Lecture Plan
Department of Planning, School of Planning and Architecture, Vijayawada

Name of Course: Advanced Geoinformatics (BPLN402)

Programme & Sem:	**Bachelor of Planning (UG), Semester Four**
Course Duration:	Dec 28, 2016 to April 28, 2017
Course Coordinator:	Prasanth Vardhan, Mr., Assistant Prof., Dept. of Planning (prasanth@spav.ac.in)
Number of Credits:	03
Total Periods/Week:	03
Internal Assessment	50 (minimum pass marks 50%)
End Evaluation	50 (minimum pass marks 50%) External Jury
Total Marks	100 (to be converted to CGPA credit pattern as per regulations)

Subject Objective: Introduce advanced concepts of geo-informatics; integration and analysis using GIS

Week	Lecture / Session Topic (Teaching-Learning Objective aimed)	Session Mode (Optional)	References / Suggested Readings
Week 1 (starting Dec 28)	Introduction to GIS, Concepts and components - thematic modelling	Lecture	1. ArcGIS 10.3 Help topics https://desktop.arcgis.com/en/arcmap/10.3/main/map/what-is-arcmap-.htm 2. http://desktop.arcgis.com/en/arcmap/10.3/tools/supplement/spatial-reference-and-geoprocessing.htm 3. http://desktop.arcgis.com/en/arcmap/10.3/main/guide-books/about-arcgis-for-desktop-extensions.htm
Week 2 (starting Jan 2)	Types of GIS, vector features – point, line, polygon and annotation	Lecture	
Week 3 (starting Jan 9)	Digital Map Preparation, Creation of vector data- spatial referencing and adjustment;	Lecture and Lab Exercises	
Week 4 (starting Jan 16)	Digital Map Preparation, working space and print space, digitization / vectorisation, working with different layers	Lecture and Lab Exercises	4. http://desktop.arcgis.com/en/arcmap/10.3/map/working-with-layers/adding-layers-to-a-map.htm 5. https://desktop.arcgis.com/en/arcmap/10.3/map/page-layouts/what-is-a-page-layout.htm
Week 5 (starting Jan 23)	Digital Map Preparation, grid, title panel; Quality check – topology creation, error check and correction	Lecture and Lab Exercises	6. http://desktop.arcgis.com/en/arcmap/10.3/manage-data/topologies/topology-in-arcgis.htm
Week 6 (starting Jan 30)	Internal Assessment-I (Feb 01-03)		

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Week 7 (starting Feb 06)	Digital Map Preparation, attribute data creation, integration and query	Lecture Exercises	7. http://desktop.arcgis.com/en/arcmap/10.3/manage-data/tables/joining-attributes-in-one-table-to-another.htm 8. http://desktop.arcgis.com/en/arcmap/10.3/map/working-with-layers/building-a-query-expression.htm
Week 8 & 9 (starting Feb 13)	Field Work I (Feb 13-Feb 24)		
Week 10 (starting Feb 27)	Analysis and Modelling in GIS, Spatial analysis – multi-criteria overlay	Lecture Exercises	9. http://desktop.arcgis.com/en/arcmap/10.3/map/working-with-layers/building-a-query-expression.htm 10. http://desktop.arcgis.com/en/arcmap/10.3/tools/analysis-toolbox/an-overview-of-the-overlay-toolset.htm
Week 11 (starting Mar 06)	Analysis and Modelling in GIS, distance, proximity, buffer; Attribute for spatial modelling	Lecture Exercises	11. http://desktop.arcgis.com/en/arcmap/10.3/tools/analysis-toolbox/an-overview-of-the-proximity-toolset.htm
Week 12 (starting Mar 13)	Internal Assessment-II (March 13-17)		
Week 13 (starting Mar 20)	Analysis and Modelling in GIS, 3D modelling - digital terrain modelling, triangulated irregular network; Model builder	Guest lecture	12. http://desktop.arcgis.com/en/arcmap/latest/extensions/3d-analyst/what-is-the-3d-analyst-extension-.htm
Week 14 (starting Mar 27)	Applications in Urban Planning, Case studies - advanced spatial econometric analysis,	Lecture Exercises	--
Week 15 (starting Apr 03)	Land suitability Assessment	Practicals	--
Week 16 (starting Apr 10)	Internal Assessment-III (Apr10-14)		--
Week 17 (starting Apr 17)	Emerging Concepts and Trends, Dynamic GIS, geo-coding and geo-tagging	Lecture	--

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Week 18 (starting Apr 24)	Emerging Concepts and Trends, web-enabled GIS; Spatial Data Infrastructure	Lecture	13. https://nsdiindia.gov.in/nsdi/nsdiportal/index.jsp 14. https://nsdiindia.gov.in/nsdi/nsdiportal/meetings/NDSAP-30Jan2012.pdf
Apr 28	Finalisation of Internal Marks	--	--

Overall Readings

- Demers, Michael N., (2000) 'Fundamentals of Geographic Information Systems' (2nd edition) John Wiley & Sons, Inc., ISBN No.47131423-4 (Book)
- NUIS statndards, www.moud.gov.in/nuislocalbo dies.up.nic.in/guidelines.pdf 2
- Anil K.Jamwal. 'Geographic Information Systems', Jnanada Prakashan, New Delhi. 2008 (Book)

Note:

1. Any other closed holidays as declared by SPAV shall supercede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.