

# LANDSCAPE & ENVIRONMENTAL DESIGN (LED)

College of Agricultural & Environmental Sciences

## LED 001 – Introduction to Environmental Design (4 units)

*Course Description:* Introduction to the role of design professionals in contributing to the built environment at a range of scales. Introduction to basic methods used by design professionals to evaluate, design, plan, and manage landscapes and the built environment.

*Learning Activities:* Lecture 3 hour(s), Discussion 1 hour(s).

*Credit Limitation(s):* Not open for credit for students who have completed LDA 001.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Science & Engineering (SE) or Social Sciences (SS); Domestic Diversity (DD); Visual Literacy (VL).

## LED 002 – Place, Culture & Community (4 units)

*Course Description:* Social dimensions of landscapes and everyday environments, including concepts of place, culture and community. Urban and rural environments including wilderness, parks, sacred space, agricultural sites, workplaces, transportation networks, housing, recreation, and military sites. Application of course concepts and methods for interpreting cultural landscapes through archival and field research.

*Learning Activities:* Lecture 3 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Social Sciences (SS); American Cultures, Governance, & History (ACGH); Visual Literacy (VL); Writing Experience (WE).

## LED 003 – Sustainable Development: Theory & Practice (4 units)

*Course Description:* Origins, theoretical perspectives, and practical applications of the concept of sustainable development across scales (site, building, neighborhood, city, region, and nation) through lectures, sketch exercises, student projects, walking tours.

*Learning Activities:* Lecture 3 hour(s), Discussion 1 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken LDA 003.

*Grade Mode:* Letter.

*General Education:* Social Sciences (SS); American Cultures, Governance, & History (ACGH); Visual Literacy (VL); Writing Experience (WE).

## LED 010 – World Regional Geography (3 units)

*Course Description:* Major geographic regions of the world; physical and human geography of each region; interactions between the people and the environment; culture and landscape; major resources; physical environments; population distribution and major cities.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Social Sciences (SS); World Cultures (WC).

## LED 021 – Landscape & Environmental Design Representation I (4 units)

*Course Description:* Introduction to landscape architectural representation techniques. Fundamentals of orthographic drafting, freehand drawing, photography, and basic digital representation.

*Prerequisite(s):* LED 001 C- or better (can be concurrent) or LDA 001 C- or better; or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Pre-Landscape Architecture and Sustainable Environmental Design majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 021.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH); Oral Skills (OL); Visual Literacy (VL).

## LED 030 – History of Environmental Design (4 units)

*Course Description:* History of Environmental Design across disciplines, including landscape architecture, architecture, planning, and urban design.

*Learning Activities:* Lecture 4 hour(s).

*Enrollment Restriction(s):* Not open for credit to students who have taken LDA 030.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH); Visual Literacy (VL); Writing Experience (WE).

## LED 050 – Site Ecology (4 units)

*Course Description:* Introduction to ecological concepts, including nutrient dynamics, population regulation, community structure, ecosystem function. Principles will be applied to human activities such as biological conservation, ecological restoration, landscape planning, and management. Weekly lab devoted to field exercises in local ecosystems.

*Prerequisite(s):* BIS 002B.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture and Sustainable Environmental Design majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 050.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE); Visual Literacy (VL).

## LED 060 – Landform & Grading Studio (6 units)

*Course Description:* Introduction of landform and topography as landscape medium and utilization of grading and drainage to design meaningful and functional spaces. Intro to site analysis and site planning, with specific attention to topography.

*Learning Activities:* Studio 8 hour(s), Extensive Problem Solving.

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 060.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Science & Engineering (SE).

**LED 070 – Introduction to Spacemaking (4 units)**

*Course Description:* Introduction to basic principles of design towards the creation of space. Design methodologies and skills to define, manipulate, and represent the built environment. Workshops in 3D physical modeling for spacemaking.

*Prerequisite(s):* LED 021 or LDA 021; or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Pre-Landscape Architecture and Sustainable Environmental Design majors.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH); Oral Skills (OL); Visual Literacy (VL).

**LED 092 – Internship in Environmental Design (1-12 units)**

*Course Description:* Supervised internship, off or on campus, in community, professional and institutional settings.

*Prerequisite(s):* Consent of Instructor.

*Learning Activities:* Internship.

*Grade Mode:* P/NP only.

**LED 098 – Directed Group Study in Landscape & Environmental Design (1-5 units)**

*Course Description:* Directed Group Study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

**LED 099 – Special Study for Undergraduates in Landscape & Environmental Design (1-5 units)**

*Course Description:* Special study for undergraduates.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

**LED 102 – Methods in Environmental Design Research (3 units)**

*Course Description:* Research, design, and planning methods employed in various disciplines of environmental design, including architecture, landscape architecture, planning, and urban design. Historical overview of research methodology. Designing independent environmental design research.

*Prerequisite(s):* LED 050 or LDA 050; or consent of instructor..

*Learning Activities:* Lecture 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental Design and Landscape Architecture majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 102.

*Grade Mode:* Letter.

**LED 119 – Landscape & Environmental Design Representation II (4 units)**

*Course Description:* Methods to explore and communicate environmental design intentions through digital media.

*Prerequisite(s):* LED 021 or LDA 021; or consent of instructor.

*Learning Activities:* Studio 4 hour(s), project.

*Enrollment Restriction(s):* Fall quarter Pass One restricted to Landscape Architecture majors; winter and spring quarters Pass One restricted to Sustainable Environmental Design majors.

*Credit Limitation(s):* No credit if student has taken LDA 023.

*Grade Mode:* Letter.

**LED 120 – Landscape & Environmental Design Representation III (4 units)**

*Course Description:* Studio to explore advanced representation and modeling skills. Digital drawing applied as an analytical research method, generative design technique and presentation tool.

*Prerequisite(s):* LED 0119 or LDA 119; or consent of instructor.

*Learning Activities:* Studio 6 hour(s), Project.

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture majors.

*Grade Mode:* Letter.

**LED 130 – Plants in the City (4 units)**

*Course Description:* Benefits of plants in the urban environment. Plant selection and usage to create multifunctional urban green networks. Emphasis on the environmental, social, and economic value of plants in cities.

*Prerequisite(s):* (LED 050 or LDA 050); (LED 070 or LDA 070); or consent of instructor.

*Learning Activities:* Lecture/Lab 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental Design majors.

*Repeat Credit:* No repeat credit for students who have taken LDA 130.

*Grade Mode:* Letter.

**LED 140 – Green Building, Design, & Materials (4 units)**

*Course Description:* Introduction to performance-based foundations of sustainable and regenerative design. Emphasizes engagement with processes, materials, work practices and technologies at a range of site and building scales, using real-world case studies and design projects.

*Prerequisite(s):* (LED 050 or LDA 050); (LED 070 or LDA 070); or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental Design majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 140.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

## LED 141 – Community Participation in Design & Planning (6 units)

*Course Description:* Introduction to community participation in design and planning. Histories, theories, policies and practices of participation, including social, cultural and political factors, and incorporating diverse perspectives within the design and planning process. Contemporary methods are applied through real-world projects undertaken in collaboration with community partners.

*Prerequisite(s):* (LED 030 or LDA 030); (LED 070 or LDA 070); or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 5 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental design majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 141.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Social Sciences (SS); American Cultures, Governance, & History (ACGH); Domestic Diversity (DD).

## LED 142 – Applying Sustainable Strategies (6 units)

*Course Description:* Capstone course examines case studies and techniques of sustainable development. Teams develop detailed proposals for real-world sites.

*Prerequisite(s):* (LED 140 or LDA 140); (LED 141 or LDA 141); or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s), Project.

*Enrollment Restriction(s):* Restricted to Sustainable Environmental Design Majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 142.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Science & Engineering (SE) or Social Sciences (SS).

## LED 150 – Introduction to Geographic Information Systems (4 units)

*Course Description:* Basic concepts, principles, and methods of GIS are presented. Data structures, database design, GIS data creation, GPS, and spatial analysis. May be taught abroad.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture and Sustainable Environmental Design majors.

*Credit Limitation(s):* Not open to credit for students who have completed ABT 180, PLS 180, ABT 181N.

*Cross Listing:* ABT 150.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

## LED 151 – Ecological Design (4 units)

*Course Description:* Ecological design at an urban design scale, with a focus on applying ecological design principles and GIS technology to conduct site analysis and develop design proposals. Ecological theory, conservation strategies, and GIS-based methods for mapping, analysis, and design.

*Prerequisite(s):* (LED 050 or LDA 050); (LED 150 or LDA 150 or ABT 150); or consent of instructor.

*Learning Activities:* Lecture 3 hour(s); Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental Design majors.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

## LED 160 – Design & Build Studio (6 units)

*Course Description:* Introduction to the spatial design and construction of small-scale projects. Hands-on approach to learning and understanding materials (including wood, concrete, and stone) and methods in landscape construction, and the application of technical skills (including detailing, cost estimation, and specifications).

*Prerequisite(s):* LED 070 or LDA 070; or consent of instructor.

*Learning Activities:* Studio 8 hour(s), Term Project, Extensive Problem Solving.

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 160.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH).

## LED 161 – Professional Practice & Construction Documents (4 units)

*Course Description:* Legal and professional aspects of landscape architecture, including the development of construction documents (drawings and specifications), proposal writing, fee calculations, project management, cost estimation, and insurance.

*Prerequisite(s):* LED 160 or LDA 160; or consent of instructor.

*Learning Activities:* Studio 8 hour(s), Project.

*Enrollment Restriction(s):* Open to Landscape Architecture majors only.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 161.

*Grade Mode:* Letter.

## LED 170 – Site Planning & Design Studio (6 units)

*Course Description:* Application of place-making and problem-solving skills to local landscape sites. Analysis of social and environmental conditions in the field. Lectures link design projects to contemporary theories and practices.

*Prerequisite(s):* LED 160 or LDA 160; or consent of instructor.

*Learning Activities:* Studio 8 hour(s), Project.

*Enrollment Restriction(s):* Open to Landscape Architecture majors only.

*Credit Limitation(s):* Not open for credit to student who have taken LDA 170.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH).

**LED 171 – Urban Design & Planning Studio (6 units)**

*Course Description:* Studio designing large-scale landscapes at regional, sub-regional, and neighborhood scales. Focuses on understanding complex social, economic, and environmental factors, developing sustainability priorities and strategies, and applying them through design and policy.

*Prerequisite(s):* Consent of Instructor.

*Learning Activities:* Studio 8 hour(s).

*Enrollment Restriction(s):* Open to Landscape Architecture majors.

*Repeat Credit:* Not open for credit to students who have taken LDA 171.

*Grade Mode:* Letter.

**LED 172 – Architectural Design (4 units)**

*Course Description:* Conceptual design process as practiced by the discipline of architecture. Concepts of program, massing, structure, building systems and materials. Hand and computer aided drawing and physical model building.

*Prerequisite(s):* LED 070 or LDA 070; or consent of Instructor.

*Learning Activities:* Lecture 3 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Sustainable Environmental Design majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 172.

*Grade Mode:* Letter.

*General Education:* Arts & Humanities (AH) or Science & Engineering (SE).

**LED 182 – Advanced Landscape Architecture Studio I (6 units)**

*Course Description:* Landscape architecture studio featuring advanced studies and applications of creative work, design, technology and/or theory. One day-long field trip required.

*Prerequisite(s):* LED 171 or LDA 171; or consent of instructor.

*Learning Activities:* Studio 8 hour(s), Project.

*Enrollment Restriction(s):* Open to Landscape Architecture majors only.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 182.

*Grade Mode:* Letter.

**LED 183 – Advanced Landscape Architecture Studio II (6 units)**

*Course Description:* Landscape architecture studio featuring advanced studies and applications of creative work, design, technology and/or theory. One day-long field trip required.

*Prerequisite(s):* LED 171 or LDA 171; or consent of instructor.

*Learning Activities:* Studio 8 hour(s).

*Enrollment Restriction(s):* Restricted to Landscape Architecture majors.

*Grade Mode:* Letter.

**LED 184 – Capstone Landscape Architecture Studio (6 units)**

*Course Description:* Capstone studio that synthesizes learning objectives within the senior-level Landscape Architecture studio sequence. Students required to apply creative problem solving, design theory, technology, and representation skills towards a design approach that addresses complex, real-world environmental design problems.

*Prerequisite(s):* LED 183 or LDA 183; or consent of instructor.

*Learning Activities:* Studio 8 hour(s).

*Enrollment Restriction(s):* Restricted to Landscape Architecture majors.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 184.

*Grade Mode:* Letter.

**LED 190 – Proseminar in Landscape Architecture & Environmental Design (1 unit)**

*Course Description:* Lectures and discussion of critical issues in landscape architecture and environmental design professions.

*Learning Activities:* Lecture 1 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Landscape Architecture and Sustainable Environmental Design majors.

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

**LED 191 – Landscape & Environmental Design Studio (2-6 units)**

*Course Description:* Faculty initiated workshops featuring advanced studies and applications of original work in landscape architecture and environmental design. May be taught abroad.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Studio 2-8 hour(s).

*Repeat Credit:* May be repeated .

*Grade Mode:* Letter.

**LED 192 – Internship in Landscape Architecture & Environmental Design (1-12 units)**

*Course Description:* Professional field experience in landscape architecture and environmental design.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Internship 3-36 hour(s).

*Repeat Credit:* May be repeated up to 12 unit(s).

*Grade Mode:* Pass/No Pass only.

**LED 197T – Tutoring in Landscape & Environmental Design (1-4 units)**

*Course Description:* Tutoring in Landscape Architecture & Environmental Design courses. Provides advanced students with an opportunity to mentor other students in lower-division courses in LAED.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Tutorial 1-4 hour(s).

*Grade Mode:* Pass/No Pass only.

**LED 198 – Directed Group Study in Landscape & Environmental Design (1-5 units)**

*Course Description:* Directed group study. May be taught abroad.

*Learning Activities:* Variable 1-5 hour(s).

*Grade Mode:* Pass/No Pass only.

**LED 199 – Special Study for Advanced Undergraduates in Landscape & Environmental Design (1-5 units)**

*Course Description:* Special study for advanced undergraduates. May be taught abroad.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.



## LED 201 – Theory & Philosophy of the Designed Environment (4 units)

*Course Description:* Examines a range of contemporary theories informing the design of landscapes and the built environment. Epistemology of design serves as a framework to examine contemporary landscape architecture, architecture, urban design and planning. Normative theories of design are reviewed along with those from the social and environmental sciences.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Seminar 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to graduate students.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 201.

*Grade Mode:* Letter.

## LED 202 – Research Methods in Environmental Design (4 units)

*Course Description:* Research methods used in environmental design. Conceptual frameworks, research design, ethics, proposals, data collection, analysis and dissemination. Methods examined may include visual observation, surveys, interviews, workshops, material studies, experimental design, participatory design, mapping, prototyping, and post-occupancy evaluation.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Seminar 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to graduate students.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 202.

*Grade Mode:* Letter.

## LED 205 – Urban Planning & Design (4 units)

*Course Description:* Regulation, design, and development of the built landscape, planning and land development processes, zoning and subdivision regulation, site planning, urban design goals and methods, public participation strategies, creatively designing landscapes to meet community and ecological goals.

*Learning Activities:* Seminar 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to graduate students.

*Cross Listing:* GEO 233.

*Grade Mode:* Letter.

## LED 215 – Critical Infrastructure Studies (3 units)

*Course Description:* Introduction to interdisciplinary scholarship and design on expanding conceptions of infrastructure, that include social, technical, ecological, political and aesthetic dimensions of the medium. Focus on application of theory to case studies and thinking through landscape as infrastructure.

*Prerequisite(s):* Enrollment Pass One restricted to graduate students.

*Learning Activities:* Seminar 3 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken LDA 215.

*Cross Listing:* GEO 215.

*Grade Mode:* Letter.

## LED 216 – Food & the City (4 units)

*Course Description:* Exploration of theory and practice related to the design and planning of alternative and resilient food systems, including urban agriculture, agrihoods, and agri-/rural tourism. Includes investigation of urban-rural connections and case-studies of regional urban agriculture projects. Field trips required.

*Learning Activities:* Seminar 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to graduate students.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 216.

*Grade Mode:* Letter.

## LED 270 – Environment & Behavior (4 units)

*Course Description:* Factors that influence human's interaction with their surroundings and the mechanisms used for recognizing and addressing general and specific human needs in community design and development decisions.

*Learning Activities:* Seminar 4 hour(s).

*Enrollment Restriction(s):* Pass One restricted to graduate students.

*Credit Limitation(s):* Not open for credit to students who have taken LDA 270.

*Grade Mode:* Letter.

## LED 280 – Methods in Ecological Planning (3 units)

*Course Description:* Analytical methods in ecological planning, aiming for mitigation and adaptation to environmental crises and the impacts of extreme events. Integration of technologies such as advanced GIS, remote sensing, statistical analysis and machine learning, and InVEST ecosystem modeling into an ecological planning research project.

*Learning Activities:* Lecture/Lab 3 hour(s).

*Grade Mode:* Letter.

## LED 297 – Practicum in Landscape & Environmental Design (1-6 units)

*Course Description:* Practicum experience integrating coursework into an applied academic, professional or community-based setting.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Practice.

*Enrollment Restriction(s):* Restricted to graduate students.

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

## LED 298 – Group Study in Landscape & Environmental Design (1-5 units)

*Course Description:* Group Study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Enrollment Restriction(s):* Open to graduate students.

*Grade Mode:* Letter.

## LED 299 – Directed Individual Research for Graduate Students (1-12 units)

*Course Description:* Directed individual research for graduate students in topics of landscape architecture and environmental design.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-12 hour(s).

*Enrollment Restriction(s):* Open to graduate students only.

*Grade Mode:* S/U only.

### **LED 396 – Teaching Assistant Training Practicum (1-4 units)**

*Course Description:* Teaching assistant training.

*Learning Activities:* Variable 1-4 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.