केरल केन्द्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF KERALA
(संसद के अधिनियम, वर्ष 2009 द्वारा स्थापित / *Established under the Act of Parliament in 2009*)

Minutes of BOS in Computer Science Held on 05/01/2019 at 11 AM

Agenda:
(i) To discuss about the Syllabus
(ii) To discuss about the feedback of students
(iii) To start Centre for Computational Intelligence
(iv) To decide about the eligibility criteria for M.Sc. Computer Science
(v) To discuss about the panel of examiners and question paper setting

The following members were present during the meeting.

1. Dr. Arunkumar Thangavelu, Professor, Dept. of Computer Science and Engineering, VIT
2. Dr. K.A. Germina, Associate Professor, Department of Mathematics
3. Dr. Rajesh R, Head, Department of Computer Science
4. Mr. Kumar V.

(i) The BOS members have gone through the previous syllabus and current syllabus proposed by FC based on brainstorming workshop on curriculum development held on 04/01/2019. The BOS observes the improvement in the new curriculum/syllabus and approves the same.

(ii) The BOS has gone through the feedback of the students of 2016-18 batch and considered the suggestions. Two exemplary students cleared the NET exam and two students got placed in TCS.

(iii) The BOS recommends for starting of a Centre for Computational Intelligence based on the recommendations from the FC. Initially, Dr. Rajesh R. will serve as the Director for the centre.

(iv) Based on the recommendation of FC, the BOS recommends to amend the eligibility conditions for M.Sc. Computer Science admission as

BCA or B.Sc (Computer Science/electronics/commuincations/IT/Bioinformatics) or B.Tech/BE (Computer Science/electronics/communications/IT/electrical/ECE) or B.Sc. in Physics/Mathematics/Statistics (with computer science as a subject or having a certificate/diploma in computer related areas) or B.Voc (computer science/IT/electronics/electrical/ECE)

(v) The BOS recommends the panel of examiners/question paper setters suggested by the FC.

The meeting ended with vote of thanks.

5th Jan 2019
Dr. Arunkumar Thangavelu

5/1/2019
Dr. K.A. Germina

Dr. Rajesh R.

Mr. Kumar V.

CENTRAL UNIVERSITY OF KERALA DEPARTMENT OF COMPUTER SCIENCE M.Sc. COMPUTER SCIENCE – PROGRAMME STRUCTURE					
COURSE CODE	COURSE TITLE	CONTACT HRS/WEEK			CREDITS
		LEC	LAB	TUT	
SEMESTER I					
CSC5102	Programming Concepts Using Python	2	2	1	4

This is a problem solving and **employability based skill development course**.

Course Objective:
The objective of the course is to provide theoretical and practical aspects of programming concepts using python.

By completing this course, students will obtain the following course/learning outcomes:

1. Knowledge to be gained:
   (i) Interpret the fundamental Python syntax and semantics and be fluent in the use of Python Control flow statements.
   (ii) Express proficiency in the handling of strings and functions.
   (iii) Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples and sets.
   (iv) Identify the commonly used operations involving file systems and Exception Handling.
   (v) Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Python.
2. Skill to be gained:
   (vi) Problem solving and programming capability using python
3. Competency to be gained:
   (i) Design and implement a program using python to solve a real world problem

Prerequisites: Basic knowledge in any programming languages/concepts

Grading:

Lab implementation	– 30%
Assignment/Quiz/presentation	– 5%
Class Test	– 5%
Final Exam	– 60%

CSC5102 - Programming Concepts using Python

Module 1
Introduction to Python, Basic Syntax, Variables, Data Types, Operators, Understanding python blocks. Conditional Statements, Looping, and Control Statements.

Module 2
Introduction to Files, Processing files and records, Exceptions, Functions. Local Variables, Global Variables and Global Constants. Generating Random Numbers. The math Module, Storing Functions in Modules.

Module 3
Strings and Number System, String Methods, Basic String Operations, String Slicing, Testing, Searching, and Manipulating Strings. Introduction to Lists, List slicing, Copying Lists, Processing Lists, List Methods and Useful Built-in Functions.

Module 4
Classes and Objects, Classes and Functions, Classes and Methods, Working with Instances, Constructor, class attributes and destructors, Inheritance and Polymorphism.

Module 5
Any one case study based on Machine Learning, IoT, Data Analysis and Visualization, Web development, Robot programming, Multithreading and Networking concepts

Text Books:

1. Kenneth A. Lambert, The Fundamentals of Python: First Programs, Cengage Learning, 2011.
2. Think Python Second Edition, by Allen B. Downey, Orielly publishing, 2015

Reference:

3. Introduction to Computation and Programming Using Python. John V. Guttag, The MIT Press,2016.
4. James Payne, Beginning Python using Python 2.6 and Python 3, Wrox publishing, 2010.
5. Paul Gries, Practical Programming: An Introduction to Computer Science using Python the Pragmatic Bookshelf, 2nd edition 2013.
6. Charles Dierach, Introduction to Computer Science using Python, Wiley, 2015.