SKILL COURSE ON 'CARTOGRAPHY'

Open for Second Year Graduate Student w.e.f. 2022-23

Approved by the Board of Studies in Geography
And
Finalized 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: _____

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye 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	:	Bachelor of Arts
Name of the Class to Which the course is Open	:	Second Year, Semester Fourth
No. of Credits	:	03
Title of the Course	:	Cartography
Course Code	:	UGESK41
Passing Marks		40%
Nature of Course	:	Skill Course
Level	:	UG/PG
Pattern	:	70:30 (Skill 70: Theory 30)
To be implemented from Academic Year	:	2022-2023

Syllabus for Skill Course on Cartography

(With effect from the academic year 2022-2023)

Title of the Course: Cartography

COURSE CODE: UIGES41 **Credits - 03**

COURSE CONTENT			
Module No.	**Content**	**Theory Lectures**	**Practical**
1	Getting Started: Let's Get Mapping o Cartography as science and art o Get set up with ArcGIS Pro/ArcGIS Online/ QGIS, and exercise data o Use ArcGIS Pro / QGIS to design a small-format, multiscale topographic map, using generalization tools and scale-dependent symbology o Use layouts for composition o Add contextual detail, insets, legends, and marginalia.	03	09
2	Maths for Map Makers o Explore how coordinate systems, transformations, and projections affect your map's message o Effects of projections and data classification methods on thematic maps o Design and publish a custom base map in a nonstandard projection to support thematic data o Build attribute driven symbology o Publish a multiscale web map and app.	03	09
3	The Language of Graphics o See how generalization, symbology, and colour affect your story o Explore generalization techniques that reduce feature complexity for smaller-scale displays o Create a variety of thematic maps, including choropleth, proportional symbol, value by alpha, and multivariate maps o Change symbology and use transparency in creative ways.	03	09

4	Labels and Composition o Learn a little about typography, label placement, and map composition. o Set up a palette of label styles for different features and explore options for positioning them around other map details o Create a layout that includes a range of marginalia o Use ArcGIS / QGIS expressions to define labels in innovative ways.	03	09
5	Going 3D o Consider how to best use the z dimension to represent data for both reference and thematic maps o Use 3D symbology and develop a sense of when 3D adds value to your map o Build 3D scenes and vary the way features are represented using attributes and dynamic symbology	03	09
6	Mapping Movement and Change o Use the time-aware and animation controls in ArcGIS Pro/ QGIS to design maps that show temporal change o Direct an animated movie to map change; add captions and dynamic overlay information; and publish in a range of popular, shareable formats o Create a display of small multiples for an infographic poster.	03	09
	Total	15	60

Practical Record: A journal comprising one exercise each needs to be submitted by the student at the end of the semester.

After completing the course, the learner will be able to…		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Remember the fundamentals of Cartography
CLO-02	Understand	Understand the elements of maps need to be considered at the time of Preparation of the Map
CLO-03	Apply	Apply language of Graphics for the Preparation of Maps
CLO-04	Analyze	Analyze the maps prepared by others considering the Basic Map Elements
CLO-05	Evaluate	Evaluate the infographics provided through Maps
CLO-06	Create	Create his/her map related to any region considering the standardized parameters

Required Previous Knowledge

No previous knowledge is necessary to start learning the course.

Access to the Course

The course is available for all the students admitted for Bachelor of Arts, Commerce, and Science and admitted in the second year at UG as well as PG.

SKILL COURSES- SCHEME OF EXAMINATION

A) Theory Component- 30 marks

a) Class Test- 10 marks

One class test of 30 marks, one hr duration, shall be conducted in a given semester, and the performance of students in the test shall be converted to out of 10 marks.

b) Semester End Assessment (SEA)- 20 marks

The Semester End Examination of 50 marks, 2 hrs duration, shall be conducted at the end of the semester, and the performance of students in the examination shall be converted to out of 20 marks.

B) Skill Component- 70 marks

1) Attendance- 10 marks
2) Journal/ workbook/assignment book- 20 marks
3) Viva- 10 marks
4) Skill Assessment- 30 Marks-Any two practicals in the laboratory

In addition, if a student completes the course the ESRI's MOOC and submits the certificate will also be graded after conducting an MCQ-based test through MIS software.

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. Slocum, Terry A., 1999, Thematic Cartography and Visualization, Prentice-Hall, Upper Saddle Creek, NJ. www.prenhall.com/slocum
2. MacEachren, Alan M. 1994. Some Truth with Maps: A Primer on Symbolization and Design, Resource Publications in Geography, Washington, DC
3. Carter, James, 1984 Computer Mapping (Progress in the '80s), Resource Publications in Geography, Washington, DC: Association of American Geographers.
4. Dent, Borden D., 1999, Cartography: Thematic Map Design, 5th edition, Boston: WCB/McGraw-Hill.
5. Jones, Christopher, 1997, Geographical Information Systems and Computer Cartography, Harlow, U.K., Addison-Wesley Longman.
6. Kraak, Menno-Jan, Ormeling, Ferjan, 1996, Cartography: Visualization of Spatial Data, Addison-Wesley Publishing.
7. Madej, Ed., 2000, Cartographic Design Using Arcview GIS, 1st edition, OnWord Press.
8. Monmonier, Mark, 1996, How to Lie With Maps, 2nd.Edition, Chicago: University of Chicago Press
9. Monmonier, Mark, 1997, Cartographies of Danger, Mapping Hazards in America, Chicago: University of Chicago Press.
10. MacEachren, Alan, M., 1995, How Maps Work, Representation, Visualization, and Design, Guilford Press
11. Robinson, Arthur H., Morrison, Joel L., Muehrcke, Phillip C. and Stephen C. Guptill, 1995, Elements of Cartography, 6th edition, NY: John Wiley & Sons
12. ESRI, Serving Maps on the Internet, Redlands CA: ESRI Press