
CHRISTIAN COLLEGE KATTAKADA
AFFILIATED TO THE UNIVERSITY OF KERALA
Thiruvananthapuram, Kerala 695572

ADD ON/CERTIFICATE PROGRAMS



DURING THE LAST FIVE YEARS

CRITERION 1. 2. 2.



WHAT'S INSIDE?

Documents on:

-  Circulars related to commencement of certificate courses
 -  Syllabuses of various certificate courses
-

CHRISTIAN COLLEGE, KATTAKADA

Thiruvananthapuram- 695572
Affiliated to the University of Kerala
Kattakada, Thiruvananthapuram

Circular

Date: 15.07.2019

On the recommendations of college Governing Body and college Council, it has been decided to introduce the following certificate courses in the academic year 2019-2020. The list of new courses is given below.

Course Code	Name of the certificate courses	Course Coordinator
BO 001	Mushroom cultivation	Dr. Resmi. L
BO 002	Water quality analysis	Dr. Lubaina. A. S

In addition to this, a committee have been appointed to evaluate and monitor the same. The committee is as given below.

Course Code	Name of the certificate courses	Course Coordinator
BO 001	Mushroom cultivation	Sri. L. S. Paul Raj (Asso. Professor, Dept. of Botany) Sri. Mahesh. S (Asst. Professor, Dept. of Botany)
BO 002	Water quality analysis	Dr. Jiji Joseph (Asst. Professor, Dept. of Botany) Dr. Felix. R (Asst. Professor, Dept. of Botany)

Copy to:

1. All HODs.
2. IQAC Coordinator.
3. All Course Coordinators.
4. Office Superintendent.



Vincent Joy N.S.
Principal

Dr. VINCENT JOY.N.S
Principal
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Kattakada

CHRISTIAN COLLEGE KATTAKADA
Affiliated to the University of Kerala

22.7.2019

CIRCULAR

On the recommendations of college Governing Body and college Council, it has been decided to introduce the certificate course titled '**ANALYTICAL TECHNIQUES**' in the academic year 2019-2020. A committee has also been appointed to evaluate and monitor the programme. The following are the committee members

Name	Designation	Department
Mr. Charles Finny S.L.	HOD	Chemistry
Ms. Maria Starwin A.	Asst. Prof.	Chemistry
Dr. Josewin B.	Asst. Prof.	Chemistry
Dr. L.S. Afinisha Deepam	Asst. Prof.	Chemistry
Ms. Divya Mohan	Asst. Prof.	Chemistry
Ms. Shiji E.	Asst. Prof.	Chemistry, Course Coordinator



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CHRISTIAN COLLEGE KATTAKDA

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Department of Chemistry

CERTIFICATE COURSE

SYLLABUS

OBJECTIVES

To learn the basic principle of instrumental methods of chemical analysis. Other objectives include

- Knowledge of sampling methods
- Assess the sources of error and comprehend the method of calibration
- Compare and critically select the method suitable for elemental and molecular analysis.

LEARNING OUTCOME

After completing the programme, participants are able to

- Acquire a working knowledge of analytical instrumentation typically employed in chemical research laboratories.
- Become familiar with sampling, recording and data analysis
- Appreciate the relative strengths and limitations of different instrument based analysis methods.

ANALYTICAL TECHNIQUES-THEORY & INSTRUMENTATION

Module-I

5 Hrs

Introduction to spectroscopic methods. Molecular spectroscopy-electronic transitions-UV-Vis spectroscopy-instrumentation and applications.

Module-II

5 Hrs

Nano Fibers- Electrospun fibers of natural polymers-Nanoparticles-functionalised electron spun polymers- Physicochemical properties-Electrospinning techniques-systema dn process parametres-Selection of polymers and solvents-Instrumentation and applications.

Module- III

FTIR- Instrumentation and applications- Standardization and estimation of chemical compounds using FTIR.

5 Hrs

Module-IV

Additional instrumentation methods in organic structural analysis-mass spectrometry and ESR, their instrumentation and applications.

5 Hrs

Module-V

Laboratory experiments

Sampling techniques and analysis of simple known compounds using UV and FT-IR instruments.

15 Hrs

Hands on training in Nano fiber spinning machine

REFERENCES

1. Skoog D.M & West D.M, Principles of Instrumental analysis, Helt Saunder Publications
2. William Kemp, Organic spectroscopy, Palgrave USA
3. B.G.Liptak Process measurement and analysis, CRC press
4. E.B.Jones, Instrument Technology, Butterworth scientific publications
5. R.S.Khandpur, Analytical Instrumentation, Mc Graw hill, 2nd edition.

CHRISTIAN COLLEGE KATTAKDA

Affiliated to the University of Kerala

Department of Chemistry

CERTIFICATE COURSE

SYLLABUS

OBJECTIVES

To learn the basic principle of quality analysis of water and its importance in environmental chemistry.

LEARNING OUTCOME

After completing the programme, participants are able to

- Acquire basic laboratory skills including preparation of standard solutions, safe handling practices of chemicals, understanding of basic terminologies, conversion factors etc.
- Become familiar with sampling, data collection, recording and data analysis.

WATER QUALITY ANALYSIS

Module-I

6 Hrs

Introduction-solutions-methods of expressing concentrations of solutions-molarity, molality, normality, mole fraction, chemical and physical properties of water, gases in water, Henrys law.

Module-II

7 Hrs

Water pollution- sources, consequences and methods of control of water pollution, Types of contaminants, Role of detergents, pesticides and insecticides on water pollution.

Disinfection: different types of disinfectants, factors affecting disinfection, methods of disinfection.

Module- III

7 Hrs

Principles of determination of water quality parameters like pH, alkalinity, BOD, COD, lethal dose of pollutants, hard and soft water, ions causing hardness, complex formation and chelation, lethal doses of minerals and heavy metals in water.

Module-IV

15 Hrs

Laboratory experiments

Determination of pH, colour, turbidity, and conductivity.

Determination of hardness of water, amount of calcium and COD by titrimetry.

Determination of arsenic, mercury, copper, iron, chromium and nickel in the samples.

REFERENCES

1. Vogel's text book of Quantitative chemical analysis, 6th edition, Pearsons Education Ltd.
2. A. K. De, Environmental Chemistry- an introduction.
3. Weber. W. J, (1975) Physico-chemical process for water quality analysis.
4. Hites, R.A, (2012), Elements of environmental chemistry, 2nd edition, Wiley and sons
5. Manhan. S.E, (2000), Fundamentals of environmental chemistry, CRC press.



CHRISTIAN COLLEGE, KATTAKADA

(Affiliated to University of Kerala & Reaccredited by NAAC Grade B)
Kattakada P.O., Thiruvananthapuram Dist.
Kerala State Pin-695572

08/07/2019

Circular

On the recommendations of college Governing Body and college Council, it has been decided to introduce the following Short term course in the academic year 2019-20. The new course is listed below.

Course code	Name of Short term course	Course Co-ordinator
EM	Domestic Energy Management	Dr.Jisha.V.T


In addition to this, a committee have been appointed to evaluate and monitor the same. The list of the members of the committee is given below

Course code	Name of Short term course	Committee Members
EM	Domestic Energy Management	Smt. C.P.SusanPrameela Lt.Dr.Shyju. G.J Dr.Shalini.S.V Smt.Shiji.E

Copy to

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- 2.IQAC Coordinator
- 3.All course Coordinator's




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CHRISTIAN COLLEGE KATTAKDA

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Department of Physics

CERTIFICATE COURSE

SYLLABUS

EM. DOMESTIC ENERGY MANAGEMENT

Unit 1.(9 hours)

Energy resource, Energy conversion process & devices, conventional-thermal, hydro, nuclear fission and nonconventional-solar, wind, biomass, fuel cells and nuclear fusion-impact due to non conventional energy sources-global warming.

Unit 2.(11 hours)

Energy production from solar, wind, thermal, nuclear and water-Energy from waste-Energy storage-Primary and secondary cells-fuel cells-pattern of energy consumption in domestic sector-Estimation of energy loss in electrical utilities, Electrical load managements.

Unit 3. (10 hours)

Energy management-Definition and significance ,Objectives- characterizing of energy usage-details of energy management program in domestic sector, Energy audit-types and procedure, Energy crisis and possible solution.

Books for study

- 1.Non conventional energy resources. G.D Rai Khanna Publishers.2008
- 2.Energy technology.S.Rao. 2nd edn 1997
3. M. Newborough and P. Augood, "Demand-side management opportunities for the uk domestic sector," inIEEE Proceedings Generation, Transmission and Distribution, vol. 3, May 1999, pp. 283-293.
4. V. Bakker, A. Molderink, J. Hurink, and G. Smit, "Domestic heat demand prediction using neural networks," in19th International Conference on System Engineering. IEEE, 2008, pp. 389-403'
5. Larry C whitetail, Industrial energy management and utilization.



CHRISTIAN COLLEGE, KATTAKADA

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Kattakada P.O., Thiruvananthapuram Dist.
Kerala State Pin-695572

22/07/2019

Circular

On the recommendations of college Governing Body and college Council, it has been decided to introduce the following Short term course in the academic year 2019-20. The new course is listed below.

Name of Short term course	Course Co-ordinator
Data Analysis with R	Sri. Hari. V.G

In addition to this, a committee have been appointed to evaluate and monitor the same. The list of the members of the committee is given below

Name of Short term course	Committee Members
Data Analysis with R	Dr. V. G Sajikumar Sri. Hari. V.G

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CHRISTIAN COLLEGE KATTAKADA

DEPARTMENT OF STATISTICS

DATA ANALYSIS WITH SPSS

Data Analysis with R

Course description and objectives

In this course you will learn how to program in R and how to use R for effective data analysis. You will learn how to install and configure software necessary for a statistical programming environment, discuss generic programming language concepts as they are implemented in a high-level statistical language. The course covers practical issues in statistical computing which includes programming in R, reading data into R, accessing R packages, writing R functions, debugging, and organizing and commenting R code. Topics in statistical data analysis and optimization will provide working examples.

Unit-1(3 Hours)

Introduction to Data, Different type of data, Categorical Variable , The use of 'R' in the industry, compare R with other software in analytics, Install R and the packages

Unit -2(7 Hours)

The various kinds of data types in R and its appropriate uses, the built-in functions in R like: seq(), cbind (), rbind(), merge(), knowledge on the various subsetting methods, summarize data by using functions like: str(), class(), length(), nrow(), ncol(), use of functions like head(), tail(), for inspecting data, Indulge in a class activity to summarize data, dplyr package to perform SQL join in R, ,Basic tools in R, Console in R

Unit-3(10 hours)

Graphical tools of R, bar plot, pie diagram, and different diagrams and graphs in R, Understanding on Data Visualization, graphical functions present in R, plot

various graphs like tableplot, histogram, Boxplot, customizing Graphical Parameters to improvise plots

Unit-4(10 hours)

Statistical tests - Means - T-test - One-way ANOVA - Non parametric tests - Normality tests,

Correlation and regression - Linear correlation and regression - Multiple regression (linear)

References:

Anderson, T.W. and Sclove, S. L. (1978). An introduction to statistical analysis of data. Houghton Mifflin/co, USA.

V.K.Rohadgi, Statistical Inference, New York: John Wiley(1984)

Dr Mark Gardner Beginning R, The Statistical Programming Language

Bruce L. Bowerman, Richard T. O'Connell, Linear Statistical Models: An Applied Approach, PWS-Kent Pub. Co., 1990

CHRISTIAN COLLEGE KATTAKADA
Affiliated to the University of Kerala

18.7.2019

CIRCULAR

On the recommendations of college Governing Body and college Council, it has been decided to introduce the certificate course titled '**Human Health and Nutrition**' in the academic year 2019-2020. A committee has also been appointed to evaluate and monitor the programme. The following are the committee members

Name	Designation	Department
Smt. Jasmine R	HOD	Zoology
Dr. Razeena Kareem A.L	Guest Faculty	Zoology
Dr. Bindulekha D.S	Guest Faculty	Zoology, Course Coordinator



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CHRISTIAN COLLEGE, KATTAKADA

Thiruvananthapuram- 695572
Affiliated to the University of Kerala
Kattakada, Thiruvananthapuram

Date: 15.07.2019

Circular

On the recommendations of college Governing Body and college Council, it has been decided to introduce the certificate course titled '**Goods and Service tax**' in the academic year 2019-2020. A committee has also been appointed to evaluate and monitor the programme. The following are the committee members

Name	Designation	Department
Dr. Shirly O.Y	HOD	Economics
Dr. Smitha Pavianose	Asst. Prof.	Economics
Dr. S. Denesh Singh	Asst. Prof.	Economics




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CHRISTIAN COLLEGE KATTAKADA
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01.7.2019

CIRCULAR


On the recommendations of college Governing Body and college Council, it has been decided to organize a short term certificate course under the head *Fluent U*, which will be a course for developing the communicative skills of the students in the academic year 2019-2020. A committee has also been appointed to evaluate and monitor the programme. The following are the committee members

Name	Designation	Department
Smt. Nicey L. John	HOD, Department of English	English
Smt. Hima J. Babu	Asst. Professor	English
Smt. Sherly Samson	Asst. Professor & Course Coordinator	English



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CHRISTIAN COLLEGE KATTAKDA

Affiliated to the University of Kerala
Department of English

CERTIFICATE COURSE

SYLLABUS

Syllabus for *Fluent U*

Objectives

- This course is meant for students who want to improve their proficiency level and get a good result in competitive exams. In this course, we will practice the four skills of the language Speaking, Listening, Reading, Writing, complimenting the course with grammar and conversation practice.
- They will be able to communicate confidently and effectively with English-speaking communities.

Method

Interaction based on activities

Module – 1 Basic Grammar & Vocabulary

Concord- Verb Tense- Participle construction- Adjectives vs. Adverbs-Common errors in using punctuation marks-Preposition and Conjunction-Clauses-Active and Passive Voice-Direct and Indirect Speech-Methods to improve vocabulary

Module – II Listening Skills

Lecture on importance of active listening-Importance of recognizing sounds/accents /colloquial usages-Film Clips – understanding new vocabulary, usages and grammar through listening-Talk Shows – Selected Trevor Noah Shows-Interviews- The Ellen Shows, Jimmy Kimmel, Ophra Winfrey etc-TED Talk shows-News Clips

Module –III Speaking Skills

Lecture on interpersonal communication-The Form: What form will your speech take?-on text and content of the speech-Bridges, Connections, and Transitions: How will you take the

Listener from point a to point b to c to...?-Images and Experiences: a good story and current events-Role play, Debates, Group Discussion, Pick and Speak, Mock Interviews

Module -III Reading Skills

Lecture on various kinds of reading-Reading in thought groups- Lecture on comprehension- Literal comprehension- Identify simple facts presented in written text- Evaluative comprehension- Make judgments about the written text's content-Inferential comprehension- Connect the text to other written passages and situations-Activities based on reading news, stories etc.

Module-V Writing Skills

Lecture on divergent thinking-Reflection of "Self" in writing-Importance of error free writing-Originality and authenticity- Creative writing - poems, short stories, diary writing etc



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Kattakada P.O., Thiruvananthapuram Dist.
Kerala State Pin-695572

Principal

Date: 22/07/2019

Circular

On the recommendations of college Governing Body and college Council, it has been decided to introduce following certificate courses in the academic year 2019-20. The list of new courses is given below

Course code	Name of Value Added Course	Course Co-ordinator
GP	Gandhian perspective of creativity and self employment'	Dr.Shalini.S.V
HR	Human Rights in India-A brief study	Dr.T.B.PremjithKumar

In addition to this, a committee have been appointed to evaluate and monitor the same. The list of the members of the committee is given below

Course code	Name of Value Added Course	Committee Members
GP	Gandhian perspective of creativity and self employment'	Dr.Lubaina.A.S Dr.Jisha.V.T
HR	Human Rights in India-A brief study	Dr.Shirly.O.Y Smt.Viyola.J

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CHRISTIAN COLLEGE KATTAKADA
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DEPARTMENT OF HISTORY
Certificate course

Syllabus

Aim: The course is intended to high light the concept of Human Rights, its evolution and importance in our society.

Objectives: To make an understand about various rights, including political, civil, social, economic and cultural rights To familiarize the Human rights condition in India including constitutional provisions To equip with the students the skills to evaluate the Human Rights enforcement methods.

Human Rights in India-A brief study

MODULE - I

Human Rights: Concept and Significance A. Evolution of Human rights B. Nature of Human Rights. U.N. and Human rights A. UDHR

MODULE – II

Human Rights in India A. NHRC, SHRC – Organisation Powers and Functions B. Role of judiciary –writs judicial activism Human Rights courts, Police and Human rights. C. NGOs in Human Rights

MODULE III

Human Rights Issues in India. Human Rights of socially excluded groups- Dalits, Women, Children, economically weaker, LGBT.

REFERENCES

- Begum, Syed Mehartaj. (2000). Human Rights in India: Issues and Perspectives. New Delhi: APH Publishing.
- Bhuimali, Anil. (2005). Poverty and Human Rights of Women. New Delhi: Serials Publications.
- Brijesh, Babu. (2010). Human Rights and Social Justice. New Delhi: Global Publications.
- Brown, Gordon (2016).
The Universal Declaration of Human Rights in the 21st Century: A Living Document in a Changing World, A report by the Global Citizenship Commission, NYU Global Institute for Advanced Studies, Open Book Publishers.
- 29 Chopra, Geeta. (2015). Child Rights in India: Challenges and Social Action. New Delhi: Springer. Clapham,
Andrew. (2015). Human Rights: A Very Short Introduction, Second Edition. New York: Oxford University Press.