

UEP Policy and Planning Competency Grid

Course Name/Number: Intro to GIS UEP 232

Instructor: Parmenter

Semester: Fall/Spring

a) Knowledge Competencies	Specific sub-competencies or examples as developed in this course
1. History, structure, function of urban and metropolitan settlements	Moderate focus - Through learning to work with urban/metropolitan spatial data, students learn about the structure of contemporary US cities and metropolitan regions
2. Economic influences on policy and planning (e.g. 'market' and 'polis' relationships)	
3. Environmental, social and cultural influences on policy and planning	Moderate focus - Students learn to find, map and analyze demographic (census), housing, infrastructure, and environmental information
4. Understanding different roles in policy and planning	
i) Levels of government	Minor focus – students learn which levels of government typically produce which data and information
ii) Governance structures	
iii) Citizens and residents	
iv) NGOs	
5. History, theory and processes of policymaking	
6. History, theory and process of planning	
7. Implementation of policy and planning	

8. Evaluation of policy and planning	
9. Administrative and legal aspects of policy	
10. Administrative and legal aspects of planning	
11. Politics of policy and planning	

b) Skills Competencies	Specific sub-competencies or examples as developed in this course
1. Critical thinking	
i) Defining problem	Moderate focus of the course – students choose and develop a final GIS project that requires them to define a problem first
ii) Documenting the extent of a problem	
iii) Documenting the political and social context	Moderate focus – students learn how to use and map census and other socio-demographic data for understanding community contexts
iv) Documenting the environmental and spatial context	Moderate focus - students learn how to use a wide variety of data sets to understand community contexts (e.g., land use, land cover, property records, business locations, service locations, sensitive habitats, transportation lines, regulated facilities)
v) Identifying possible analysis strategies and their implications	
vi) Identifying criteria for proposing solutions	
vii) Identifying criteria for selecting solutions	
viii) Evaluating the development and results of policies and plans	

2. Research skills	
i) Understanding research design	
ii) Collecting relevant literature	
iii) Analyzing relevant literature	
iv) Identifying and assessing data sources and limitations	Major focus of the course – students must search for GIS and tabular information, assess data relevance and quality, and document limitations for use. Particular emphasis is given to census data and to land/property data.
v) Developing data collection instruments and tools	
3. Data Analysis skills	
i) Interpreting and synthesizing data	
ii) Drawing inferences from specific observations to make	
iii) More generalizable findings	
iv) Comparative analysis	
v) Longitudinal analysis	
vi) Recognizing and accounting for limitations to findings	Requirement for one assignment and final project, and also discussed in many examples
4. Qualitative Analysis skills	
i) Direct observation	
ii) Analysis of primary qualitative data	
iii) Analysis of secondary qualitative data	

5. Quantitative Analysis skills i) Descriptive statistics	Moderate focus – students use descriptive statistics in mapping and analysis
ii) Inferential statistics	
iii) Basic forecasting	
iv) Use of spreadsheets and statistical software	Minor focus – students use spreadsheets to prepare non-spatial data for conversion into GIS data
6. Spatial Analysis skills i) Understand how to identify spatial problems and frame spatial questions for analysis and research	This is the major focus of the course and is the subject of all assignments and final project
ii) Use Geographic Information System for basic spatial analysis and mapping	Covered in full
7. Communication skills i) Writing skills	Minor focus – final project requires two products – poster in which writing is extremely concise and guides/supplements interpretation of graphic information, and a written “how to” document outlining steps together with a final assessment of the project and its limitations.
ii) Speaking skills	
iii) Graphic presentation skills	Major focus of the course – specifically cartographic design principles but also the visualization of quantitative information in maps, charts and tables.
iv) Presentation strategies and methods	Moderate focus – poster design and production is required for the final project, and students have a workshop in poster design principles.

c) Policy and Planning in Practice Competencies	Specific sub-competencies or examples as developed in this course
1. Collaboration skills i) Negotiation	
ii) Group project management	
iii) Group problem solving	
iv) Perspective-taking	
v) Adaptability, flexibility	
vi) Networking	
2. Organizational management skills i) Decision making	
ii) Strategic problem solving and adapting to change	
iii) Human resource development	
iv) Financial management and resource development	
3. Political and economic power mapping skills i) Understanding political and economic power structures and dynamics	
ii) Modes of influencing their use	
4. Ethical and professional behavior skills i) Understanding and upholding the role of ethics and accountability in professional policy and planning processes, practices, and behavior	

