Landscape Architecture and Environmental Planning

Overview

The department encourages students to practice critical thinking, creativity, analysis, and practical understanding. As a result, graduates are prepared to serve as design and planning leaders around the world and help communities increase their resilience in a rapidly changing economic, social, and ecological context. The department offers a variety of degrees to meet students' various educational and career goals, preparing them to be leaders in landscape architectural and environmental planning practice, research, or related fields.

The Department of Landscape Architecture and Environmental Planning (LAEP) offers a Bachelor of Arts (BA) degree in Landscape Architecture. This program offers both a liberal arts oriented and preprofessional education. The Department of Landscape Architecture and Environmental Planning offers a Minor in the History and Theory of Landscape Architecture and Environmental Planning. The department also cosponsors the Sustainable Design Minor with the Department of Architecture.

At the graduate level, the department offers a Master of Landscape Architecture (MLA), a professional degree accredited by the Landscape Architecture Accreditation Board (LAAB) of the American Society of Landscape Architects (ASLA), and a PhD in Landscape Architecture and Environmental Planning. The MLA program is certified as a STEM discipline. The MLA requires two or three years depending on the student's incoming background, and provides the option to specialize in landscape design or environmental planning.

Understanding the need for professionals with the knowledge and skills of more than one discipline, the Department of Landscape Architecture and Environmental Planning offers concurrent master degree programs with the Department of City and Regional Planning (MCP) and the Department of Architecture (MArch). See the links below for further information:

- MLA/MArch Building and Site Design (http://ced.berkeley.edu/ academics/additional-programs/concurrent-m.arch-mla/)
- MLA/EP Environmental Planning Concentration (http:// ced.berkeley.edu/academics/additional-programs/concurrent-mcpmla/)
- MLA/MCP Urban Design Concentration (http://ced.berkeley.edu/ academics/additional-programs/concurrent-mcp-mla/)

For questions about any of the concurrent programs, contact the LAEP Graduate Office at laepgrad@berkeley.edu.

Licensure and Accreditation

The BA degree is certified by the State of California and counts as part of the education/experience requirement of the Uniform National Examination (UNE), as well as for the Landscape Architects Registration Examination (LARE) for licensure.

The MLA degree is accredited by the Landscape Architecture Accreditation Board (LAAB) of the American Society of Landscape Architects (ASLA). It also counts as part of the education/experience

requirement of the Uniform National Examination (UNE), as well as for the Landscape Architects Registration Examination (LARE) for licensure.

Visit the Landscape Architects Technical Committee (http://www.latc.ca.gov/) and the Council of Landscape Architectural Registration Boards (https://www.clarb.org/) for more information about licensure in California.

The MLA program is certified as a STEM discipline.

Landscape Architecture and Environmental Planning Lecture Series

The Department of Landscape Architecture and Environmental Planning sponsors a lecture series which offers students the opportunity to hear internationally acclaimed speakers. These speakers often also participate in classes and seminars as part of their visit to campus. For a schedule of speakers and events in this lecture series, see the College of Environmental Design (CED) website (http://ced.berkeley.edu/eventsmedia/lecture-series/).

Undergraduate Programs

Landscape Architecture (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/landscape-architecture/): BA, Minor

Graduate Programs

Landscape Architecture and Environmental Planning (http://guide.berkeley.edu/archive/2023-24/graduate/degree-programs/landscape-architecture-environmental-planning/): MLA (Master of Landscape Architecture); PhD

Landscape Architecture and Environmental Planning

Expand all course descriptions [+]Collapse all course descriptions [-]

LD ARCH 1 Drawing a Green Future: Fundamentals of Visual Representation and Creativity 4 Units

Terms offered: Summer 2024 8 Week Session, Spring 2024, Summer 2023 8 Week Session

This introductory studio course is open to all undergraduate students in the University, who want to investigate the process of drawing as a method to learn how to perceive, observe and represent the environment. This studio will encourage visual thinking as a formative tool for problem solving that provides a means to envision a sustainable future. The focus will be on the critical coordination between hand, mind and idea. Drawing a Green Future: Fundamentals of Visual Representation and

Hours & Format

Creativity: Read More [+]

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio per week

Summer: 8 weeks - 4 hours of lecture and 6 hours of studio per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Sullivan

Drawing a Green Future: Fundamentals of Visual Representation and

Creativity: Read Less [-]

LD ARCH 12 Environmental Science for Sustainable Development 4 Units

Terms offered: Fall 2024, Summer 2024 8 Week Session, Fall 2023 The scientific basis of sustainability, explored through study of energy, water, food, natural resources, and built environment. Physical/ecological processes and systems, and human impacts from the global scale to local energy/resource use. Energy and water audits, opportunities to increase sustainability of processes/practices. Discussion/lab section involves field data collection/analysis (e.g., habitat characteristics and macroinvertebrate communities in local streams, measurement of atmospheric particulate matter concentrations, measurement of water savings from updated irrigation technologies) and a final, integrative sustainability assessment project.

Environmental Science for Sustainable Development: Read More [+] **Hours & Format**

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Summer: 8 weeks - 6 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Environmental Science for Sustainable Development: Read Less [-]

LD ARCH 98 Directed Group Study for Freshmen and Sophomores 1 - 4 Units

Terms offered: Fall 2015, Spring 2013, Spring 2012

Supervised group studies of various topics relevant to department that are not covered in depth by other courses. Topics may be initiated by students. Open to students in good standing who, in consultation with a faculty sponsor, present a proposal with clearly formulated objectives and means of implementation. Intended for exceptional students. Topics vary from semester to semester.

Directed Group Study for Freshmen and Sophomores: Read More [+] Rules & Requirements

Prerequisites: Department chair must approve written proposal

Credit Restrictions: Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of directed group study per week

Summer:

6 weeks - 2.5-10 hours of directed group study per week 8 weeks - 1.5-7.5 hours of directed group study per week 10 weeks - 1.5-6 hours of directed group study per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Directed Group Study for Freshmen and Sophomores: Read Less [-]

LD ARCH 101 Fundamentals of Landscape Design 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This studio introduces students to the programmatic, artistic, and technical aspects of land form and topographic adjustments to accommodate human use. Topics include pedestrian and vehicular circulation, conservation and addition of plant materials, movement of water, recreation use, and creation of views. Sculptural land forms will be emphasized through the use of topographic plans, sections, and contour models.

Fundamentals of Landscape Design: Read More [+]

Rules & Requirements

Prerequisites: Environmental Design 11A-11B or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Fundamentals of Landscape Design: Read Less [-]

LD ARCH 102 Case Studies in Landscape Design 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This studio stresses the shaping and coordination of ideas from initial concept to complete design product. A product(s) of intermediate scale and complexity (such as a garden, small park, plaza, or campus courtyard) will be developed in detail including the selection of planting, selection of construction materials, and topographic design. Lecture modules on selected professional topics are integrated into this course. Case Studies in Landscape Design: Read More [+]

Rules & Requirements

Prerequisites: 101 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Kullmann

Case Studies in Landscape Design: Read Less [-]

LD ARCH 103 Energy, Fantasy, and Form 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This is an undergraduate studio with a central focus on climate modification for energy conservation. We will research historical precedents in order to develop new garden forms for passive green designs. We will also explore how past cultures integrated metaphysics into their gardens as an adjunct to microclimate and habitat design. The contemporary landscape should be a balanced interweaving of proportion, function, comfort, energy conservation, and enlightenment. Additionally, we will study the choreography of space and investigate how to animate the landscape through the creative interpretation of text and film. Many new and exciting opportunities lie ahead for the creation of garden forms that not only conserve energy, but are also works of art and places of spiritual renewal.

Energy, Fantasy, and Form: Read More [+]

Rules & Requirements

Prerequisites: 101, 102, Environmental Design 11A-11B, (Arch 100A or 100B for Architecture students) or by consent of instructor

Repeat rules: Course may be repeated for credit up to a total of 8 units.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Sullivan

Energy, Fantasy, and Form: Read Less [-]

LD ARCH 110 Ecological Analysis 3 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Analysis of environmental factors, ecosystem functions, and ecosystem dynamics, as related to decision-making for landscape planning and

design.

Ecological Analysis: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: McBride

Ecological Analysis: Read Less [-]

LD ARCH 110L Ecological Analysis Laboratory 2 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Introduction to field techniques for assessment of landscape factors. Factors include topography, geology, climate, soil, hydrology, flora,

vegetation, and wildlife.

Ecological Analysis Laboratory: Read More [+]

Rules & Requirements

Prerequisites: Landscape Architecture 110 (may be taken concurrently)

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: McBride

Ecological Analysis Laboratory: Read Less [-]

LD ARCH C110A Ecological Analysis 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course focuses on natural factors of the environment that are fundamental to ecosystem management, land use planning and landscape design and their relationships to one another in different terrestrial ecosystems, from predominantly natural to predominantly anthropogenic. Lectures explore the key concepts on ecosystem structure, function and dynamics and discuss different types of ecological data, their interpretation and visualization that can aid in landscape research, planning and design workflow. Laboratory sections advance lecture topics by providing hands-on training in common types of ecosystem analyses using quantitative methods and geospatial tools. Ecological Analysis: Read More [+]

Objectives & Outcomes

Course Objectives: Develop an understanding of natural factors of the environment that are fundamental to ecosystem management, landscape design and land use planning and common approaches for their assessment and analysis of their relationships to one another.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Also listed as: ESPM C110A

Ecological Analysis: Read Less [-]

LD ARCH 111 Plants in Design 3 Units

Terms offered: Fall 2024, Spring 2022, Spring 2021

Through lecture, research, and studio assignments, this course introduces the use of plants as design elements in the landscape, from the urban scale to the site-specific scale, focusing on the public open space. By analyzing historic, contemporary, and Bay Area examples, the course examines the spatial, visual, and sensory qualities of vegetation, as well as the interplay with ecological functions and engineering uses of plants.

Plants in Design: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Plants in Design: Read Less [-]

LD ARCH 112 Landscape Plants: Identification and Use 4 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This course is an introduction to the identification and recognition, as well as design applications and uses, of plants in the landscape.
Through lectures, assignments, and fieldwork, the course provides class participants with an appreciation of the importance of vertical vegetation as a design element. Students will be introduced to a variety of built projects and plants commonly used in Bay Area landscapes.
Landscape Plants: Identification and Use: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of fieldwork per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Landscape Plants: Identification and Use: Read Less [-]

LD ARCH 119 Flood Risk Management 3 Units

Terms offered: Spring 2024, Spring 2023

This course explains fundamental concepts in flood risk management, summarizes the history

of flood management in California, the US, and globally, and tracks the development of state-

of-the art approaches to assessing flood risk, equity implications, and utilizing nature-based

solutions to sustainably manage floods. The course is offered at both the upper-division undergraduate (LA119) and graduate (LA229)

levels. Lectures are the same for both undergrad and grad courses, but there are separate

discussion sections and requirements. Flood Risk Management: Read More [+]

Objectives & Outcomes

Course Objectives: The objective of the course is to provide students with an understanding of the physical

processes giving rise to floods, and also the social and institutional response to flood risk.

Student Learning Outcomes: Students will learn the fundamental hydrologic processes behind flooding, the models

commonly employed to assess the extent of flood hazard, the limitations of extrapolating short

hydrologic records to estimate long-return period floods such as the 100year flood, limitations

of structural measures to control flood hazard, and increase in flood hazard arising from climate change.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kondolf

Flood Risk Management: Read Less [-]

LD ARCH 120 Topographic Form and Design Technology 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Technical, graphic and computational exercises, and studio problems in topographic site design and the shaping of the site for surface drainage.

Topographic Form and Design Technology: Read More [+]

Rules & Requirements

Prerequisites: 102 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Jewell

Topographic Form and Design Technology: Read Less [-]

LD ARCH 121 Design in Detail: Introduction to Landscape Materials and Construction 4 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This course introduces the visual and physical characteristics of landscape construction materials including, but not limited to, stone, brick, concrete, metal, asphalt, and wood. Additionally, lectures cover the production and availability of these materials, any existing evaluations on their sustainability, and their potential impact on the immediate environment. Students also learn to utilize standard sources of information on building materials and the terminology typically utilized

when choosing and specifying construction materials. They become familiar with dimensional standards for landscape structures, including pavements, stairs, furnishings, retaining walls, freestanding walls, fences, decks, and small overhead structures.

Design in Detail: Introduction to Landscape Materials and Construction:

Read More [+]

Rules & Requirements

Prerequisites: 101, Architecture 100A, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1.5 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Design in Detail: Introduction to Landscape Materials and Construction: Read Less [-]

LD ARCH 122 Hydrology for Planners 4 Units

Terms offered: Spring 2022, Spring 2019, Spring 2018

This course presents an overview of relevant hydrologic, hydraulic, and geomorphic processes, to provide the planner and ecologist with insight to incorporate these processes into the planning process and coordinate with specialists in the field of hydrology. Relevant government regulations and policies are also reviewed. The course is not intended to duplicate more specialized courses offered in such fields as engineering hydrology, coastal engineering, or geology, but rather to provide an integrated understanding. The course takes a process- and field-based approach to hydrology, and emphasizes interdisciplinary perspectives.

Hydrology for Planners: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

Instructor: Kondolf

Hydrology for Planners: Read Less [-]

LD ARCH 130 Sustainable Landscapes and Cities 4 Units

Terms offered: Spring 2024, Summer 2023 8 Week Session, Spring 2023 This course is an introduction to issues of sustainability in the designed landscape and in our cities. It includes environmental history as well as contemporary social, environmental and political issues surrounding sustainable design and activism. The course stresses motives and values expressed through environmental design at various scales – from neighborhood to global and examines problems affecting healthy environments and their solutions. Students study the need for protection and restoration of healthy ecological systems within the design of cities and landscapes and discuss ways to enable these systems to thrive. Readings and discussions focus on means to evaluate, create and advocate for healthy, sustainable environments.

Sustainable Landscapes and Cities: Read More [+]

Objectives & Outcomes

Course Objectives: This course is an important elective to majors in the College of Natural Resources and CED students who have Architecture and City Planning majors. A new CED major, Sustainable Environmental Design (SED), has increased the number of students who require this class. It also fulfills the Social and Behavioral breadth requirement. Therefore, it is clear that the course enrollment should be increased to accommodate students from both inside and outside the CED. This course offers students the opportunity to examine a specific range of sustainable design interventions that attempt to address primary problems related to climate change, the need for healthy watersheds, adequate food security and socially resilient communities in the face of rapid environmental change. Students will see the complexity of various aspects and approaches required of sustainable design and occasionally competing goals of a project.

Student Learning Outcomes: On the required field trip to San Francisco, students will be able to see and critique the efficacy of policy; of existing and emerging landscape design technology; to observe interventions intended to assist existing natural systems in urban environments and promote their viability; to see the value of community building to help establish resilient neighborhoods; to become verbally articulate about these issues.

Students will learn about and discuss the inter-connectedness of natural systems overlapped by human habitation. They will learn about design that can facilitate positive social systems and how the combination of ecological and social communities can present answers to some of the pressing environmental problems we face. Students will learn how various design strategies involve land preservation, watershed protection and restoration; local food production networks; resilient neighborhood design through community participation in open space design; pedestrian and bicycle friendly streets, urban forestry; reducing the waste stream.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer: 8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: McRae

Sustainable Landscapes and Cities: Read Less [-]

LD ARCH 133 Drawn from the Field 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course will provide students an opportunity to analyze and interpret the iconic built landscapes of the Bay Area through direct observation and field sketching. The vision for the course is influenced by the global popularity of the Urban Sketchers movement, a phenomenon based on personal engagement with one's environment. The annotated sketchbook will be used as the primary tool for investigation and documentation of core fundamental principles and elements of landscape and urban design. Lectures and hands-on demonstrations will give students the tools to respond to and construct meaning from their on-site observations.

Drawn from the Field: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of fieldwork

per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Sullivan

Drawn from the Field: Read Less [-]

LD ARCH 134A Drawing Workshop 1 3 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016

This studio will elaborate on a number of studio themes while introducing the students to a variety of graphic mediums and drawing techniques. Measured drawing procedures (including orthographic projections) will be augmented by figure-ground principles and themes of contrast, color, chiaroscuro, and compositions. On-site and visits to galleries and museums will complement the studio sessions.

Drawing Workshop 1: Read More [+]

Rules & Requirements

Prerequisites: Environmental Design 11A-11B or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 3 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Hood

Drawing Workshop 1: Read Less [-]

LD ARCH 134B Drawing Workshop II 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course introduces students to digital tools relevant to the discipline of landscape architecture. The course encompasses a series of lectures, lab exercises and projects designed to equip students with a foundational and expandable computing skill set relevant to the education and practice of landscape architecture. In addition to establishing technical competency, the course emphasizes establishing creative workflows between software applications.

Drawing Workshop II: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 3 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Kullmann

Drawing Workshop II: Read Less [-]

LD ARCH 135 Sacred Landscapes 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This course is a laboratory for invention and visual perception. A designed landscape has the potential to induce a powerful emotional experience. The premise of this course is based on the idea that highly valued places are works of art, as well as places of enlightenment and transformation. This class will explore ideas of 'sacredness' in the landscape through a series of design explorations and a summation project. Our journey of discovery aspires to provide future landscape architects with a new and unique perspective to help them recognize and generate Sacred Landscapes.

Sacred Landscapes: Read More [+]

Rules & Requirements

Prerequisites: LD ARCH 134A, LD ARCH 201 or consent of Instructor

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of studio

per week

Summer: 8 weeks - 2 hours of lecture and 4 hours of studio per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Sullivan

Sacred Landscapes: Read Less [-]

LD ARCH 140 Social and Psychological Factors in Open Space Design 3 Units

Terms offered: Spring 2024, Spring 2023, Fall 2021
User-oriented approach to design. Post-occupancy evaluation as a tool for understanding use of designed open spaces. Design as a communication process. Environmental needs of vulnerable populations-children, elderly, disabled, low-income families. Personal and societal environmental values.

Social and Psychological Factors in Open Space Design: Read More [+] **Hours & Format**

Fall and/or spring: 15 weeks - 1.5 hours of lecture and 1.5 hours of discussion per week

Summer: 8 weeks - 3 hours of lecture and 3 hours of discussion per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Social and Psychological Factors in Open Space Design: Read Less [-]

LD ARCH 154 Special Topics in Landscape Architecture and Environmental Planning 1 -3 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

Designed to be a forum for presentation of student research, discussions with faculty researchers and practitioners, and examination of topical issues in landscape architecture and environmental planning. Topics will be announced at the beginning of each semester.

Special Topics in Landscape Architecture and Environmental Planning: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Special Topics in Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 160 Professional Practice Seminar 2 or 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022 This course provides instruction and guidance in the professional practice

aspect of landscape architecture in the United States. Covering the breadth of the profession, we will learn the professional duties of a landscape architect, and the process of completing a real-life landscape architectural project. The goal of this class will be to learn what it means to be a practicing, licensed landscape architect, with the understanding that this is ultimately a construction based, service-oriented industry. Professional Practice Seminar: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 2-2 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Professional Practice Seminar: Read Less [-]

LD ARCH 170 History and Literature of Landscape Architecture 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This course surveys the history of landscape architecture in four realms: 1) gardens; 2) urban open space, that is, plazas, parks, and recreation systems; 3) urban and suburban design; and 4) regional and environmental planning. The course will review the cultural and social contexts which have shaped and informed landscape architecture practice and aesthetics, as well as the environmental concerns, horticultural practices, and technological innovations of historic landscapes.

History and Literature of Landscape Architecture: Read More [+] **Hours & Format**

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer: 8 weeks - 6 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Mozingo

History and Literature of Landscape Architecture: Read Less [-]

LD ARCH C171 The American Designed Landscape Since 1850 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course surveys the history of American landscape architecture since 1850 in four realms: 1) urban open spaces--that is squares, plazas, parks, and recreation systems; 2) urban and suburban design; 3) regional and environmental planning; 4) gardens. The course will review the cultural and social contexts which have shaped and informed landscape architecture in the United States since the advent of the public parks movement, as well as, the aesthetic precepts, environmental concerns, horticultural practices, and technological innovations of American landscapes. Students will complete a midterm, final, and a research assignment.

The American Designed Landscape Since 1850: Read More [+] Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Mozingo

Also listed as: AMERSTD C171

The American Designed Landscape Since 1850: Read Less [-]

LD ARCH C177 GIS and Environmental Spatial Data Analysis 4 Units

Terms offered: Spring 2017, Spring 2016, Spring 2015
This course offers an introduction to spatial data analysis. It integrates
ArcGIS analysis with spatial statistical analysis for the study of pattern
and process applicable to a wide variety of fields. Major topics covered
include: spatial sampling, processing data with ARC Info, exploratory
GIS analysis, spatial decomposition, spatial point patterns and Ripley's
K function, spatial autocorrelation, geostatistics, spatially weighted
regression, spatial autoregression, generalized linear models and
generalized linear mixed models.

GIS and Environmental Spatial Data Analysis: Read More [+] Rules & Requirements

Prerequisites: Requirements are course in GIS and a course in probability and statistics. We invite participation of undergraduates and graduate students from: ESPM, Landscape Architecture & Environmental Planning, City and Regional Planning, IB, Civil Engineering, Energy and Resources Group, Public Health, Earth and Planetary Science, and other campus departments or units with students interested in learning and using spatial analysis for the environment- both natural and built

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructors: Biging, Radke

Also listed as: ESPM C177

GIS and Environmental Spatial Data Analysis: Read Less [-]

LD ARCH 187 Representation as Research: Contemporary Topics in Landscape Visualization 3 Units

Terms offered: Prior to 2007

Representations typically demonstrate two different forms of landscape analysis—empirical data and personal perception/aesthetics—but landscape provides opportunities for their overlaps in order to advance and synthesize robust research. Through lectures, technical tutorials, and reading discussions, this course will profile contemporary landscape research practices and representational techniques. We will use visualization to advance landscape research, theory, and site analysis, focusing specifically on methods that tackle issues of temporality and ephemerality. We will generate original media that communicates spatial, ecological, and cultural complexities.

Representation as Research: Contemporary Topics in Landscape

Visualization: Read More [+] Rules & Requirements

Prerequisites: Working knowledge of Rhino, AutoCAD, Adobe Creative

Suite (Illustrator, Photoshop, InDesign)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of laboratory and 1 hour of

lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Cooper

Formerly known as: Landscape Architecture 189

Representation as Research: Contemporary Topics in Landscape

Visualization: Read Less [-]

LD ARCH C188 Geographic Information Science 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course introduces the student to the rapidly expanding field of Geographic Information Systems (GIS). It addresses both theory and application and provides the student with a dynamic analytical framework within which temporal and spatial data and information is gathered, integrated, interpreted, and manipulated. It emphasizes a conceptual appreciation of GIS and offers an opportunity to apply some of those concepts to contemporary geographical and planning issues.

Geographic Information Science: Read More [+]

Rules & Requirements

Prerequisites: Some computer experience

Hours & Format

Fall and/or spring: 15 weeks - 3-3 hours of lecture and 1-2 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kim

Also listed as: GEOG C188

Geographic Information Science: Read Less [-]

LD ARCH 197 Field Study in Landscape Architecture 2 - 3 Units

Terms offered: Spring 2019, Fall 2016, Fall 2015
See departmental information sheet for limitations. Supervised experience relative to specific aspects of landscape architecture. Regular individual meetings with faculty and outside sponsor. Reports required.

Field Study in Landscape Architecture: Read More [+]

Rules & Requirements

Prerequisites: Upper division standing and consent of instructor and

sponsor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2-3 hours of fieldwork per week

Summer:

6 weeks - 5-7.5 hours of fieldwork per week 8 weeks - 3.5-5.5 hours of fieldwork per week 10 weeks - 3-4.5 hours of fieldwork per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Field Study in Landscape Architecture: Read Less [-]

LD ARCH 198 Directed Group Study 1 - 4 Units

Terms offered: Spring 2021, Spring 2020, Fall 2019

Enrollment restrictions apply.

Directed Group Study: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of directed group study per

week

Summer:

6 weeks - 2.5-10 hours of directed group study per week 8 weeks - 1.5-7.5 hours of directed group study per week 10 weeks - 1.5-6 hours of directed group study per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final

exam not required.

Directed Group Study: Read Less [-]

LD ARCH 199 Supervised Independent Study and Research 1 - 4 Units

Terms offered: Spring 2016, Fall 2015, Spring 2013

Enrollment restrictions apply.

Supervised Independent Study and Research: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of independent study per week

Summer:

6 weeks - 2.5-10 hours of independent study per week 8 weeks - 1.5-7.5 hours of independent study per week 10 weeks - 1.5-6 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Supervised Independent Study and Research: Read Less [-]

LD ARCH 200A Fundamentals of Landscape Design 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This studio introduces students to the programmatic, artistic, and technical aspects of land form and topographic adjustments to accommodate human use. Topics include pedestrian and vehicular circulation, conservation and addition of plant materials, movement of water, recreation use, and creation of views. Sculptural land forms will be emphasized through the use of topographic plans, sections, and contour models.

Fundamentals of Landscape Design: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Hill

Fundamentals of Landscape Design: Read Less [-]

LD ARCH 200B Case Studies in Landscape Design 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

This studio stresses the shaping and coordination of ideas from initial concept to complete design product. A product(s) of intermediate scale and complexity (such as a garden, small park, plaza, or campus courtyard) will be developed in detail including the selection of planting, selection of construction materials, and topographic design. Lecture modules on selected professional topics are integrated into this course.

Case Studies in Landscape Design: Read More [+]

Rules & Requirements

Prerequisites: Landscape Architecture 200A

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Hood

Formerly known as: Landscape Architecture 102

Case Studies in Landscape Design: Read Less [-]

LD ARCH 201 Ecological Factors in Urban Landscape Design 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Through lectures, studio problems, research projects, and discussion, this course will explore the challenge and potential incorporating ecological factors in urban contexts. The course focuses on the interaction of landscape science (hydrology, geology, etc.) with the necessities and mechanisms of the human environment (urban design, transportation, economics, etc.). Lectures and research projects will particularly emphasize innovative and forward thinking solutions to the ecological problems of the human environment. Throughout the semester, reading and discussion sessions will highlight the connections between the broader concerns of the global ecological crisis and landscape design and planning.

Ecological Factors in Urban Landscape Design: Read More [+] Rules & Requirements

Prerequisites: 110, 134A-134B, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Ecological Factors in Urban Landscape Design: Read Less [-]

LD ARCH 202 Design of Landscape Sites 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

A site design studio stressing the shaping and coordination of ideas from initial concept to complete design of open space in various contexts. Typical projects will be of an intermediate scale and might include a park, plaza, museum sculpture garden, playground, office park, or housing project. Modules on social factors and planting design are included. Design of Landscape Sites: Read More [+]

Rules & Requirements

Prerequisites: 201 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Jewell

Design of Landscape Sites: Read Less [-]

LD ARCH 203 Landscape Project Design 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

A site design studio stressing the shaping and coordination of ideas from initial concept to the thoughtful execution of design ideas at the site scale. Typical projects will focus on the experiential rather than the pictorial. Projects might include a park, plaza, or rehabilitation of a brownfield site. Landscape Project Design: Read More [+]

Rules & Requirements

Prerequisites: 201, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Landscape Project Design: Read Less [-]

LD ARCH C203 Shaping the Public Realm 5 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This interdisciplinary studio focuses on the public realm of cities and explores opportunities for creating more humane and delightful public places. Problems will be at multiple scales in both existing urban centers and in areas of new growth. Skills in analyzing, designing, and communicating urban design problems will be developed. Studio work will be supplemented with lectures, discussions, and field trips. Visiting professionals will present case studies and will serve on reviews.

Shaping the Public Realm: Read More [+]

Rules & Requirements

Prerequisites: Previous design studio or consent of instrutor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Brand

Formerly known as: 203

Also listed as: CY PLAN C243

Shaping the Public Realm: Read Less [-]

LD ARCH 204 Advanced Project Design 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022 Special topics in the design and planning of the landscape. The focus of the studio varies from semester to semester. Possible topics include community design, educative environments, landscape as art, park design, or energy-conserving design. For current offerings, see department announcement.

Advanced Project Design: Read More [+]

Rules & Requirements

Prerequisites: 201 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Meyer

Advanced Project Design: Read Less [-]

LD ARCH 205 Environmental Planning Studio 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
Application of environmental planning principles to a complex problem involving a variety of environmental criteria and desired land uses in a complex institutional and political setting. Student teams will identify needed data, assess environmental developmental problems, weigh competing uses, and prepare an environmental management plan. Environmental Planning Studio: Read More [+]

Rules & Requirements

Prerequisites: 201 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructors: Radke, Kondolf

Environmental Planning Studio: Read Less [-]

LD ARCH 206 Final Project Preparation Studio: Thesis and Reports 5 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This is a spring studio for students to work on final projects (theses and professional reports). The studio, including lectures by the instructor, is meant to train and assist students in thesis or professional project research and help them in finalizing their thesis or professional report topic. The course includes weekly exercises ranging from writing articles documenting, illustrating, and critiquing landscapes to finally producing a thesis or professional report.

Final Project Preparation Studio: Thesis and Reports: Read More [+]

Rules & Requirements

Prerequisites: 252 and graduate standing

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 6 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Mozingo

Final Project Preparation Studio: Thesis and Reports: Read Less [-]

LD ARCH 221 Quantitative Methods in Environmental Planning 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
Discussion and critique of the application of quantitative methods to environmental assessment, analysis, and evaluation in environmental planning. Topics to include geographical information systems and data bases, remote sensing, and multivariate analysis. This course emphasizes computer applications and data analysis.

Quantitative Methods in Environmental Planning: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of lecture and 3 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Radke

Quantitative Methods in Environmental Planning: Read Less [-]

LD ARCH 222 Hydrology for Planners 4 Units

Terms offered: Spring 2022, Spring 2019, Spring 2018

This course presents an overview of relevant hydrologic, hydraulic, and geomorphic processes, to provide the planner and ecologist with insight sufficient to coordinate with technical specialists in the field of hydrology. In addition, relevant regulations and policies are reviewed.

Hydrology for Planners: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Kondolf

Hydrology for Planners: Read Less [-]

LD ARCH 226 Landscape Design Construction 2 Units

Terms offered: Fall 2024, Spring 2024, Fall 2023

The course investigates the process of developing schematic landscape design proposals into constructed landscapes. Emphasis will be placed on understanding the durability of materials and design details, the efficient use of materials, and the ability to evaluate how material selection and detailing can impact the environment. Field trips to construction sites, manufacturing facilities, and built landscapes will be included.

included.

Landscape Design Construction: Read More [+]

Rules & Requirements

Prerequisites: 121 (may be taken concurrently)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Jewell

Landscape Design Construction: Read Less [-]

LD ARCH 227 Restoration of Rivers and Streams 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course reviews the underlying goals and assumptions of river and stream restoration projects, reviews techniques employed in these efforts, and emphasizes strategies for evaluation of project success. The course focuses on geomorphic and hydrologic analyses relevant to restoration and enhancement of aquatic and riparian habitat in freshwater systems. Format: lectures by instructor, guest lectures, presentation of student independent projects, and field trips. Course requirement: independent term project involving original research.

Restoration of Rivers and Streams: Read More [+]

Rules & Requirements

Prerequisites: Prior background in hydrology, geomorphology, ecology, restoration, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Kondolf

Restoration of Rivers and Streams: Read Less [-]

LD ARCH 229 Flood Risk Management 3 Units

Terms offered: Spring 2024, Spring 2023

This course explains fundamental concepts in flood risk management, summarizes the history

of flood management in California, the US, and globally, and tracks the development of state-

of-the art approaches to assessing flood risk, equity implications, and utilizing nature-based

solutions to sustainably manage floods. The course is offered at both the upper-division undergraduate (LA119) and graduate (LA229)

levels. Lectures are the same for both undergrad and grad courses, but there are separate

discussion sections and requirements. Flood Risk Management: Read More [+]

Objectives & Outcomes

Course Objectives: The objective of the course is to provide students with an understanding of the physical processes giving rise to floods, and also the social and institutional response to flood risk.

Student Learning Outcomes: Students will learn the fundamental hydrologic processes behind flooding, the models commonly employed to assess the extent of flood hazard, the limitations of extrapolating short hydrologic records to estimate long-return period floods such as the 100-year flood, limitations of structural measures to control flood hazard, and increase in flood hazard arising from climate change.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Kondolf

Flood Risk Management: Read Less [-]

LD ARCH C231 Environmental Planning and Regulation 3 Units

Terms offered: Spring 2024, Spring 2023, Fall 2020, Fall 2019
This course will examine emerging trends in environmental planning and policy and the basic regulatory framework for environmental planning encountered in the U.S. We will also relate the institutional and policy framework of California and the United States to other nations and emerging international institutions. The emphasis of the course will be on regulating "residuals" as they affect three media: air, water, and land. Environmental Planning and Regulation: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Acey

Also listed as: CY PLAN C251

Environmental Planning and Regulation: Read Less [-]

LD ARCH 232 The Landscape As a Sacred Place 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2010 Visual and cultural analysis of landscapes, inventory procedures for "place" values, and problems related to sustainable design development, with special emphasis on highly valued places.

The Landscape As a Sacred Place: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

The Landscape As a Sacred Place: Read Less [-]

LD ARCH 233 Drawn from the Field 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course will provide students an opportunity to analyze and interpret the iconic built landscapes of the Bay Area through direct observation and field sketching. The vision for the course is influenced by the global popularity of the Urban Sketchers movement, a phenomenon based on personal engagement with one's environment. The annotated sketchbook will be used as the primary tool for investigation and documentation of core fundamental principles and elements of landscape and urban design. Lectures and hands-on demonstrations will give students the tools to respond to and construct meaning from their on-site observations.

Drawn from the Field: Read More [+]

Rules & Requirements

Credit Restrictions: Students will receive no credit for LD ARCH 233 after completing LD ARCH 233. A deficient grade in LD ARCH 233 may be removed by taking LD ARCH 233.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of fieldwork

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Drawn from the Field: Read Less [-]

LD ARCH 234A Drawing the Landscape 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This foundational course will be structured through weekly and bi-weekly exercises that are loosely linked with the core studio course, LA 200A. The exercises will explore landscape representation through a variety of drawing types and conventions, across geographic and temporal scales, and through a productive relationship between analog and digital techniques.

Drawing the Landscape: Read More [+]

Rules & Requirements

Prerequisites: LD ARCH 200A LANDSCAPE DESIGN

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructors: Hood, Cooper

Drawing the Landscape: Read Less [-]

LD ARCH 234B Landscape Processes through Drawing and Modeling 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
This course will explore landscape representation through a variety of drawing types and conventions, across a range of scales, and through a deep engagement with digital media. This course builds on the foundational methods developed in LA 234A, incorporating new methods, tools, and techniques for digital visualization. The course is structured through lectures and discussions about the historical and theoretical relevance of the theme, as well as, lab sessions focused on demonstrating representational tools and techniques. Simultaneous to these units, continued development of analog sketching will be expected. Landscape Processes through Drawing and Modeling: Read More [+] Rules & Requirements

Prerequisites: LD ARCH 234A or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of

laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Landscape Processes through Drawing and Modeling: Read Less [-]

LD ARCH 235 Design Thinking: Art, Nature, Consciousness 3 Units

Terms offered: Fall 2019, Fall 2018, Spring 2004

This course is a laboratory for design thinking, invention and visual perception. A designed landscape has the potential to induce a powerful emotional experience. The premise of this course is based on the idea that highly valued places are works of art, as well as places of enlightenment and transformation. This class will explore ideas of 'sacredness' in the landscape through a series of design explorations and a summation project. Our journey of discovery aspires to provide future landscape architects with a new and unique perspective to help them recognize and generate sacred landscapes. Design Thinking will outline a process for creative practice that builds upon historic approaches while imagining new possibilities.

Design Thinking: Art, Nature, Consciousness: Read More [+]

Rules & Requirements

Prerequisites: LD ARCH 134A

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of studio

per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Sullivan

Design Thinking: Art, Nature, Consciousness: Read Less [-]

LD ARCH 237 The Process of Environmental Planning 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022
A review of the techniques used in environmental planning, and evaluation of alternate means of implementation in varying environmental and political circumstances. The class will examine and critique a number of well-known environmental planning programs and plans. Lectures and discussion will address recurrent planning problems, such as the limitations of available data, legal and political constraints on plans, conflicts among specialists.

The Process of Environmental Planning: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Hill

The Process of Environmental Planning: Read Less [-]

LD ARCH C241 Research Methods in Environmental Design 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
The components, structure, and meaning of the urban environment.
Environmental problems, attitudes, and criteria. Environmental survey, analysis, and interview techniques. Methods of addressing environmental quality. Environmental simulation.

Research Methods in Environmental Design: Read More [+] Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Lamb

Formerly known as: Interdepartmental Studies 241

Also listed as: CY PLAN C241

Research Methods in Environmental Design: Read Less [-]

LD ARCH C242 Community Engagement and Public Participation in Planning Processes 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This course examines the theories, practices, and ethics of undertaking community engagement and public participation relative to planning processes. Students will learn about traditional forms of engagement and participation, while also testing newer theories and practices in the field. Community Engagement and Public Participation in Planning Processes: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Formerly known as: Interdepartmental Studies 223

Also listed as: CY PLAN C261

Community Engagement and Public Participation in Planning Processes:

Read Less [-]

LD ARCH C250 Theories of Urban Form and Design 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Theories and patterns of urban form throughout history are studied with emphasis on the role of planning and design in shaping cities and the relationship between urban form and social, economic, and geographic factors. Using a case study approach, cities are evaluated in terms of various theories and performance dimensions.

Theories of Urban Form and Design: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Also listed as: CY PLAN C240

Theories of Urban Form and Design: Read Less [-]

LD ARCH 251 Theories of Landscape Architecture and Environmental Planning 2 Units

Terms offered: Fall 2016, Spring 2016, Fall 2014

The focus will be on debate and discussion of central ideas in landscape architecture and environmental planning, drawing on primary literature over many decades of thought. This is not a history course, but it will include some literature that goes back to the early years of the field. This course covers the breadth of thinking in the field, including both environmental planning and landscape design as well as other sub disciplines. Each week students will lead a debate on a different theoretical issue.

Theories of Landscape Architecture and Environmental Planning: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Mozingo

Theories of Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 252B Thesis and Professional Project Proposal Seminar 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Students learn research methods including social factors, historical/archival, design exploration, master planning, theoretical, and scientific field work. Students develop a conceptual framework, survey instrument, literature review, and detailed work plan. A full committee and funding proposal due on the last day of class.

Thesis and Professional Project Proposal Seminar: Read More [+]

Rules & Requirements

Prerequisites: 252A

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of seminar and 1.5 hours of

discussion per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Thesis and Professional Project Proposal Seminar: Read Less [-]

LD ARCH 253 Landscape Architecture and Environmental Planning Colloquium 1 Unit

Terms offered: Fall 2024, Spring 2024, Fall 2023

Invited lectures on current research, planning practice, and design projects. Out of approximately 14 presentations per term, typically two or three would be by department faculty, two or three by graduating students, the remainder by outside speakers.

Landscape Architecture and Environmental Planning Colloquium: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of colloquium per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Landscape Architecture and Environmental Planning Colloquium: Read Less [-]

LD ARCH 254 Topics in Landscape Architecture and Environmental Planning 1 -5 Units

Terms offered: Fall 2024, Spring 2024, Fall 2023

Designed to be a forum for presentation of student research, discussions with faculty researchers and practitioners, and examination of topical issues in landscape architecture and environmental planning. Topics will be announced at the beginning of each semester.

Topics in Landscape Architecture and Environmental Planning: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-5 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Topics in Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 255 Doctoral Seminar in Environmental Planning 1 Unit

Terms offered: Fall 2024, Fall 2023, Fall 2022

Designed to be a forum for presentation of doctoral student research, discussions with faculty researchers and environmental planning practitioners, and examination of topical issues in environmental planning. Topics will be announced at the beginning of each semester. Doctoral Seminar in Environmental Planning: Read More [+]

Rules & Requirements

Prerequisites: Doctoral student or consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 8 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Doctoral Seminar in Environmental Planning: Read Less [-]

LD ARCH 257 Special Topics in Design 1 - 3 Units

Terms offered: Spring 2019, Spring 2018, Spring 2017
Research seminar on selected topics in landscape design. Seminars will focus on the theoretical foundations and practical applications of design and planning methods as well as emerging issues in the discipline.

Seminars will include lectures by the faculty member offering the course, guest lecturers, student presentations, and discussions. Readings and requirements vary from year to year based on the topic and instructor. Special Topics in Design: Read More [+]

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of seminar per week

Summer:

6 weeks - 1-3 hours of seminar per week 8 weeks - 1-3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: The grading option will be decided by the instructor when the class is offered.

Special Topics in Design: Read Less [-]

LD ARCH 259 Ground Up Journal 1 - 3 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Under the guidance of the instructor of record, each year a team of graduate students works together to choose a journal theme, apply for funding and awards, solicit and select submissions, edit and design articles, arrange a print run and/or online publication, and advertise and market the journal.

Ground Up Journal: Read More [+]

Rules & Requirements

Prerequisites: Graduate Standing or consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Ground Up Journal: Read Less [-]

LD ARCH 260 Professional Practice Seminar 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

This course provides instruction and guidance in the professional practice aspect of landscape architecture in the United States. Covering the breadth of the profession, we will learn the professional duties of a landscape architect, and the process of completing a real-life landscape architectural project. The goal of this class will be to learn what it means to be a practicing, licensed landscape architect, with the understanding that this is ultimately a construction based, service-oriented industry. Professional Practice Seminar: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Professional Practice Seminar: Read Less [-]

LD ARCH 277 Resilience and Urban Development 3 Units

Terms offered: Spring 2021, Spring 2020

Methods for increasing urban sustainability and resilience through decentralized infrastructure design and appropriate development site design, with a focus on flooding and fire as drivers of urban adaptation at the block and district scales. Comparative frameworks for urban infrastructure systems analysis and resilience. Basic quantitative skills for flooding-related block, street and district design. Lessons-learned from key international and regional design adaptations for fire, flooding and sea level rise.

Resilience and Urban Development: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Hill

Resilience and Urban Development: Read Less [-]

LD ARCH 287 Representation as Research: Contemporary Topics in Landscape Visualization 3 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020
Representations typically demonstrate two different forms of landscape analysis—empirical data and personal perception/aesthetics—but landscape provides opportunities for their overlaps in order to advance and synthesize robust research. Through lectures, technical tutorials, and reading discussions, this course will profile contemporary landscape research practices and representational techniques. We will use visualization to advance landscape research, theory, and site analysis, focusing specifically on methods that tackle issues of temporality and ephemerality. We will generate original media that communicates spatial, ecological, and cultural complexities.

Representation as Research: Contemporary Topics in Landscape $\label{eq:contemporary}$

Visualization: Read More [+] Rules & Requirements

 $\textbf{Prerequisites:} \ \ \textbf{Working knowledge of Rhino, AutoCAD, Adobe Creative}$

Suite (Illustrator, Photoshop, InDesign)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of laboratory and 1 hour of

lecture per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Instructor: Cooper

Representation as Research: Contemporary Topics in Landscape

Visualization: Read Less [-]

LD ARCH 289 Applied Remote Sensing 3 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020
This course consists of one lecture and one computer lab per week introducing fundamental principles and methods of environmental remote sensing and their practical applications. We will explore strategies for working with different types of remote sensing data and extracting image-based landscape information for various environmental research and planning objectives. This course focuses largely on local to regional scale applications of remote sensing in ecology, environmental planning

management.

Applied Remote Sensing: Read More [+]

Objectives & Outcomes

Course Objectives: Become familiar with different types of data and instruments in remote sensing and learn how to choose the optimal remote sensing data and procedure for various landscape and environmental analysis applications.

and design, civil & environmental engineering and natural resource

Develop the capacity to work with the remote sensing literature and synthesize the relevant knowledge across different studies. Explore traditional and novel remote sensing techniques and their use in landscape planning, environmental studies and natural resource management.

Learn practical skills and techniques to extracting landscape information from remote sensing data as image interpretation, classification, accuracy assessment, mapping and change analysis.

Rules & Requirements

Prerequisites: An introductory GIS course such as LA C188/Geography C188, ESPM 233 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of lecture and 1.5 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade. **Instructor:** Dronova

Applied Remote Sensing: Read Less [-]

LD ARCH C289 Applied Remote Sensing 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

This course consists of one lecture and one computer lab per week introducing fundamental principles and methods of environmental remote sensing and their practical applications. We will explore strategies for working with different types of remote sensing data and extracting image-based landscape information for various environmental research and planning objectives. This course focuses largely on local to regional scale applications of remote sensing in ecology, environmental planning and design, civil & environmental engineering and natural resource management.

Applied Remote Sensing: Read More [+]

Objectives & Outcomes

Course Objectives:

Learn practical skills and techniques to extracting landscape information from remote sensing data as image interpretation, classification, accuracy assessment, mapping and change analysis.

Become familiar with different types of data and instruments in remote sensing and learn how to choose the optimal remote sensing data and procedure for various landscape and environmental analysis applications. Explore traditional and novel remote sensing techniques and their use in landscape planning, environmental studies and natural resource management.

Develop the capacity to work with the remote sensing literature and synthesize the relevant knowledge across different studies.

Rules & Requirements

Prerequisites: An introductory GIS course such as LA C188/Geography C188 or equivalent

Credit Restrictions: Students will receive no credit for LD ARCH C289 after completing LD ARCH 289. A deficient grade in LD ARCH C289 may be removed by taking LD ARCH 289.

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of lecture and 1.5 hours of laboratory per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade. **Instructor:** Dronova

Also listed as: ESPM C289

Applied Remote Sensing: Read Less [-]

LD ARCH 295 Supervised Research in Landscape Architecture and Environmental Planning 2 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013

Supervised experience on a research project in landscape architecture and/or environmental planning. Regular meetings with faculty sponsor required. See departmental sheet for other limitations.

Supervised Research in Landscape Architecture and Environmental

Planning: Read More [+] Rules & Requirements

Prerequisites: Graduate standing and appointment as a research assistant

Credit Restrictions: Any combination of 295 or 297 may be taken for a total of six units maximum toward the M.L.A degree.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Supervised Research in Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 296 Directed Dissertation Research 1 - 12 Units

Terms offered: Fall 2015, Fall 2014, Spring 2014

Open to qualified students who have been advanced to candidacy for the Ph.D. degree and are directly engaged upon the doctoral dissertation.

Directed Dissertation Research: Read More [+]

Rules & Requirements

Prerequisites: Advancement to Ph.D. candidacy

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-12 hours of independent study per week

Summer: 8 weeks - 1.5-22.5 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Directed Dissertation Research: Read Less [-]

LD ARCH 297 Supervised Field Study 1 - 3 Units

Terms offered: Fall 2022, Fall 2018, Spring 2016

Supervised experience relative to specific aspects of practice in landscape architecture and/or environmental planning. Regular meetings with faculty and outside sponsor as well as final report required. See departmental information sheet for other limitations.

Supervised Field Study: Read More [+]

Rules & Requirements

Prerequisites: Graduate standing and consent of instructor and sponsor

Credit Restrictions: Any combination of 295 or 297 may be taken for a total of six units maximum toward the M.L.A. degree.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of fieldwork per week

Summer: 8 weeks - 2-6 hours of fieldwork per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Supervised Field Study: Read Less [-]

LD ARCH 298 Group Study 1 - 4 Units

Terms offered: Fall 2022, Fall 2021, Spring 2021

Special group studies. Topics to be announced at the beginning of each

semester.

Group Study: Read More [+] Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Group Study: Read Less [-]

LD ARCH 299 Individual Research 1 - 6 Units

Terms offered: Fall 2018, Spring 2016, Fall 2015

Research work conducted preparatory to completion of the thesis or professional project as well as other approved research. A maximum of six units will be counted toward the M.L.A degree. The six units allows for four units maximum for thesis or professional project research, and two units maximum for other approved research. See departmental information sheet for other limitations.

Individual Research: Read More [+]

Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 2.5-30 hours of independent study per week 8 weeks - 1.5-22.5 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate

Grading: Letter grade.

Individual Research: Read Less [-]

LD ARCH 300 Supervised Teaching in Landscape Architecture and Environmental Planning 2 Units

Terms offered: Spring 2018, Spring 2017, Fall 2016

Supervised teaching experience in undergraduate courses. Regular meetings with faculty sponsor. See departmental sheet for other limitations.

Supervised Teaching in Landscape Architecture and Environmental Planning: Read More [+]

Rules & Requirements

Prerequisites: Graduate standing and appointment as a Teaching

Assistant

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Supervised Teaching in Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 301 Methods of Teaching in Landscape Architecture and Environmental Planning 2 Units

Terms offered: Fall 2012, Fall 2010, Fall 2009

This course presents general pedagogical principles and methods adapted to teaching in the fields of landscape architecture, environmental planning, and environmental sciences. The format varies from week to week, but involves presentations by faculty and experienced graduate student instructors (GSIs), guided discussions, sharing of teaching experiences for current GSIs, discussion of readings on effective teaching, viewing of videos, and presentation by GSIs of sections for upcoming weeks. Required of all graduate students to be eligible for appointment as GSIs; may be taken concurrently with first GSI position for entering students. Topics include learning objectives, lesson plans, active learning, group learning, classroom diversity, assessing student learning, giving constructive feedback, teaching in the studio environment, engaging students through field exercises, grading, and composing effective tests.

Methods of Teaching in Landscape Architecture and Environmental

Planning: Read More [+] Rules & Requirements

Prerequisites: Graduate student standing

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Methods of Teaching in Landscape Architecture and Environmental Planning: Read Less [-]

LD ARCH 375 Methods of Teaching in Landscape Architecture and Environmental Planning 2 Units

Terms offered: Fall 2024, Fall 2022, Fall 2020

This course presents general pedagogical principles and methods adapted to teaching in the fields of landscape architecture, environmental planning, and environmental sciences. The content varies from week to week, but involves presentations by faculty and experienced graduate student instructors (GSIs), guided discussions, sharing of teaching experiences for current GSIs, discussion of readings on effective teaching, viewing of videos, and presentation by GSIs of sections for upcoming weeks. Required of all graduate students to be eligible for appointment as GSIs; may be taken concurrently with first GSI position for entering students.

Methods of Teaching in Landscape Architecture and Environmental Planning: Read More [+]

Rules & Requirements

Prerequisites: Graduate student standing

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Landscape Architecture/Professional course for

teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Instructor: Larice

Formerly known as: Landscape Architecture 301

Methods of Teaching in Landscape Architecture and Environmental

Planning: Read Less [-]

LD ARCH 399 Supervised Teaching 1 or 3 Units

Terms offered: Fall 2024, Fall 2023

Professional courses for prospective teachers.

Supervised Teaching: Read More [+]

Rules & Requirements

Prerequisites: Appointment as graduate student instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2-4 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Supervised Teaching: Read Less [-]

LD ARCH 601 Individual Study for Master's Students 1 - 8 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013

Individual study for final degree requirements in consultation with adviser.

Individual Study for Master's Students: Read More [+]

Rules & Requirements

Prerequisites: Last semester of residence in M.L.A. program

Credit Restrictions: Course does not satisfy unit or residence

requirements for master's degree.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Landscape Architecture/Graduate examination

preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Master's Students: Read Less [-]

LD ARCH 602 Individual Study for Doctoral Students 1 - 8 Units

Terms offered: Spring 2016, Fall 2015, Spring 2015 Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D.

Individual Study for Doctoral Students: Read More [+]

Rules & Requirements

Prerequisites: For candidates for doctor's degree

Credit Restrictions: Course does not satisfy unit or residence

requirements for doctoral degree.

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0-0 hours of independent study per week

Summer: 10 weeks - 0-0 hours of independent study per week

Additional Details

 $\textbf{Subject/Course Level:} \ Landscape \ Architecture/Graduate \ examination$

preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Doctoral Students: Read Less [-]