Department of Computer Science

SreeAyyappa College, Eramallikkara

Report on

Bridge Course in Computer Science for UG students

6th and 7th January 2020

Venue : I Year UG Class Room, Computer Science Lab

Programme Coordinators:

Mr Shibu V & Ms Saraswathy C

Bridge Course in Computer Science for UG students

Aim

The main aim of the Bridge course is to bridge the gap between the subjects that the students have undergone during their Higher Secondary level course and the subjects they would be studying in UnderGraduate level in Computer Science. As some students come from different platforms like Biology, Physics likewise, they may lack behind in programming skill and algorithmic logic. Bridge course is one of the initiatives adopted to give students the confidence and skills to successfully transition from school to college.

Objective

The Bridge course provides the best opportunity for the students to adapt themselves to the new academic environment. The students will be equipped with the knowledge and the confidence needed to take on bigger challenges.

A sound grasp of the fundamentals of the Computer Science subjects lays the strong foundation for the entire two-year programme.The objective of the bridge course programme is to impart algorithm development skill and programming logic to students from non-Computer Science background.

The students will be trained in subjects such as Programming with C and Computer fundamentals. The objective is to familiarise students with the fundamentals of programming languages and thereby enable them to write programs in C programming language which is a part of first Semester curriculum for BSc Computer Science.

Moreover, the bridge course also provides the students an overview of the interdisciplinary applications of computer science and the recent trends in the subject.

Thus, the Bridge course will help the students to have smooth transition to their Under-Graduatecourse.Our experience has shown that students who underwent the bridge course have fared extremely well in examinations.Overall, the department expects the learning levels of students to improve with this programme.

SYLLABUS FOR BRIDGE COURSE IN BSc COMPUTER SCIENCE

Computer Fundamentals

Generations of Computers, Hardware components of computer, Types of software, Introduction to Operating System, BIOS, Memory units and their hierarchy, Instruction cycle, format, Interrupts and its types.

C Programming

Tokens, Statements, Arrays, Functions, Structures and Pointers

Emerging technologies and Job opportunities

Cloud Computing, IoT, Big data, Cyber Security

Interdisciplinary Applications of Computer Science

Medical Imaging, Bioinformatics, Simulation, Modeling

Familiarization of software tools

Different OS, Software installation, Techniques for effective e-mailing, Google drive, advanced searching and browsing, Text editing tools, spread sheet tools, presentation software, leading websites

Programme Schedule

Duration: 2 Days (06/01/2020 and 07/01/2020)

Session	Topics	Date	Time	Resource Person
1	**Introduction to Programming Part 2** Source code, object code, Compiler, interpreter, translator, programming errors, IDE	6/1/2020	9.45 – 11.45 AM	Ms. Nimisha Philip
2	**Computer Fundamentals** Gentle introduction to computers, parts, types, new technologies in software and hardware.	6/1/2020	11.45– 12.45 PM	Ms. ReshmaDharman
3	**Interdisciplinary Applications of Computer Science** Medical Imaging, Bioinformatics, Simulation, Modeling	6/1/2020	1.30 – 2.30 PM	Prof Sobha P K
4	**Familiarization of software tools** Different OS, Software installation, Techniques for effective e-mailing, Google drive, advanced searching and browsing, Google Scholar, Text editing tools, Spread sheet tools, presentation software, leading websites	6/1/2020	2.30- 3.30 PM	Prof Sobha P K
4	**Introduction to Programming Part 1** Algorithms and Flowcharts examples	7/1/2020	9.45 – 10.45 AM	Dr S Sreedevi
5	**Introduction to C Programming Part 3** Tokens, Statements, Arrays, Functions Structures, Pointers	7/1/2020	10.45– 11.45 AM	Mr. Shibu V
6	**Emerging technologies and Job opportunities** Cloud Computing, IoT, Big data, Cyber Security	7/1/2020	11.45- 12.45 PM	Prof. Jisha Nair B J
5	**C programming lab** Lab sessions on basic C Programming	7/1/2020	1.30 - 2.30	Ms. Saraswathy C
6	**Advanced C programming lab** Lab sessions on advanced C Programming	7/1/2020	2.30 – 3.30	Ms. Saranya P M
10	**Examination of Bridge course programme & feedback collection**	8/1/2020	9.45 – 10.45	Ms.Saraswathy C

A Brief Report of the Bridge Course

Department of Computer Science, Sree Ayyappa College, Eramallikkara, has successfully conducted the Bridge Course programme for UG students, for the current academic year (2019 – 20). The programme was conducted on 6th and 7th of January 2020. It was attended by eight students, out of the total 19 students in the first-year BSc Computer Science.

Day 1

Date: 6th January 2020

The day began with the new students having a chance to build their network by greeting and meeting each other before the beginning of the induction program.

Time: 9:45 AM – 11.45 AM

The students were introduced to the concept of Bridge Course by Prof. Sobha PK, Head of the Department, Computer Science. She also spoke about the objectives of the bridge course and the program schedule. The session was later taken over by Ms. Nimisha Philip, who introduced the students to the basic programming concepts. Topics such as Source code, object code, compiler,interpreter, translator, programming errors, IDE, the process of program translation,linker and loader were discussed.

Time: 11:45 AM – 12.45 AM

The program was then taken over by the Ms Reshma Dharman, who spoke about computer fundamentals. During the session, the students were familiarised with the parts of computers, type of devices, type of software and the new emerging technologies.

Time 1.30 PM – 2.30 PM

The afternoon session of the program started with a talk on the interdisciplinary applications of Computer Science by Prof Sobha P K. The session discussed varied areas such as Medical imaging, Bioinformatics, Computational Physics, Thermodynamics, Simulation andModelling.

Time 2.30 PM – 3.30 PM

The session continued with a familiarization of software tools, by Prof Sobha P K. Different OS, software installation, techniques for effective e-mailing, Google drive, advanced searching techniques like Google Scholar, text editing tools, spread sheet tools, presentation software, and leading websites were introduced to the students.

Day 2

Date: 7th January 2020

Time: 9:45 AM – 10.45 AM

The day started with a session on Introduction to Programming by Dr S Sreedevi. In this session, the concept of algorithms and flowcharts were discussed. Several samples of algorithms and flowcharts were worked out.

Time: 10:45 AM – 11.45 AM

The program continued with a session on C Programming concepts by Mr. Shibu V. The session gave students an overview of the basics in C such as tokens, statements, arrays, functions, structures andpointers.

Time: 11:45 AM – 12.45 AM

The program was then taken over by Prof. Jisha Nair B J, who talked about the emerging technologies and job opportunities. The session gave students a glimpse of the recent trends such as cloud computing, IoT, big data and cyber security.

Time 1.30 PM – 3.30 PM

The afternoon sessions provided students with a hands-on in C programming. A basic and an advanced C programming lab session were conducted. All of the 19 students attended the lab sessions. These sessions helped the students to revise the basic concepts of control structures such as if-else statements and looping statements, arrays etc. Programs on finding sum and largest element in arrays, matrix operations, printing patterns such as diamond, half-pyramid using symbols as well as numbers were done.

Examination and Feedback

An evaluation based on the Bridge course was done on 8th January 2020, to evaluate the effectiveness of the programme. An objective type examinationconsisting of 50 questions was conducted and evaluated. The students who participated in the course, could fare well in the examination. Finally, a feedback for the programme was collected from the students and the data is attached to this report.

Outcome of the course

✓ It has taken students on a positive journey of active learning.

✓ It has provided students with the confidence and skills to successfully adapt to college.

✓ It has helped students for enhancing critical thinking skills through self-inquisition and classroom experiences.

✓ Student will be able to develop strategies and resources for the bigger challenges knowledge and the confidence needed to take on bigger challenges.

✓ Students have been well versed with the fundamentals of the Computer Science subjects.

✓ It has given students a glimpse of the emerging technologies, job opportunities and the interdisciplinary applications of Computer Science.
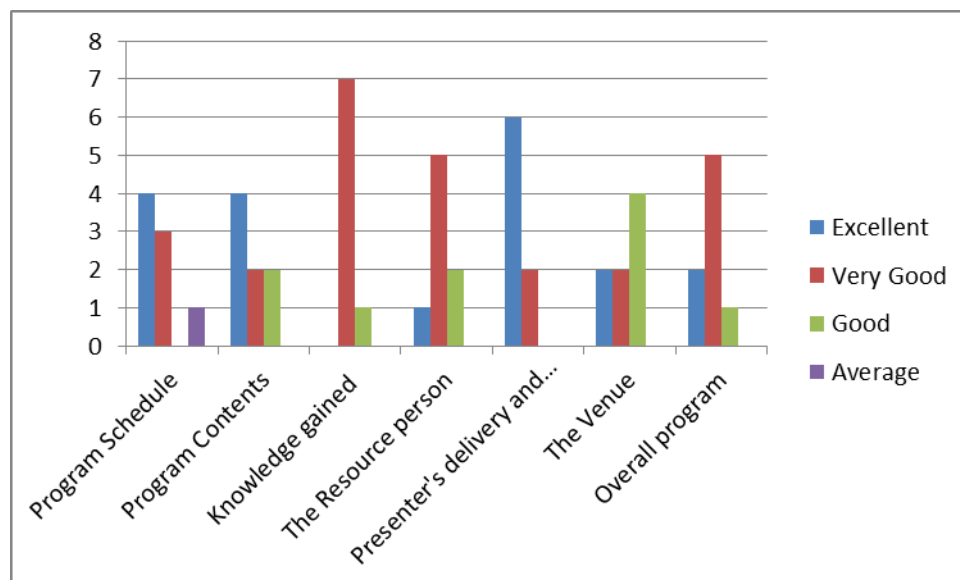
Fig. Feedback analysis of the Bridge course for UG students

Glimpses of the Bridge Course held …..

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