Experiencing the Landscape:
A Perceptual, Physical, & Digital Journey

Landscape Architecture, The Design School
Arizona State University
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LAP494 - Landscape Surveying & Mapping

Learning Outcomes for Students:

1. Learn how to use mental mapping to inventory landscape experiences.
2. Learn basic orientation & surveying techniques to physically map landscapes.
3. Learn basic GIS & GPS skills to digitally map the world around us.
4. Synthesize how each type of mapping is similar and or different from each other.
5. Understand why mapping systems are important to design (geodesign).
Landscape Surveying and Mapping

Class Breakdown

- **Attendance**
  - 10%
  - Strict attendance

- **Homework**
  - 10%
  - Weekly

- **Mental Mapping**
  - 20%
  - 1st, 2nd, & 3rd place mental mapping exercise where students had to mentally map each distinct area, included a supplemental essay

- **Orienteering & Surveying**
  - 20%

- **GIS/GPS Mapping**
  - 20%

- **Overlay Analysis & Synthetization**
  - 20%

- **Surveying Palm Walk**
  - Used traditional mapping techniques and a total station to survey, group project, included a supplemental essay

- **Using digital GPS and mobile phones**
  - Students re-mapped Palm Walk, created an online web GIS map, included a supplemental essay

- Overlay each mapping exercise for a comprehensive analysis and synthetization. Students explain why mapping is important to design in a final presentation
Mental Mapping

Cognitive Mapping / Mental Mapping

Environmental Perception

Mapping People’s Experiences and how they interact with the landscape

Tolman

Plan of maze
14-unit T-Alley Maze

Fig. 1

Mental Mapping

Cognitive Mapping / Mental Mapping

Environmental Perception

Mapping People’s Experiences and how they interact with the landscape

Lynch
Mental Mapping

Cognitive Mapping / Mental Mapping

Environmental Perception

Mapping People’s Experiences and how they interact with the landscape
Orienteering and Surveying

Desert Arboretum Park Survey

Palm Walk Survey
Orienteering and Surveying

Desert Arboretum
Park Survey

Palm Walk Survey

4. Date Palm
GIS/GPS Mapping

GIS/GPS Introduction

GIS Mapping Palm Walk
GIS/GPS Mapping

GIS Mapping Palm Walk

https://arcg.is/0mHvTH
Overlay Analysis / Synthetization

McHarg
Overlay Analysis / Synthetization

Environmental Perception & Mental Mapping

Cognitive mapping or mind mapping is used to depict someone's feelings, thoughts, and experiences using spatial context while also storing those memories to use for future decisions and analysis.

Landscape Design

Mapping can help landscape architects design more efficiently for the future through ecological analysis of the site, as well as the social analysis.

Digital Tools
- Theodolite
- Total Station
- Tri-Pod
- Retroreflector
- Computer
- CAD
Overlay Analysis / Synthetization

Overview

3 Types of Mapping:

- Mental Mapping
- Orienteering & Surveying
- Digital Mapping
Overlay Analysis / Synthetization

Projects

Mental Mapping

Surveying

GIS
A Plan for the Future...

Incorporating Future Technologies
A Plan for the Future...

Incorporating Future Technologies

ArcGIS Urban
Orchestrate urban development

GeoPlanner for ArcGIS

Thank You!