

KONGU ENGINEERING COLLEGE, PERUNDURAI, ERODE-638060  
(AUTONOMOUS)

BOARD OF B.Sc CT-UG

Note: Submitted to Principal for One/Two credit courses offered in the academic year 2020-2021 Odd/Even Semester

| S.No. | Regulations | Course Name                                               | Course Code<br>(for Repeated Course)/<br>New Course | Name of the Co-ordinators<br>(Max.2) | Experts details from Industry<br>(yes/no)                          | Whether Expert(s) is/are Alumni<br>(yes/no) | Lecture Hours | Practical Hours | Total Hours | Specify Fee per batch or fee per student | Course Duration |         | Offered to<br>(Year/Sem/<br>Branch of the student) |
|-------|-------------|-----------------------------------------------------------|-----------------------------------------------------|--------------------------------------|--------------------------------------------------------------------|---------------------------------------------|---------------|-----------------|-------------|------------------------------------------|-----------------|---------|----------------------------------------------------|
|       |             |                                                           |                                                     |                                      |                                                                    |                                             |               |                 |             |                                          | From            | To      |                                                    |
| 1.    | 2018        | Introduction to GitHub                                    | New Course                                          | Dr.C.N.Vanitha<br>K.Sathya           | NO                                                                 | NO                                          | 10            | 20              | 30          | NA                                       | 14.21           | 7.5.21  | IIIV<br>CSD,IS,SS                                  |
| 2.    | 2018        | Programming with Golang                                   | New Course                                          | M.N.Kavitha<br>S.S.Saranya           | NO                                                                 | NO                                          | 15            | 15              | 30          | NA                                       | 8.3.21          | 16.5.21 | IIIV<br>CSD,IS,SS                                  |
| 3.    | 2018        | Introduction to augmented reality using UNITY game engine | New Course                                          | Dr.S.Parvathavarthini<br>D.Hemalatha | Mr.Kavinkumar<br>AliveNow<br>Creative tech.<br>Agency<br>Bengaluru | YES                                         | 12            | 18              | 30          | NA                                       | 16.3.21         | 6.4.21  | IIIV<br>CSD,IS,SS                                  |

The proposal may kindly be approved. These courses shall be approved/ratified in the BOS meeting.

*[Signature]*  
8/3/2021  
Faculty In-charge  
[Dr. S. KARUNAKARAN]

*[Signature]*  
8/3/2021  
HOD

*[Signature]*  
8/3/2021  
CCO/Academic

*[Signature]*  
Principal

Encl: Minutes of Internal BOS for approval of the above courses.  
Details of each course mentioned above as per the given format.  
Copy of the Syllabus.

**KONGU ENGINEERING COLLEGE**  
**PERUNDURAI - PINCODE 638060**  
**(AUTONOMOUS)**

**DEPARTMENT OF COMPUTER TECHNOLOGY -UG**

[Date: 19/03/2021]

**NOTE SUBMITTED TO PRINCIPAL FOR APPROVAL**

Sub-Request for permission to conduct life long credit course - 152

|     |                                                   |   |                                         |                                                                                 |                      |           |
|-----|---------------------------------------------------|---|-----------------------------------------|---------------------------------------------------------------------------------|----------------------|-----------|
| 1.  | Academic Year                                     | : | 2020-2021                               |                                                                                 | Semester             | I/VI SEM  |
| 2.  | Course Title                                      | : | Programming with Golang                 |                                                                                 | Credits              | One       |
| 3.  | Type of Course                                    | : | New Course                              |                                                                                 |                      |           |
|     | • If "Already offered course"                     | : | Course Code                             |                                                                                 | Version              |           |
| 4.  | Course Coordinator(s)                             | : | 1. Ms. M.N.Kavitha<br>2. Ms S.S.Saranya |                                                                                 |                      |           |
| 5.  | Course offered by                                 | : | Internal faculty                        |                                                                                 |                      |           |
| 6.  | Name and designation of external resource persons | : |                                         |                                                                                 |                      |           |
| 7.  | Details about external organization               | : |                                         |                                                                                 |                      |           |
| 8.  | Course fee for external experts                   |   | Max. number of students/Batch           |                                                                                 | Course fee / student |           |
|     | Nil                                               |   | 30                                      |                                                                                 |                      |           |
| 9.  | No. of days                                       |   | Period                                  |                                                                                 | No. of hours         | Version   |
|     |                                                   |   | From                                    | To                                                                              | Lecture              | Practical |
|     | 20                                                |   | 08.03.2021                              | 16.05.2021                                                                      | 15                   | 15        |
|     |                                                   |   |                                         |                                                                                 | Total                | 30        |
| 10. | Pre-requisites for offering the course            | : | Python Programming                      |                                                                                 |                      |           |
| 11. | Course offered to                                 | : | Programme                               | Branch                                                                          | Year / semester      |           |
|     |                                                   |   | B.Sc                                    | 1. Computer Systems and Design<br>2. Information Systems<br>3. Software Systems | II YEAR - IV SEM     |           |
| 12. | Course Main Contents                              | : | Day 1                                   | Overview : Golang Environment Setup                                             |                      |           |
|     |                                                   |   | Day 2                                   | Variables, Constants & Data Types                                               |                      |           |
|     |                                                   |   | Day 3                                   | Operator, Decision Making                                                       |                      |           |
|     |                                                   |   | Day 4                                   | Loops                                                                           |                      |           |
|     |                                                   |   | Day 5                                   | Array, String                                                                   |                      |           |
|     |                                                   |   | Day 6                                   | Function                                                                        |                      |           |



|        |                          |
|--------|--------------------------|
| Day 7  | Recursion                |
| Day 8  | Strings                  |
| Day 9  | Structures               |
| Day 10 | Pointers, Rune, Reflect  |
| Day 11 | Maps                     |
| Day 12 | Interfaces               |
| Day 13 | Packages                 |
| Day 14 | Go Time & Error          |
| Day 15 | Concurrency- Race, Mutex |

Assignment : Programming Assignment

13. Course Outcomes : After completing the course the student will be able to:
- explain the fundamentals of Go Programming language
  - utilize user defined data types in Golang for implementing the given problem
  - demonstrate control structures, arrays and functions with simple application
  - implement basic applications using structures, packages and interfaces
  - apply Reflect, Rune, Map and Concurrency for a real world application.

| S. No. | Type                           | Max. Marks |
|--------|--------------------------------|------------|
| 1      | Multiple Choice Questions – 30 | 30         |
| 2      | Programming Test               | 50         |
| 3      | Assignment                     | 20         |
| Total  |                                | 100 Marks  |

15. Verified that the content of this course is not offered to students partially/fully in regular curriculum of respective programme of the student.

Certify that the course content, credits and grade are approved in the BOS meeting or approved by internal BOS members and will be ratified in the next BOS meeting

*P NRBSM*  
2/3  
(Signature of the HoD  
after verification)

16. Any other details :

The above proposal may kindly be approved.

Course co-ordinator(s)

HOD

Chief Coordinator/Academic

Principal

Encl:

1. Copy of the syllabus of the course
2. Financial proposal from the external organization (if any)

## 18VAC64 – PROGRAMMING WITH GOLANG

| L | T | P | Credit |
|---|---|---|--------|
| 2 | 0 | 2 | 1      |

|           |                                                                                                                                                                                      |   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Preamble  | This course provides an introduction to Go language basic data types, functions, arrays, pointers, maps, strings and implements concurrency model to demonstrate parallel execution. | 8 |
| Unit - I  | Fundamentals of Golang:<br>Overview of Golang - Environment Setup- Variables- Constants - Data Types - Operators - Decision Making - Loops - Arrays-String- Functions- Recursion     | 7 |
| Unit - II | Advanced Concepts:<br>Strings - Structures - Pointers- Go Rune - Go Reflect - Maps - Interfaces - Packages - Go Time - Go Error - Concurrency- Race, Mutex                           |   |

## List of Exercises / Experiments:

1. Create a Hello World application using Go Programming
2. Create a simple calculator application using operators.
3. Create a variadic function that prints the names of students.
4. Write a program to check whether a given number is palindrome or not in Golang.
5. Create a simple application to find the factorial of a given Number.
6. Write a program to shift all zeros to the end of array in Golang.
7. Write a program to generate fibonacci series in go using recursive function.
8. Write a Go program to demonstrate various string methods.
9. Create area calculation of different shapes application using Interfaces.
10. Implement student mark analysis using Packages.
11. Write a program to validate email id using regexp.
12. Illustration of the Dining Philosophers problem in Golang

Lecture:15, Practical:15, Total: 3

## REFERENCES:

1. Caleb Doxsey, "Introducing Go", 1<sup>st</sup> Edition, O'Reilly Publication, New York, 2016.
2. Alan A. A. Donovan, Brian W. Kemighan, "The Go Programming Language", 1<sup>st</sup> Edition, Pearson Education, Indiana Polis, 2015
3. William Kennedy, Brian Ketelsen, Erik St. Martin, "Go in Action", 1<sup>st</sup> Edition, Manning Publications, USA, 2015.

## COURSE OUTCOMES:

On completion of the course, the students will be able to

|     |                                                                                          | BT Mapped<br>(Highest Level)        |
|-----|------------------------------------------------------------------------------------------|-------------------------------------|
| CO1 | demonstrate data types, control structures, arrays and functions with simple application | Applying (K3)                       |
| CO2 | implement basic applications using strings, structures, packages and interfaces          | Applying (K3)                       |
| CO3 | apply Reflect, Rune, Map and Concurrency for a real world application                    | Applying (K3),<br>Manipulation (S2) |

## Mapping of COs with POs and PSOs

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|
| CO1     | 3   | 2   | 1   | 1   |     |     |     |     | 2   | 3    | 3    | 2    | 1    | 1   |
| CO2     | 3   | 2   | 1   | 1   |     |     |     |     | 2   | 3    | 3    | 2    | 1    | 1   |
| CO3     | 3   | 2   | 1   | 1   |     |     |     |     | 2   | 3    | 3    | 2    | 1    | 1   |

1 – Slight, 2 – Moderate, 3 – Substantial, BT- Bloom's Taxonomy

## ASSESSMENT PATTERN

| Test / Bloom's Category*    | Remembering (K1) % | Understanding (K2) % | Applying (K3) % | Analyzing (K4) % | Evaluating (K5) % | Creating (K6) % | To % |
|-----------------------------|--------------------|----------------------|-----------------|------------------|-------------------|-----------------|------|
| MCQ – 30 marks              | 20                 | 30                   | 50              |                  |                   |                 | 11   |
| Programming Test – 50 marks | 20                 | 30                   | 50              |                  |                   |                 | 11   |
| Assignment – 20 marks       | 20                 | 30                   | 50              |                  |                   |                 | 11   |

P. Arsham

Head of the Department





NCV-03, Rev.0, 01.09.2019

|  |                                                                                                            |                                                                                                                                             |
|--|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>KONGU ENGINEERING COLLEGE</b><br>(Autonomous)<br>PERUNDURAI - 635060<br>INTERNAL QUALITY ASSURANCE CELL | <br><small>CERT No. 18 123 23796<br/>SD 8581 2219</small> |
|  | <b>Department of CT-UG</b>                                                                                 |                                                                                                                                             |
|  | <b>Attendance Sheet</b>                                                                                    |                                                                                                                                             |

Title of the course : Programming with Golang

Date : From 9.4.2021 to 19.5.2021

Mode : Online Mode

| SNO | ROLLNO   | STUDENT NAME        | 9.4 | 10.4 | 12.4 | 13.4 | 13.4 | 15.4 | 16.4 | 17.4 | 21.4 | 22.4 | 23.4 | 26.4 | 27.4 | 28.4 | 29.4 | 30.4 | 1.5 | 3.5 | 4.5 | 5.5 | 6.5 | 10.5 | 11.5 | 17.5 | 19.5 |
|-----|----------|---------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|
| 1   | 19BCR009 | DHANUSHMITA B       | /   | /    | AB   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | AB   | /    | /    |
| 2   | 19BCR042 | SANGEETHA P         | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 3   | 19BSR005 | AZHAKU MOHANA N     | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 4   | 19BSR007 | CHANDANA S P        | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 5   | 19BSR011 | DURGADEVI M         | /   | /    | AB   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 6   | 19BSR019 | JAWAHAR L           | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 7   | 19BSR039 | PRIYANKA J          | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 8   | 19BSR040 | RAJI A              | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 9   | 19BSR041 | RAM DHIGHASHI N G   | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 10  | 19BSR042 | RAMNATH A           | AB  | AB   | /    | AB   | AB   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 11  | 19BSR048 | SATHIYA NAARAYANI G | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 12  | 19BSR049 | SIBI KUMAR K        | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 13  | 19BSR055 | SUBHIKA T           | /   | /    | AB   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |
| 14  | 19BSR060 | YASHIKA R S         | /   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /   | /   | /   | /   | /   | /    | /    | /    | /    |

Note: All the hours were conducted for 90 minutes.

*[Signature]* + *[Signature]*

Course Faculty

M.N.KAVITHA & S.S.SARANYA

# KONGU ENGINEERING COLLEGE, PERUNDURAI-638060

## Department of Computer Technology – UG

### One Credit Course Attendance List

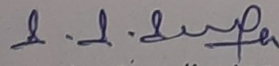
Academic Year : 2020-2021  
Semester : Even Semester  
Course Name : 18VAC64 – PROGRAMMING WITH GOLANG  
Co-ordinators : M.N.KAVITHA  
S.S.SARANYA  
Course Duration : 09.4.2021 to 19.5.2021

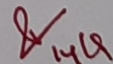
Programme: B.Sc - CSD

| S.no | Roll Number | Name          | Conducted Hours | Attended Hours | Attendance Percentage |
|------|-------------|---------------|-----------------|----------------|-----------------------|
| 1.   | 19BCR009    | DHANUSHMITA B | 31              | 29             | 92                    |
| 2.   | 19BCR042    | SANGEETHA P   | 31              | 31             | 100                   |

Programme: B.Sc -SS

| S.no | Roll Number | Name                | Conducted Hours | Attended Hours | Attendance Percentage |
|------|-------------|---------------------|-----------------|----------------|-----------------------|
| 1.   | 19BSR005    | AZHAKU MOHANA N     | 31              | 31             | 100                   |
| 2.   | 19BSR007    | CHANDANA S P        | 31              | 31             | 100                   |
| 3.   | 19BSR011    | DURGADEVI M         | 31              | 30             | 96                    |
| 4.   | 19BSR019    | JAWAHAR L           | 31              | 31             | 100                   |
| 5.   | 19BSR039    | PRIYANKA J          | 31              | 31             | 100                   |
| 6.   | 19BSR040    | RAJI A              | 31              | 31             | 100                   |
| 7.   | 19BSR041    | RAM DHIGHASH N G    | 31              | 31             | 100                   |
| 8.   | 19BSR042    | RAMNATH A           | 31              | 26             | 84                    |
| 9.   | 19BSR048    | SATHIYA NAARAYANI G | 31              | 31             | 100                   |
| 10.  | 19BSR049    | SIBI KUMAR K        | 31              | 31             | 100                   |
| 11.  | 19BSR055    | SUBHIKA T           | 31              | 30             | 96                    |
| 12.  | 19BSR060    | YASHIKA R S         | 31              | 31             | 100                   |

  
Faculty Coordinator

  
HOD