

CENTRE FOR GEOINFORMATICS
THE GANDHIGRAM RURAL INSTITUTE (DEEMED TO BE UNIVERSITY)
Gandhigram – 624 302, Dindigul District, Tamil Nadu
Ministry of Education (Shiksha Mantralaya), Govt. of India
Accredited by NAAC with 'A' Grade (3rd Cycle)

DR.M.MUTHUKUMAR, M.Sc., M.Tech., Ph.D.
Assistant Professor
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Ref:C4Geo/2021-2022

04.01.2022

CIRCULAR

We are offering the course titled, **“Introduction to Geoinformatics” (Code: 18GISU04N1)** under Non-Major Elective during the IV Semester for the UG students of other departments.

Kindly bring this information to the notice of UG students of your department, so that those who are interested may contact the undersigned for further details.

Thanking you,

Yours sincerely,

(M.MUTHUKUMAR)

To

All HODs / Directors / Course Coordinators

DIRECTOR i/c
Centre for Geoinformatics
The Gandhigram Rural Institute
(Deemed to be University)
Gandhigram - 624 302
Dindigul District, Tamil Nadu, India.

UG Level

18GISU04N1	<u>Non-Major Elective</u> Introduction to Geoinformatics	3 Credits
<u>Course Objective:</u> The course provides an introduction to various technologies of Geoinformatics and its applications.		
<u>Course Outcome:</u> CO 1. Understand the technologies of Geoinformatics CO 2. Introduce the concept of Remote Sensing and Digital Image Processing CO 3. Learn the concept of Geographical Information System CO 4. Known Global Navigation Satellite System CO 5. Apply tools of Geoinformatics in various fields		
UNIT I Introduction	Meaning - Concept of Spatial Dimension – Contributing Technologies – Earth – Shape - Spatial objects	
UNIT II Remote Sensing & DIP	Definition – Components – EMR - Remote Sensing Resolutions - Aerial - Satellite Remote Sensing. Digital Image Processing: Definition - Stages in DIP – Image Classification	
UNIT III Geographical Information System	Introduction – Definition - Components of GIS – Geodatabase - Analytical Tools of GIS.	
UNIT IV Global Navigational Satellite System	Definition – History - Working Principles – Segments – Global – NAVSTAR, GLONASS, GALILEO; Regional – IRNSS, BEIDOU; Augmentation – WAAS, LAAS.	
UNIT V Application of Geoinformatics	Natural Resources and Disasters Mapping and Management –Environmental Studies -- Urban Studies – Military – Civil Engineering – Agriculture - Navigation - Location Based Services - Facilities Management.	

Text Book

1. Sailful Islam, Geoinformatics, Vayu Education of India, New Delhi, 2013

Reference Books

1. Peter A. Burrough and Rachael A. Mc. Donnell, Principles of Geographical Information System, 3rd Edition, Oxford University Press Inc., New York, 2015.
2. Ian Heywood, Sarah Cornelivs and Steve Carver, An Introduction to Geographical Information System, 3rd Edition, Pearson Education Pvt .Ltd., New Delhi, 2010.
3. LO. C.P., and Albert K.W.Yeung, Concepts and Techniques of Geographic Information Systems, Prentice-Hall of India, New Delhi, 2009.
4. Lillesand M. Thomas and Ralph W.Kiefer, Remote Sensing and Image Interpretation, 6th Edition, John Wiley & Sons, New York, 2017
5. Satheesh Gobi, Global Positioning System – Principles and Applications, Tata McGraw – Hill Publishing Co Ltd, New Delhi, 2005.