021
Subject code	:	Subject	: Environmental Studies
Internal	: 25(Practicals)	External	: 75(Theory)
Part	: IV	Credits	: 2

Course Outcomes:

This subject will enable the students to

- Understand the terms of ecological, economic, social, aesthetic and educational factors.
- Have opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.

III SEMESTER

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Java Programming
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Get the knowledge on Java Programming concepts.
- Understand the concept of Interface, Packages and AWT.
- Know the concept of Multithreading, Exception handling and applets.

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	:Computer Networks & Cryptography
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Develop the knowledge about fundamentals of networks.
- Understand the layers of OSI and TCP/IP reference model.
- Study physical, data link, Network layer concepts in OSI reference model.
- Develop the knowledge about Network security & cryptography.

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Data Structures
Internal Marks	: 25	External Marks	: 75
Part	: III [Elective I]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Learn about the various data structures, algorithms and their applications.
- Understand the memory representation of data in the computer.
- Gain knowledge about algorithm complexity.

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Client Server Computing
Internal Marks	: 25	External Marks	: 75
Part	: III [Elective II]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- Have the knowledge on Client / Server Concepts and various components of client / server Applications.
- Know the benefits and requirements of Client server technology

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Secure Programming using Java - Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 3

Course Outcomes:

This subject will enable the students to

- Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
- Know fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: DHTML Lab
External Marks	: 100		
Part	: IV [Skill Based Practical]	Credits	: 2

Course Outcomes:

This subject will enable the students to

- Understand the fundamentals of Web design
- Get the knowledge in CSS and Javascript.

II B.Sc Computer Science (Security System Specialization)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Campus Recruitment Training - I
Internal Marks	: 25	External Marks	: 75
Part	: IV [Skill Based]	Credits	: 2

Course Outcomes:

- To encourage the students to involve actively in participative learning of English and to enable them acquire communication skills.
- To enable the students prepare themselves as professionals.
- To help them gain confidence in facing the Competitive World.

II B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: III	Batch	: 2018-2021
Subject code	:	Subject	: Office Automation Lab-I
Internal Marks	: 25	External Marks	: 75
Part	: IV [NME – I]	Credits	: 2

Course Outcomes:

This subject will enable the students to

- Get the knowledge in document & worksheet preparation using MS Word & Excel.
- Familiar with some basic features of MS Word and Excel

IV SEMESTER

II B.Sc Computer Science (Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Relational Database Management System
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- understand the concept of Database languages and Database Design
- know the concept of ER Models and Normalization
- have the knowledge about Storage and File structure, Transaction management, Recovery system

II B.Sc Computer Science (Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Penetration Testing Fundamentals
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

After completing this course, the student will be able to

- Understand the fundamentals of Ethical Hacking
- Gather knowledge about attacks such as snoofing, sniffing, System Hijacking etc
- Learn the tools used for preventing Hacking

II B.Sc Computer Science (Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Software Engineering
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to

- To develop and write a Software Requirements Specification.
- To document the design and implementation of the software system.
- To conduct a software inspection and review.
- To perform software testing.

II B.Sc Computer Science (Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Database Security Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 3

Course Outcomes:

This subject will enable the students to

- Know the fundamental operations such as Creating, searching, and managing SQL tables and entries.
- Perform SQL queries and joins, and manage the results.
- Understand of advanced SQL syntax for date, time, math, and string functions.
- Implement security features in the database.

II B.Sc Computer Science (Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Penetration Testing Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 3

Course Outcomes:

At the end of the semester, the student will be able to

- Use the tools used for preventing Hacking.
- Know about Penetration testing fundamentals
- Learn about physical security

II B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: .Net Programming with C# Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Elective Practical - I]	Credits	: 3

Course Outcomes:

This subject will enable the students to

- Solve the problems using of C# Programming
- Solve the problems using of ASP.Net Programming

II B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Mobile Apps Development Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Elective Practical - II]	Credits	: 3

Course Outcomes:

This subject will facilitate the students to:

- Develop mobile applications using Android
- Gain the knowledge in android application

II B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Campus Recruitment Training - II
Internal Marks	: 25	External Marks	: 75
Part	: IV [Skill Based]	Credits	: 2

Course Outcomes:

- To encourage the students to involve actively in participative learning of English and to enable them acquire communication skills.
- To enable the students prepare themselves as professionals.
- To help them gain confidence in facing the Competitive World.
- To inculcate Social Etiquette.

II B.Sc Computer Science(Security System Specialization)

Semester	: IV	Batch	: 2018-2021
Subject code	:	Subject	: Office Automation Lab-II
Internal Marks	: 25	External Marks	: 75
Part	: IV [NME – II]	Credits	: 2

Course Outcomes:

This subject will enable the students to

- Understand the fundamentals of presentation software
- Get basic knowledge about the data storage using MS Access.

V SEMESTER

III B.Sc Computer Science(Security System Specialization)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: PHP Programming
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will enable the students to:

- Inculcate the knowledge in web programming using PHP.
- Get the basic knowledge in PHP programming.
- Realize the role of PHP programming in web development.

III B.Sc Computer Science(Security System Specialization)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Cloud Computing & Security
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

This subject will help the students to:

- Understand the basics of cloud computing concepts.
- Comprehend the usage of cloud computing in business.
- Know the service providers of cloud storage.
- Obtain the knowledge in services of cloud.
- Know the future of cloud.

III B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Cyber Forensics
Internal Marks	: 25	External Marks	: 75
Part	: III [CORE]	Credits	: 4

Course Outcomes:

At the end of the semester, the student will be able to

- ✓ Understand the basics of Computer Forensics
- ✓ Know about acquisition and tools used for data acquisition
- ✓ Learn about hiding data with images
- ✓ Learn about report writing

III B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Cyber Forensics Lab
Internal Marks	: 25	External Marks	: 75
Part	: III[Elective Practical - I]	Credits	: 3

Course Outcomes:

At the end of the semester, the student will be able to

- ✓ Learn about practical implementation of Cyber Forensics.
- ✓ Know about application password cracking
- ✓ Investigate wireless attacks

III B.Sc COMPUTER SCIENCE(SEcurity SYSTEM SPECIALIZATION)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Python Programming Lab
Internal Marks	: 25	External Marks	: 75
Part	: III[Elective Practical -II]	Credits	: 3

Course Outcomes:

This subject will enable the students to

- Learn the fundamentals of Python programming
- Get knowledge in web page creation using Python programming
- Write scripts in python.

III B.Sc Computer Science(Security System Specialization)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: PHP Programming Lab
Internal Marks	: 25	External Marks	: 75
Part	: III [Core Practical]	Credits	: 3

Course Outcomes:

On successful completion of the course the students should have:

- Understood the operators, control structures of php
- Understood the session, cookies concepts of PHP
- Gained knowledge of SQL commands, ODBC connection with php

III B.Sc Computer Science(Security System Specialization)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Mini Project
External Marks	: 100		
Part	: III [Project]	Credits	: 3

Course Outcomes:

This course will enable the students to learn about the software development using the SDLC Phases.

III B.Sc Computer Science(Security System Specialization)

Semester	: V	Batch	: 2018-2021
Subject code	:	Subject	: Campus Recruitment Training - III
Internal Marks	: 25	External Marks	: 75
Part	: IV [Skill Based]	Credits	: 2

Course Outcomes:

- To encourage the students to involve actively in participative learning of English and to enable them acquire communication skills.
- To enable the students prepare themselves as professionals.
- To help them gain confidence in facing the Competitive World.
- To inculcate Social Etiquette.
- To be comfortable participating in GD's and facing Interviews

VI SEMESTER

III B.Sc Computer Science(Security System Specialization)

Semester	: VI	Batch	: 2018-2021
Subject code	:	Subject	: Internship Training / Project
Internal Marks	: 25	External Marks	: 75
Part	: III [Core]	Credits	: 10

Course Outcomes:

This subject will help the students to learn the working principals of software industry during their course itself.