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

ELECTIVES					
COURSE CODE	COURSE TITLE	CONTACT HRS/WEEK			CREDITS
		LEC	LAB	TUT	
CSC5016	Internet of Things	2	2	1	4

Lec = Lecture, Tut = Tutorial, Lab = Practical

This is a participatory, experimental, flipped classroom, and **employability based skill development course**.

Course Objective:
The objective of the course is to provide practical aspects of learning and developing applications based on internet of things.

By completing this course, students will obtain the following course/learning outcomes:
1. Knowledge gained:
   (i) fundamental concepts of Internet of Things
2. Skill gained:
   (ii) Skills in the development of embedded code
3. Competency gained:
   (iii) Development of Internet of things applications for various real world applications.

Prerequisites: Basic knowledge of programming and electronic components.

Grading:

Lab implementation	– 20%
Participatory based group Project	– 10%
Assignment/Quiz/presentation	– 5%
Lab Test	– 5%
Final Exam	– 60%

CSC5016 – Internet of Things

Module 1
Introduction to IoT, History and evolution of IoT, societial benefits of IoT, Risks, Privacy and Security

Module 2
Understanding Arduino microcontroller, what can Arduino do?, setting up and testing Ardunio, Understanding Arduino programming environment, programming with Arduino. Experiments with Arduino: Blinking an LED/ RGB LED, PWM pin for varying the brightness of an LED, usage of push button, potentiometer, Photoresistor, temperature sensor, buzzer, servo, motor and LCD screen,

Module 3
Understanding Raspberry pi, what can Raspberry pi do?, setting up Raspberry pi. Understanding Raspberry pi programming environment, programming with Raspberry pi. Experimenting with Raspberry Pi.

Module 4
Case study in any one of the following: Opensource IoT platform, Amazon IoT cloud, IR sensor, Gas sensor, fire sensor, GSM shield, Bluetooth shield, PIR sensor, line tracking robot, Tensorflow on raspberry Pi, Home automation

References:

1. University of Cambridge lab experiments. https://www.cl.cam.ac.uk/projects/raspberrypi/
2. https://courses.ideate.cmu.edu/99-355/s2016a4/text/syllabus.html
3. https://courses.ideate.cmu.edu/99-355/s2017/text/syllabus.html
4. https://www.tu-berlin.de/menue/summer_university/summer_university_term_2 /arduino_for_interactive_design/