

**SYLLABUS  
PROSPECTUS**

**T.K.M.COLLEGE OF ARTS AND SCIENCE,  
KOLLAM**



**COMPUTATIONAL  
GENETICS**



**DEPARTMENT OF BOTANY**

2021

## **Chapter 1**

Introduction to genetics and the application of computational methods in analysing the genetical code.

## **Chapter 2**

Basics of genome and DNA replication

## **Chapter 3**

Basics of programming in python

## **Chapter 4**

String manipulation using python

## ***Evaluation 1***

## **Chapter 5**

Various problems in genetics to solve using python

## **Chapter 6**

Introduction to some important algorithms

## **Chapter 7**

Motif finding in genome

## ***Evaluation 2***

# COMPUTATIONAL GENETICS

## AIMS

To develop a multidisciplinary level of understanding about biology and computer science

To understand and introduce new vision about genetics

To understand the various practical applications of biological sciences

To enhance the problem solving ability in students

To investigate and motivate various rhythms associated with biological world due to DNA encodings.

## NATURE OF THE COURSE

The course shall be an awareness and learning programme designed for those who have no experience with programming in genomics

It shall be a basic level certificate course on computational genetics

It shall be conducted in online classes along with assignments and evaluation

The course shall be managed, regulated, conducted and controlled by the Department of Botany , T.K.M. College of Arts and Science, Kollam

Decision of the College shall be final in all matters related to the course

## ELIGIBILITY FOR ADMISSION

Minimum qualification for applying for the course will be an under graduate student approved by the Universities in Kerala

Maximum number of seats shall ordinarily be 50 for an academic session or as decided by the Governing Body for the course

The minimum number of students to commence a batch shall be 10

There shall be no admission fee and tuition fee for admission of the course

## **REGISTRATION**

A student shall be considered to have Registered in the course by submitting the Application form at the beginning of the Course

## **DURATION OF THE COURSE**

Duration of the course shall be four months

## **MEDIUM OF INSTRUCTION**

Medium of instruction shall be English

## **EVALUATION CRITERIA**

A minimum of 25 points is required to earn the certificate. The evaluation is based on 5 points for 100% attendance, 20 points for assignment, 10 points for good course note making, 5 points for active live participation in course and 10 points for quiz

## **STUDY MATERIALS**

Study materials are provided at the live session

## **CERTIFICATE**

Certificate shall be issued by and under the name and seal of the college.

## **Course Coordinator**

Dr M.J. Sheeba

Assistant Professor and Research Guide

Department of Botany

T.K.M. College of Arts and Science, Kollam