**Introduction**

Current sustainability dialogue is increasingly focused on cities as having great potential for leading efforts to mitigate global climate change, enable regional climate adaptation, and preserve critical natural systems and ecological functions. Within cities, the neighborhood or district has emerged as an effective scale of engagement and intervention, spatially, socially, and politically. Neighborhoods and districts offer the potential for environmental resources to be shared among buildings and infrastructure, economies to be localized, sustainable behavior to become embedded into social norms, and new forms of social structures and governance to emerge. The retrofit and revitalization of existing neighborhoods, based on principles of sustainability, resiliency, natural capital, and urban ecology are of particular interest. This course explores these issues and opportunities through the lens of a particular place that is positioned for new planning, urban design, and development.

**Learning Objectives**

The main objective of the course is for students to: create a deep understanding of the ecological, topographical, hydrological, historic, social, and climate conditions related to the study location; gain detailed knowledge of both established and emerging performance-based methods for addressing issues of energy, water, waste, food, transportation, habitat, biomimcry, and local economies at the district or neighborhood scale; apply both in creating a proposal for future use of the site. Students in the course will work in groups to collectively produce quantitative analysis of baseline and proposed environmental performance, a detailed plan proposal for the neighborhood and associated graphics, and a presentation that outlines the key components and expected outcomes of the plan.

The **Eco Districts Protocol** will serve as the primary design framework for developing a proposal to transform a Los Angeles neighborhood. Other frameworks to be used as references and resources are the Strategic Growth Council’s **Transformative Climate Communities program**, **Living Communities Challenge**, and **LEED for Neighborhood Development**.

Upon completion of the course students will:

- Understand how the principles of ecology and sustainability can be applied to an urban context.
• Be able to apply quantitative analysis methodologies in the area of land use, development intensity, urban design, energy use, water use, health and livability, and access to biophilic elements.
• Be able to use the results of these analyses to create a detailed neighborhood-scale proposal for the green transformation of a specific area of Los Angeles.
• Have further developed writing, graphic representation, and public presentation skills in the process of producing a comprehensive document.

Course Structure

The course has three phases:

1) Site Conditions, Available Resource Capacity, and Development Program Analysis
2) Proposal Development and Refinement
3) Document and Presentation Production

PHASE I

Week 1
The class is provided with the site boundaries and basic development parameters. Topic-based groups are established that correspond to the Eco Districts Protocol “Imperatives” of Climate, Equity, and Resilience and the six Priority Areas.

Weeks 2 and 3
Each group will 1) prepare a baseline analysis of the study area specific to their topic and the corresponding Protocol guidance and criteria and 2) identify how the existing conditions of the site influence the ability to achieve the parameters of the proposed development scenario.

Week 4
Each topical group will present their findings to the class. Following the presentations, the groups will be reorganized such that a topical expert is placed in each of the groups formed for Phase II of the course.

PHASE II

Weeks 5 and 6
This period is devoted to developing an initial proposal for the site that takes into consideration the site characteristics, meets the development parameters, provides quantitative analysis, and is consistent with the Eco Districts Protocol.

Week 7
Each group will present their proposal to the instructor and a group of outside critics.

PHASE III

Weeks 8 through 11
This period is devoted to refinement of the final schemes and production of the final presentation and report, including charts, graphics, and narrative. The teams will also
prepare a final verbal and graphic presentation. During the production period, it is expected that small subteams will be formed to take responsibility for different portions of the final project such as writing, editing, format, graphics, and quantitative analysis.

Course Calendar

PHASE I: Site and Program Analysis

Week 1. April 1
- LEED ND, Transformative Climate Communities
- Site Description
- Program Components
- Topic Group Formation
- Review Resource Factors

Week 2. April 8
- Assignment: identify Initial Possibilities and Constraints
- Group Work

Readings:

EcoDistricts Protocol, EcoDistricts, 2016

International Living Building Institute, "Living Communities Challenge 1.0: A Visionary Path to a Restorative Future", June 2014

Resilient Los Angeles, 2018

Transformative Climate Community program guidelines, Strategic Growth Council, 2018

Week 3. April 15
- Assignment: Initial Baseline Calculations
- Desk Crit and Group Work

Readings:

Jason F. McLennan, “Density and Sustainability – A Radical Perspective” in TrimTab, Second Quarter 2009, pp. 25-34.


14 Patterns of Biophilic Design, Terrapin Bright Green, 2014

Los Angeles Sustainability pLAN, 2015 and 2019 pLAN Refresh
Week 4. April 22
- Group Presentations of Baseline Analysis
- Reorganize into Phase II Groups

PHASE II: Proposal Design and Development

Week 5. April 29
- Assignment: Schematic Design Options
- Desk Crit and Group Work

Readings:

Week 6. May 6
- Assignment: Quantification of Design Concepts
- Desk Crit and Group Work

Readings:


Week 7. May 13
- Mid-term proposal presentations with external critics

PHASE III: Final Plan Document and Presentation Production

Week 8. May 20
- Discussion of mid-term jury comments and proposal revisions
- Groups assign internal responsibilities
- Begin refinement of final plans
- Assignment: Presentation Outlines/Data Needs/Internal Responsibilities

Week 9. Memorial Day – No Class

Week 10. June 3
- Final Presentations

*Final Plan due by midnight Friday June 7th.*
**Site and Program**

The site is an approximately 40-acre area located in Culver City. The boundaries are Jefferson, Sawtell, and Kingston. The area is currently developed with a big box shopping center and two rows of single-family homes. Due to ongoing development pressure caused by the housing crisis and the increasing attractiveness of Culver City as a place to live and work, the site is considered to be underdeveloped. From an environmental standpoint, it is covered in impermeable surfaces that prevent stormwater capture and contribute to the urban heat island. There are few trees or areas of vegetation. Mobility is car-dominated with little provision made for cycling or other forms of low-carbon transportation.

The relatively large site provides the potential for new development that can create a space in this part of Culver City that is walkable, bikeable, and combines housing, jobs, services retail, and environmental functions. The Ivy Station, Platform and other developments adjacent or proximate to the Metro Expo Line provide an idea of the type of development that might be proposed for this location. While increasing housing and creating the density needed to support increased transit and neighborhood retail, development of this scale would also be a significant change for the community and would likely be seen as increasing traffic congestion.

The City has progressive leadership that is committed to fully understanding the possibilities and trade-offs related to allowing a greater intensity of development than has been experienced historically. Possible public benefits include affordable housing, green or park space, business incubators or other flexible employment spaces, and measures to either mitigate or adapt to climate change. A number of these issues are anticipated to be addressed in the upcoming update to the City’s General Plan.

The area provides a unique opportunity to incorporate a range sustainability planning, urban design, and infrastructure measures. A fundamental issue to address is that the area currently lacks a strong sense of place or active public life and is largely defined by the wide streets surrounding the site and the intersections of Sepulveda and Jefferson Boulevards.

Given the emphasis on sustainability and resilience within the City Council, and growing concerns about the impacts that development can have on the integrity of neighborhoods, there is an expectation that any major development will aspire to high levels of sustainability and attempt to avoid the negative impacts of gentrification. This includes constructing additional housing units, creating affordable and market rate housing, increasing energy and water efficiency, installing renewable energy systems, capturing rainwater in local aquifers, improving access to urban ecosystems, and increasing resiliency through approaches that include using public buildings like schools, fire stations, and libraries as “resilience hubs.”

The proposal for the site should follow the Imperatives and Priority Areas outlined in the Eco Districts Protocol and integrate relevant aspects of the State of California Transformation Climate Communities guidelines. Other programs such as Living Communities Challenge, LEED for Neighborhood Development, LEED for Cities and Communities may be used for inspiration.
In addition, when developing the proposal, the following principles can be applied:

• The current topography of the site can be altered.

• Modifications to the street network within and surrounding the project area can be proposed.

• Existing land uses and buildings can be modified or removed.

• Infrastructure can be moved or daylighted.

• Parking must be provided to serve the anticipated needs of the proposed development. A rate of 40% less than the base ratios recommended by the City of Culver City is acceptable. Other options such as shared parking, autonomous vehicles, TNCs, bike share, or other forms of shared mobility can be used to create a case for ever greater reductions in parking.

**Grading**

Grades will be awarded at the end of each of the three phases. All team members will receive the same grade for each phase. Individual student grades may be adjusted based on the following factors: attendance, engagement in the group activities, and participation in mid-term and final presentations. Grading will be as follows:

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<tr>
<th>Phase</th>
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<tr>
<td>Phase I</td>
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<td>Phase II</td>
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<td>Phase III</td>
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**Contact Info and Office Hours**

For urgent matters, you may contact the instructor at walkerwells2@gmail.com, or the TA Katie Gancedo at kgancedo@gmail.com. In lieu of office hours, the instructor is available to meet before or after class by appointment.