

GEOGRAPHICAL INFORMATION SYSTEMS & SPATIAL ANALYSIS, CERTIFICATE

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2020 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

The Certificate in Geographical Information Systems (GIS) and Spatial Analysis is aimed at graduate students desiring knowledge of how to apply advanced techniques of GIS and spatial analysis to issues of design, planning, urban policy, the environment, and other related fields.

For more information: <https://www.design.upenn.edu/all-degrees-certificates/gis-and-spatial-analysis-certificate> (<https://www.design.upenn.edu/all-degrees-certificates/gis-and-spatial-analysis-certificate/>)

Curriculum

A total of 5 course units are required to complete the Certificate program.

| Code | Title | Course Units |
|--|---|--------------|
| Required Courses ¹ | | |
| <i>Introductory Courses</i> ² | | |
| Select one of the following: | | 1 |
| CPLN 503 | Modeling Geographical Objects | |
| CPLN 632/ LARP 741 | Modeling Geographic Space | |
| <i>Applications and Advanced Courses</i> | | |
| Select three of the following: | | 3 |
| CPLN 590 | Spatial Analysis for Urban and Environmental Planning | |
| CPLN 632/ LARP 741 | Modeling Geographic Space ³ | |
| CPLN 670/ LARP 743 | Geospatial Software Design | |
| CPLN 671 | Spatial Statistics and Data Analysis | |
| CPLN 675 | Land Use and Environmental Modeling | |
| ESE 502 | Introduction to Spatial Analysis | |
| <i>GIS Capstone Project</i> | | |
| CPLN 680/ LARP 745 | Advanced Topics in GIS | 1 |
| Total Course Units | | 5 |

¹ Substitutions must be approved in writing by the Director and submitted to the Weitzman School of Design Office of Student Services.

² Students who have previously taken an introductory GIS course in another department (e.g. URBS 530, SWRK 730, or HSPV 741) may use it to meet this requirement subject to the permission of the Certificate director.

³ Students who have completed CPLN 503 may take CPLN 632/LARP 741 as an advanced course.