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# **Teaching** ~ **Learning Methodology**

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# Department of Computer Science

# **Teaching ~ Learning Methodology**

Department of Computer Science promotes the use of student-centric teaching and learning methods to increase the grasping and learning levels of the students. Emphasis is to go beyond the traditional Chalk & Talk methods to maximize teaching effectiveness in the fast-changing technologies in degree classes. Further, the graduate attributes or the Program Outcomes (POs) are defined for a 4-year undergraduate degree program The department once a year conducts a workshop or faculty development program on Teaching Methodologies, to equip teachers with innovative and ICT-based teaching methods. Therefore, teachers are encouraged to adopt some of the following methods, in their teaching.



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# A) Teaching methods

#### Chalk & Talk:

Chalk & talk is a monologue presentation and a method of teaching that focuses on the blackboard where the matter/drawing is represented along with the oral communication by the teacher. It can be a method for presenting lectures and talks. One of the characteristics is that the presenter does not want the viewer to lose attention. He/she maintains regular eye contact with the students. It is the time-tested method adopted for many decades in education. However, it limits the student's involvement in learning the subject, due to lack of active application in the class.



Smt. Renuka B Department of Computer Science conducting BCA class on Chalk & talk

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# **Group discussions:**

Group discussion/debate is a group activity involving the teacher and students to define the problem and seek its solution. It can also be described as a constructive process involving the listening, thinking, and speaking ability of a student.



Group Discussion conducted to BCA  $VI^{th}$  sem students by Smt. Shivleela Patil and Smt. Sangeeta M on 09-03-2023



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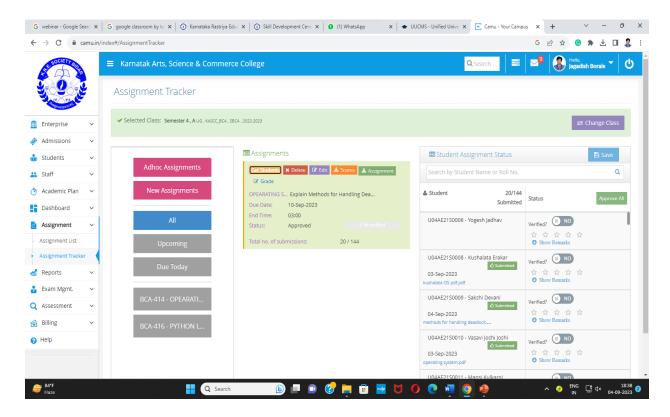
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Group Discussion conducted to BCA IV<sup>th</sup> sem students by Sri. Shrikanth Doddamani HOD Computer Science and Sri. Ashok Huded Dept. Comp. Science on 13-07-2023

# **Assignments:**

Assigning tasks to small groups during class can have many benefits, such as involving students in their own learning, making course topics come to life, deepening students' knowledge, and developing teamwork skills.



Assignments given to students through CAMU software

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# **Mini Projects:**

This is a teaching method in which students gain knowledge and skills by working for an extended period to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.



Mr. Jagrat Maheshwari, Trainer, IIT Bombay, explained the concepts of 3D game design 05-03-2018 to 06-03-2018

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#### **Student seminars:**

Engaging the students to give seminars is an effective teaching method. In general, the seminar method encourages active participation from the participants. The important components of a seminar include the preparation of the material to be presented, a session where the information on the assigned topic is shared with the audience, and a discussion session leading to a deeper understanding of the subject matter. This method involves the student in the learning process.



Seminar was conducted by Akshata Biradar BCA IV<sup>th</sup> sem student



Seminar was conducted by Achyut Kulkarni BCA IV<sup>th</sup> sem student



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# Workshops:

The workshops are organized to develop the psychomotor aspects of the learner regarding practices of innovations in education. Under this technique, participants must do some practical work regarding the technologies of their curriculum.



Dr. Mallikarjun H Principal KASCC delivering welcome speech on one day workshop on Data Science and Development of AI Applications on 30-05-2023



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## **Guest Talks:**

A guest talk supports a topic that students may know little about and can offer them a different point of view, one that they may better understand. It allows them to learn something new or learn the same subject from a different point of view.



Mr. Sebastain Gomes, Senior Consultant, HCL Technologies Melbourne, Australia delivering Guest Talk on **Cloud Solution Architecture** on 09-01-2020

Apart from the Chalk & Talk method, most of the methods described above are student-centric and increase the student's active involvement in the learning process, rather than passive listening. In addition, the college also encourages the use of modern Information and Communication Technology (ICT) tools to enhance student's learning experience.

# B) ICT based Teaching methods

#### **Certifications/MOOCs:**

A Massive Open Online Course (MOOC) is an openly accessible, web-based course designed for large-scale enrolment and instruction. Unlike a blended or flipped course, a MOOC is taught completely online. It is common for MOOCs to offer statements of accomplishment once learners have completed some or all the learning activities in the course. Teaching a MOOC pushes to be innovative and creative when it comes to teaching. It allows you to explore the online environment while pushing the envelope in terms of teaching pedagogy and strategies.





Sample certificates after completion of online courses by MOOC's and ICT

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Video class conducted to BCA IV<sup>th</sup> sem students

Estd 1970

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# Google classroom:

Google Classroom is a blended learning platform that aims to simplify creating, distributing, and grading assignments in a paperless way. Google Classroom is a free application designed to help students and teachers communicate, collaborate, organize, and manage assignments in a paperless way.

# Abstract class A class that is declared using "abstract" keyword is known as abstract class. It can have abstract methods (methods without body) as well as concrete methods (regular methods with body). A normal class (non-abstract class) cannot have abstract methods. A class which contains one or more abstract methods must be declared as abstract class with keyword abstract as shown below. abstract class classname {

Smt. Shivaleela Patil Department of Computer Science conducting a class for BCA and B.Sc final year students by conducting online class



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# **Project based learning:**

Project Based Learning is a teaching method in which students gain knowledge and skills by working for an extended period to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.



Sri Mahesh Kanjikar Director Matrix Software Solutions conducting project classes to BCA final year students



Sri Mahesh Kanjikar Director Matrix Software Solutions conducting project classes to BCA final year students



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## **Power Point Presentation:**

Power Point can be an effective tool to present material in the classroom and encourage student learning. Power Point can be used to project visuals which would otherwise be difficult to bring to class.



Dr. Mallikarjun H. Principal KASCC, Bidar conducting a class for B.Sc  $I^{st}$  year students by using a PPT presentation

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Practical classes conducted by Sri Srikanth Doddamani HOD Computer Science through Projector

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# Quiz/Moodle based Quiz:

The Quiz activity module allows the teacher to design and build quizzes consisting of a large variety of Question types, including multiple-choice, true-false, and short-answer questions. These questions are kept in the Question bank and can be re-used in different quizzes. These quizzes can be conducted online using various ICT tools or platforms such as Moodle.



Sri Srikanth Doddamani HOD Computer Science delivering welcome speech on symposium program on Quiz Computation on 05-02-2019

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Students from various department attending for Quiz computation on 05-02-2019



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# **Software based learning:**

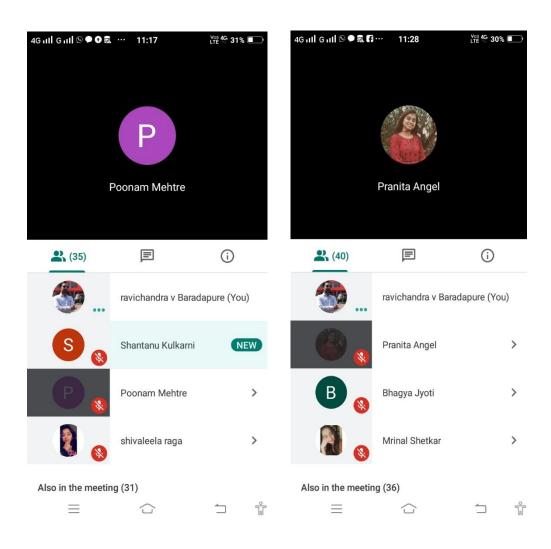
Software-based learning is the latest strategy in teaching-learning environments wherein students will be exposed to solving problems related to their curriculum using software, specifically related to the subject.



Prof. Pradeep Karanje, Guru Nanak Dev Engineering College, Bidar interacting the students during hands on training 09-02-2019

# **Online teaching (MS Teams Platform):**

Microsoft Teams is an online teaching platform for teachers and education institutions to help create a space to better engage with students and enhance learning. This video-based platform is easy to use and works to connect teachers and students wherever they are. Teachers can make use of this platform from holding an online class to collaborating on a document as a class wherein the platform integrates lots of layers to make sure the experience is as seamless as possible. Teams offer video chat, interactive documents, assignments, auto-grading, and quizzes.



Dr. B V Ravichandra conducted online classes