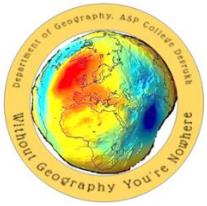
FIRST-YEAR OF MASTER OF ARTS
MAJOR GEOGRAPHY REVISED SYLLABUS
ACCORDING TO CBCS NEP2020

COURSE TITLE: APPLIED CLIMATOLOGY
SEMESTER-II, W.E.F. 2023-2024



RECOMMENDED BY THE BOARD OF STUDIES IN GEOGRAPHY
AND
APPROVED BY THE ACADEMIC COUNCIL

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and
Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: 03

Name of the Implementing Institute	:	Nya. TatyasahebAthalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal.Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Master of Arts
Name of the Department	:	Geography
Name of the Class	:	First Year
Semester	:	Second
No. of Credits	:	04
Title of the Course	:	Applied Climatology
Course Code	:	A511GET
Name of the Vertical in adherence to NEP 2020	:	Major
Eligibility for Admission	:	UG Degree in Geography
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	PG
Pattern of Marks Distribution for TE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from the Academic Year	:	2023-2024
Ordinances/Regulations(if any)		

Syllabus for First Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER-II **Paper No.–II**

Course Title: Applied Climatology **No. of Credits - 04**

Type of Vertical: Major **COURSE CODE:** A511GET

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	
CLO-02	Understand	
CLO-03	Apply	
CLO-04	Analyse	
CLO-05	Evaluate	
CLO-06	Create	

Syllabus for First Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER-II **Paper No.–**I

Course Title: Applied Geomorphology **No. of Credits -** 04

Type of Vertical: Major **COURSE CODE:** A501GET

Topic No.	Content	Credits	No. of Lectures
1	**Introduction to Applied Climatology** o Definitions of Applied Climatology o Nature of Applied Climatology o Scope of Applied Climatology o Evolution and Development of Applied Climatology	01	15
2	**Climatic Data and Impact of Climate** o Sources and types of climatic data o Impact of climate on human life, soils, agricultural activities, and health. o Causes, impacts and society's response to change in air quality and atmospheric pollution Causes and impacts of greenhouse gas (GHGs) emission, o Global Climatic Issues- ozone layer depletion, and acid rain	01	15
3	**Climatic Classification 15** o Approaches to climatic classification and climatic regions, o Climatic classification of Koppen, and Thornthwaite; o Characteristics of general weather systems of India – spatial and seasonal variation of temperature, humidity, wind and precipitation; o Agro-climatic Zones in India	01	15
4	**Climate Change** o General overview of the climate change – o Theories of Climate Change, o Observed changes and their impacts on nature and humans o Significant climate anomalies - notable events of recent times, extreme weather and climate, climate changes o Adaptation and mitigation options for climate change.	01	15

	Total	04	60

Required Previous Knowledge

No previous Knowledge is necessary to learn the course.

Access to the Course

The course is available for all the students admitted for Master of Arts.

Methods of Assessment:

The assessment pattern would be 60:40, 60% for Semester End Examination (SEE) and 40 % for Continuous Internal Assessment (CIA). The structure of the SEE and CIA would be as recommended by the Board of Studies and approved by the Board of Examination and the Academic Council of the college.

Grading Scale

The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

References:

1. Aguado, E., and Burt, J.E. (2013): Understanding Weather and Climate, Pearson, New York, 552pp.
2. Ahrens, C.D. (2008): Essentials of Meteorology – An Invitation to the Atmosphere, Thomson Learning, Belmont, 485pp.
3. Ahrens, C.D., and Samson, P. (2011): Extreme Weather and Climate, Brooks/Cole, Belmont, 508pp.
4. Barry, R.G., and Chorley, R.J. (2010): Atmosphere, Weather and Climate, Routledge, London, 516pp.
5. Christopherson, R.W. (2012): Geosystems – An Introduction to Physical Geography, Prentice Hall, Boston, 623pp.
6. Hobbs, J.E. (1980): Applied Climatology, Butterworth, London.
7. IPCC 5th Assessment report on Climate Change: http://www.ipcc.ch/report/ar5/
8. Lal, D.S.: Climatology. Prayag pustak Bhavan, Allahabad

9. Lutgens, F.K., and Tarbuck, E.J. (2013): The Atmosphere – An Introduction to Meteorology. Prentice Hall, Boston, 506pp.
10. Ruddiman, W.F. (2008): Earth's Climate – Past and Future, W. H. Freeman, New York, 388pp.
11. World Development Report 2010 – Development and Climate Change, The World Bank, Washington D.C., 417pp.

Suggested Research Journal

- Atmospheric Environment (https://www.sciencedirect.com/journal/atmospheric-environment)
- Climatic Change (https://link.springer.com/journal/volumesAndIssues/10584)
- Global Environmental Change (https://www.sciencedirect.com/journal/global-environmental-change)

Additional readings:

- International journal of Climatology (https://rmets.onlinelibrary.wiley.com/journal/10970088)
- Journal of Climate (https://journals.ametsoc.org/toc/clim/current)
- Mausam (http://metnet.imd.gov.in/imdmausam/)
- Weather and Climate Extremes (https://www.sciencedirect.com/journal/weather-and-climate-extremes)