

Final Project:

3-4 students will form a “project team” after the mid-term exam, and choose a possible GIS research topic. (four possible topics are listed next). Each team will select a team coordinator, who will coordinate the work plan of the GIS project. Each team will submit their progress report each week after the mid-term exam. At the end of semester, each team has to submit a “GIS project report” in paper format and present it in front of the class as the final exam. The paper should include two parts:

Group report (10-15 pages, double space):

Individual report (3-5 pages, double space):

Detail descriptions of Final project will be mentioned later before the mid-term exam. Here are some possible research topics:

1. Site Selection for a new San Diego International Airport.
2. Evaluation of housing price in San Diego.
3. Design a new route-extension for the Trolley System in San Diego.
4. Design a one-day bus tour in San Diego.

Please Note: I do not give incompletes. I do not give make-up exams.

	Week	Lecture	Reading	Lab Exercise
1	2 Sep 4	Introduction What is a GIS? The Nature of GIScience	Abler; Goodchild Ch. 1 (DeMers)	No lab this week
2	9 Sep 11	History of GIS Nature of Spatial Data	Coppock Ch. 2 (DeMers)	Lab 1 ArcView-Basic
3	16 Sep 18	Map display Symbolization	Ch. 3 (DeMers)	Lab 2 ArcView-Functions
4	23 Sep 25	GIS Data Structure GIS Database I	Ch. 4 (DeMers)	Lab 3 ArcGIS-1 (Ch. 3,4)
5	30 Sep 2 Oct	Data Process GIS operation	Steinitz Ch. 5, 6 (DeMers)	Lab 4 ArcGIS-2 (Ch. 5, 6, 7)
6	7 Oct 9	GIS Analysis I Map Projection	Sinton Ch. 7, 8 (DeMers)	Lab 5 ArcGIS-3 (Ch. 8, 9)
7	14 Oct 16	Guest Speech (Web-GIS) Object-oriented modeling	Tsou (1996) Ch. 9,10 (DeMers)	Lab 6 ArcGIS-4 (Ch.10, 11)
8	21 Oct 23	GIS Analysis II Introduction of Team Project (Exam review)	Ch. 11, 12, 13 (DeMers)	Lab 7 ArcGIS-5 (Ch. 12, 13)
9	28 Oct 30	Mid-Term Exam Project Management	Ch. 14, 15 (DeMers)	Lab 8 ArcGIS-6 (Ch. 14, 15)
10	4 Nov 6	Internet GIS Visualization and Multimedia	Buttenfield Fabrikant	Lab 9 ArcGIS-7 (Ch. 16, 17)
11	11 Nov 13	Temporal GIS Computer environments		Lab 10 ArcGIS-8 (Ch. 18, 19)
12	18 Nov 20	Mobile GIS applications The Future of GIS	UCGIS Tsou (2002)	Group Project
13	25 Nov 27	Thanksgiving (No class this week)		<i>Lab open for group projects</i>

14	2 Dec 4	GIScience vs. GIServices Project Presentation (1)	Wright	Group Project
15	9 Dec 11	Project Presentation (2) Project Presentation (3)		Group Project

Additional Readings: (located in Storm Hall 319 or on-line <http://ecr.sdsu.edu/> → geography → GEOG484 → password: _____)

1. Abler, R. F. (1987). The National Science Foundation National Center for Geographic Information and Analysis. *International Journal of Geographical Information Systems*, 1(4), pp. 303-326.
2. Buttenfield, B. P. (1996). Scientific Visualization for Environmental Modeling: Interactive and Proactive Graphics. In M. F. Goodchild et al. (editors), *GIS and Environmental Modeling*. Fort Collins, Colorado: GIS World Books. pp. 463-469.
3. Coppock, J. T., & Rhind, D. W. (1991). The History of GIS. In D. J. Maguire, M. F. Goodchild, & D. W. Rhind (editors), *Geographical Information Systems: Principles and Applications* (Vol. 1). Harlow, U.K.: Longman Group. pp. 21-43.
4. Goodchild, M. F. (1990). Keynote Address: Spatial Information Science. In *Proceedings of the 4th International Symposium on Spatial Data Handling, Zurich, Switzerland*. pp. 3-12.
5. Fabrikant, S. I. (2000). Spatialized Browsing in Large Data Archives. *Transactions in GIS*, vol. 4, no. 1: 65-78. **(In Reading room only)**
6. Sinton, D. F. (1978). The inherent structure of information as a constraint to analysis: mapped thematic data as a case study. In G. H. Dutton (editor), *Harvard Papers on Geographic Information Systems* (Vol. 7). Reading, Massachusetts: Addison-Wesley. pp. 1-17
7. Steinitz, C., Parker, P., & Jordon, L. (1976). Hand-Draw Overlays: Their History and Prospective Use. *Landscape Architecture*, September, pp. 444-445.
8. Tsou, M. -H., & Buttenfield, B. P. (1996). A Direct Manipulation Interface for Geographical Information Processing. In *Proceedings of the 7th International Symposium on Spatial Data Handling, Delft, The Netherlands*. IGU: 13B.37-13B.47.
9. Tsou, M.H. and Buttenfield, B.P. (2002). A Dynamic Architecture for Distributed Geographic Information Services. *Transactions in GIS*. 6(4): 355-381. **(In Reading room only)**
10. Wright, D. J., Goodchild, M. F. and Proctor, J.D. (1997) Demystifying the Persistent Ambiguity of GIS as 'Tool' Versus 'Science'. *Annals of the Association of American Geographers*, 87(2), pp.346-362.