



Course Code & Title	LISS239 GIS: Environmental Geographical Information Systems / Environmental				
Convenor(s)	Dr Kris Chan kristofer.chan@kcl.ac.uk Department of Geography, King's College London				
Institution	King's College London	Department	LISS DTP		
Academic Year	2019-20	Term	Spring		
Number of sessions	10	Research Platform	Quantitative Research	Length of Session(s)	2 hours each
Day, Date		Start : End	Room Location		
Thursday 16 January 2020 (Lecture)		1400 - 1600	Bush House (SE) 1.05, Strand Campus WC2B 4PJ		
Thursday 23 January 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 30 January 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 06 February 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 13 February 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 27 February 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 05 March 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 12 March 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Thursday 19 March 2020 (Lecture)			Franklin-Wilkins Building 1.11, Waterloo Campus		
Thursday 26 March 2020 (Practical)			King's Building K4.33, Strand Campus WC2R 2LS		
Enrolment Links:	http://bit.ly/liss239 You *will* be prompted to log into SkillsForge				

Course Description:

The course introduces students to spatial data management in the context of Geographic Information Systems (GIS). The role and functionality of GIS will be described theoretically and demonstrated practically using the most commonly used proprietary and open source GIS packages including ArcView, ArcGIS, SAGAGIS and QGIS. At the end of this course students should be able to: plan, capture and manage spatial GIS data from a variety of sources (e.g. digitising, GPS, remote sensing), assess spatial data quality, manage data within a GIS environment.

The course introduces students to spatial analysis in the context of Geographic Information Systems (GIS). The role and functionality of GIS will be described theoretically and demonstrated practically using the most commonly used proprietary and open source GIS packages including ArcView, ArcGIS, SAGAGIS and QGIS. At the end of the course students should be able to: carry out spatial analysis, spatial queries and spatial data modelling and understand the role of GIS in spatial planning and decision-making processes.

The module is delivered in near-weekly 2-hour sessions, with the following schedule

WEEK	DATE	SESSION	TOPIC	LOCATION
1	Thurs 16 Jan	LECTURE	Introduction to GIS	BH SE 1.05
2	Thurs 23 Jan	PRACTICAL	Coordinate Systems, GPS & Digitization	K4.33
3	Thurs 30 Jan	PRACTICAL	Working with GIS & Making Maps	K4.33
4	Thurs 6 Feb	PRACTICAL	Raster, Surfaces and Interpolation	K4.33
5	Thurs 13 Feb	PRACTICAL	Elkhorn Slough Data Analysis	K4.33
6	READING WEEK: NO SESSION			
7	Thurs 27 Feb	PRACTICAL	Coursework 1 Workshop	K4.33



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8	Thurs 5 Mar	PRACTICAL	Digital Elevation Models & Terrain Analysis	K4.33
9	Thurs 12 Mar	PRACTICAL	Using global databases & Georeferencing	K4.33
10	Thurs 19 Mar	LECTURE	Advanced Multi-Criteria Analysis & Future of GIS	FWB 1.11
11	Thurs 26 Mar	PRACTICAL	Coursework 2 Workshop	K4.33

Reading List:

The readings below provide perspective and overview on the different principles covered in the course.

De Smith, M.J., Goodchild, M.F. and Longley, P. (2018) *Geospatial Analysis: A Comprehensive Guide to Principles, Techniques and Software Tools*. Troubador publishing, Leicester. 6th edition.

Available at: www.spatialanalysisonline.com

Heywood, E., Cornelius, S. and Carver, S. (2010) *An Introduction to Geographical Information Systems*. Pearson Education, Harlow. 4th edition.

Library code: G70.212 HEY / G70.3212 HEY

Longley, P.A. Goodchild, M.F., Maguire, D.J. and Rhind, D.W. (2015) *Geographic Information Systems and Science*. John Wiley and Sons, Chichester. 4th edition.

2005 edition available at: www.geos.ed.ac.uk/~gisteac/gis_book_abridged

Wegmann, M, Leutner, B, & Dech, S (eds) (2016) *Remote Sensing and GIS for Ecologists: Using Open Source Software*. Pelagic Publishing, Exeter.

Available from: ProQuest Ebook Central.

Eligibility:

This is a Master's module that PhDs can audit. Students should be planning to collect georeferenced GIS data as part of their PhD. The data could be social or environmental. The course deals with generic techniques that could apply to any georeferenced data though many of the datasets we use are environmental.

Pre-course preparation:

None

Number of students: 6 maximum

NB Students auditing the course are **not** required to complete the coursework.