

LANDSCAPE ARCHITECTURE (L A)

Courses primarily for undergraduates:

L A 171: City Play!

(3-0) Cr. 3.

Exploration of play in cities. Introduction to two important concepts: how play has become a central theme in the economic development and sustainability of cities around the world; and, how the design of cities needs to make room for equitable access to play for everyone.

Meets U.S. Diversity Requirement

L A 201: Studio: Landscape Interpretation and Representation

(1-15) Cr. 6. F.

Prereq: Enrollment in the professional program

Reading and representing varied landscapes; development of aesthetic sensitivity to the geomorphology, vegetation, and cultural influences on these landscapes. Small-scale interventions and exploration of landscape phenomena and change. Emphasis on a variety of documentation and drawing techniques.

L A 202: Studio: Site Design I

(1-15) Cr. 6. S.

Prereq: L A 201

Fundamental issues of landscape planning and design at a site scale. Projects introduce a variety of (objective and subjective) site inquiry methods, space and place making, and sensitive integration of architecture and landscape for specific land uses. User needs, precedent study, programming, site engineering, planting design, and outdoor space design expressed through a variety of three-dimensional modeling, graphic, and written media.

L A 211: Digital Design Methods for Landscape Architecture

(3-0) Cr. 3. S.

Introduction of computer applications and standards used by landscape architects and other design professions and their place in a replicable work flow. Foundational knowledge and basic skills in a range of industry-standard 2D, 3D, and 4D computer applications used for design development and communication.

L A 221: Native Plants of the Savanna Ecotone

(2-3) Cr. 3. F.

Prereq: Enrollment in the professional program

Observation and study of the wetland, prairie, and woodland vegetation native to the savanna ecotone. Emphasis on plant communities, their distribution, structure, habitat and aesthetics. Plant identification and use in landscape design. Precedent and case studies of vegetation preservation, restoration and use in built works.

L A 222: Introduced Plants of the Midwest

(2-3) Cr. 3. S.

Prereq: L A 221

Identification, observation, and study of plants introduced to cultivation in the Midwest region. Plant cultural requirements, including adaptations to climate changes, solar exposure, and soil conditions. Investigation of history of plant introduction and use in designed landscape, including consequent impacts of plant introduction such as plant invasion. Introduction to planting design at the site scale, including matching plant cultural requirements to site conditions, functional uses of plants and expressive composition using plant form, texture and color.

L A 241: Developing Identity as a Landscape Architect

(1-0) Cr. 1. F.

Prereq: Enrollment in the professional program

Development of life skills for conflict resolution, effective interpersonal communication, and CPR/First Aid. Examination of personal values as they relate to the backgrounds, abilities, attitudes, and values of others; exploration of how these influence personal decision-making and group interaction. Reading, discussion, class activities, journal-keeping, writing. Offered on a satisfactory-fail basis only.

L A 270: Foundations in Natural Resource Policy and History

(Cross-listed with ENV S, NREM). (3-0) Cr. 3. Alt. F., offered odd-numbered years.

The development of natural resource conservation philosophy and policy from the Colonial Era to the present. North American wildlife, forestry, and environmental policy; national parks and other protected lands; federal and state agencies. Relationship to cultural contexts, including urban reform and American planning movement. Discussion of common pool resources, public and private lands.

L A 272: Cultural Landscape Studies

(3-0) Cr. 3. F.

Prereq: Enrollment in the professional program

Exploration of cultural landscapes, from broad settlement patterns to individual sites, with an emphasis on the origins and evolution of landscapes. Investigation of relationships between vernacular and designed landscapes. Landscapes considered as modes of cultural production that shape and are shaped by social, political, and economic processes. Exploration of landscapes as persistent (yet ephemeral) repositories of culture. Lectures, reading, field studies, and writing.

Meets U.S. Diversity Requirement

L A 274: The Social and Behavioral Landscape

(3-0) Cr. 3. S.

Exploration of social and behavioral factors pertinent to design of the domestic, civic, and commercial landscape. Focus on working familiarity with design principles as they relate to the behavior and activities of people across a broad demographic and cultural spectrum; application of these principles to design of outdoor environments. Lectures and discussions, including group exercises and field trips.

Meets U.S. Diversity Requirement

L A 281: Investigating Landscape Form, Process, and Detail

(1-6) Cr. 3. F.

Prereq: Enrollment in professional program

Exploration of the poetics and principles of landscape construction. Investigation and interpretation of landform and geomorphic processes such as the hydrologic cycle, erosion, and sedimentation. Close observation and representation of detail design, with an emphasis on material types, their connections, and weathering. Readings, field studies, and drawings in analog and digital media.

L A 282: Landscape Dynamics

(2-2) Cr. 3. S.

Prereq: Sophomore standing

Understand design implications presented by geotechnical and ecological processes in the landscape including ecology, vegetation, soils and water. Understand the influence of landforms, geology, plants, soils, and water on the creation of landscape designs. Course relates current issues including water quality impairment, erosion, and invasive species with design strategies such as stormwater management, soil quality management, and plant community restoration. Field trips.

L A 301: Site Design II

(1-15) Cr. 6. F.

Prereq: L A 202

Development of half-acre to hundred-acre landscape design and planning proposals, potentially in collaboration with students in other programs. Apply critical methodological frameworks to shape site systems while providing appropriate support for diverse user groups and creating culturally meaningful places. Assess and interpret a program of use, organize subjective and objective site inventory and analysis, develop functional and poetic design strategies for infrastructure and natural systems, and craft artistic and functionally explicit landscape architectural proposals. Development of appropriate technique and high level of craft in representations to support design thinking process and final scheme presentation.

L A 302: Ecological Design at the Regional Scale

(1-15) Cr. 6. S.

Prereq: L A 282, L A 301, L A 381 and NREM 120

Application of ecological theories and processes in design and planning at the hundred plus-acre scale specifically focusing on urban and urban fringe landscapes. Apply advanced landscape analysis of soil, water, and vegetation utilizing geographic information systems. Particular focus on stream and wetland restoration, mitigation, and regulations and developing design representations for public use.

L A 309: Field Travel

Cr. 1. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Enrollment in the professional program and permission of instructor

Observation of and reflection on professional practice and landscapes in urban, rural, and wilderness areas. Offered on a satisfactory-fail basis only.

L A 322: Fundamentals of Planting Design

(2-3) Cr. 3.

Prereq: L A 221

The art and techniques of creating plant compositions in the landscape that respond to cultural and biophysical contexts. Investigation of soil properties and plant/soil relationships relevant to the built environment. Methods of site inventory and analysis, developing plant palettes and composing plant assemblages that address expressive and functional needs. Introduction to the techniques of preparing planting plans, including standards for plant selection, plant lists and plant specification.

L A 341: Contemporary Landscape Architecture

(1-0) Cr. 1. S.

Prereq: L A 301

Exploration of contemporary landscape architectural practice through individualized research into practicing firms. Preparation of paper and presentation outlining broad framework and specific parameters of a selected area of contemporary practice using specific projects as examples. Work may result in invitation of current practitioner(s) as a lecture series or event. Resume and portfolio preparation in advance of required off-campus semester (L A 444 A, B or C).

L A 371: History of Modern Landscapes, 1750 to Present

(3-0) Cr. 3. S.

Investigation of landscape design concepts and trends as observed over time, from approximately 1750 to the present, with emphasis on the United States and Europe. Examination of significant figures and outstanding works (sites, gardens, landscapes, monuments, subdivisions, city plans, etc.) of varied geographic regions. Analysis of the social, economic, political, and technical forces contributing to the development of landscape design styles, vocabulary, and literature. Lectures, readings, projects, research papers.

L A 373: Gardens and Landscapes from Antiquity to 1750

(3-0) Cr. 3. F.

Investigation of international landscape design concepts and trends as observed over time, from pre-history to the mid 18th century. Examination of significant figures and outstanding works (sites, gardens, landscapes, monuments, subdivisions, city plans, etc.) of varied geographic regions. Analysis of the social, economic, political, and technical forces contributing to the development of landscape design styles, vocabulary, and literature. Lectures, readings, projects, research papers.

Meets International Perspectives Requirement.

L A 381: Shaping the Land

(3-0) Cr. 3. F.

Prereq: L A 282 and MATH 143 or MATH 145

Design of landforms to achieve aesthetic, functional, and safety goals. Landform changes to accommodate human uses and activities. Impacts and implications of landform transformation on the surrounding environment. Surface and subsurface drainage design, storm water runoff best management practices, contour manipulation to incorporate slopes, swales, culverts, pads, retaining walls, walks, steps, terraces, buildings, and other structures in the landscape. Road layout and alignment, parking lot design, and earthwork volume estimates. Design communication using CAD, perspectives, cross-sections, contour maps, landform models, and narratives. Class exercises, case study precedents, and preliminary construction documents.

L A 401: Community Design

(1-15) Cr. 6. F.

Prereq: L A 402

Physical planning and design of places utilizing community-based methods. Projects address social and cultural dimensions of placemaking such as reuse of abandoned sites, in-fill development, and community visioning. Emphasis on development of user-client relationship skills and design research. Integrated seminar component.

L A 401H: Community Design: Honors

(1-15) Cr. 7. F.

Prereq: L A 402

Physical planning and design of places utilizing community-based methods. Projects address social and cultural dimensions of placemaking such as reuse of abandoned sites, in-fill development, and community visioning. Emphasis on development of user-client relationship skills and design research. Integrated seminar component.

L A 402: Urban Design

(1-15) Cr. 6. F.

Prereq: L A 302

Comprehensive planning and design for urban sites or for sites within urban contexts. Projects typically include planning for a variety of integrated land uses, and cover the full range of design scales from master planning to proposals for site details. Emphasis on written and verbal as well as graphic communications. Integrated seminar component.

L A 402H: Urban Design: Honors

(1-15) Cr. 7. F.

Prereq: L A 302

Comprehensive planning and design for urban sites or for sites within urban contexts. Projects typically include planning for a variety of integrated land uses, and cover the full range of design scales from master planning to proposals for site details. Emphasis on written and verbal as well as graphic communications. Integrated seminar component.

L A 403H: Senior Thesis Preparation Tutorial

Cr. 2. F.

Prereq: L A 402, permission of thesis advisor, enrollment in Honors program
Preparation for senior thesis.

L A 404: Advanced Landscape Architectural Design

(1-15) Cr. 6. Repeatable, maximum of 2 times. S.

Prereq: L A 401

Advanced forum for the demonstration of sophistication in landscape architectural design. Experimentation and innovation are encouraged.

L A 404H: Advanced Landscape Architectural Design: Honors

(1-15) Cr. 6-7. Repeatable, maximum of 2 times. S.

Prereq: L A 401

Advanced forum for the demonstration of sophistication in landscape architectural design. Experimentation and innovation are encouraged.

L A 405H: Senior Thesis

(0-15) Cr. 6. S.

Prereq: L A 401, L A 402, L A 403, enrollment in Honors program and permission of adviser, chair and thesis adviser

Individual advanced forum for the demonstration of sophistication in landscape architectural design. Experimentation and innovation are expected.

L A 417: Urban and Peri-urban Watershed Assessment

(Dual-listed with L A 517). (Cross-listed with ENV S). (2-3) Cr. 3. F.

Prereq: Junior classification and 6 credits of natural science

Assessment and reduction of impacts in urban and peri-urban watershed areas. Course prepares students to work with various analysis methods for vegetation, topography, stormwater and stream condition as well as work with data from other disciplines. Emphasis on communicating with the public. Introductory GIS and GPS technologies are utilized. Learning is largely field-based.

L A 442: Professional Practice

(Dual-listed with L A 542). (2-0) Cr. 2. S.

Prereq: L A 481

Studies of conventional and developing forms of public and private practice. Explore relationships between professional life and the culture of the professional design firm; investigate firm identities and structures; understand design projects, their delivery process, and contractual agreements. Lecture and class discussion.

L A 444: Landscape Architecture Independent Educational Enrichment

Cr. R. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 341 or permission of adviser and chair

Independent educational enrichment through exploration of landscape architectural practice in a professional internship, international studies, or out-of-region national study experience.

L A 444A: Landscape Architecture Independent Educational Enrichment: Professional Internship

Cr. R. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 341 or permission of adviser and chair

Independent educational enrichment through exploration of landscape architectural practice in a professional internship, international studies, or out-of-region national study experience.

L A 444B: Landscape Architecture Independent Educational Enrichment: Study Abroad

Cr. R. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 341 or permission of adviser and chair

Independent educational enrichment through exploration of landscape architectural practice in a professional internship, international studies, or out-of-region national study experience.

L A 444C: Landscape Architecture Independent Educational Enrichment: National Student Exchange

Cr. R. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 341 or permission of adviser and chair

Independent educational enrichment through exploration of landscape architectural practice in a professional internship, international studies, or out-of-region national study experience.

L A 454: Fundamentals of Remote Sensing

(Dual-listed with L A 554). (Cross-listed with C R P). (3-0) Cr. 3. F.

Prereq: CRP 351 or equivalent or permission of the instructor

Introduction to remote sensing techniques needed for basic analysis of satellite images, including: filtering and conflation techniques, stacking, pan sharpening, image rectification, image enhancement, unsupervised and supervised classification. Practical applications in a variety of topics to understand how to interpret images.

L A 457: Landscape Parametrics & Design Computing

(Dual-listed with L A 557). (3-0) Cr. 3. F.

Prereq: Junior classification

Exploration of computational representation of the landscape palette. Geometric parameters for terrain, vegetation, water, weather and lighting effects are modeled and developed algorithmically. Basic computer programming logic and computer graphics interactivity are combined to produce stand-alone software application prototypes that address core landscape design principles.

L A 458: Web Mapping/GIS

(Dual-listed with L A 558). (Cross-listed with C R P). (2-2) Cr. 3.

Prereq: CRP 451/551, LA 302. GEOL 452/552 or instructor permission.

Use and development of online mapping tools to support participatory GIS, Volunteered Geographic Information, information sharing, geodesign and decision making actions. Geoprocessing and Web Scripting/coding and user interface design. Laboratory emphasis practical applications and uses of Web GIS.

L A 459: Digital Design Methods for Landscape Architecture

(Dual-listed with L A 559). (Cross-listed with C R P). (3-0) Cr. 3. S.

Introduction to digital tools used by landscape architects for design communication, visualization, and design development. Include 2D drafting, 3D modeling, image CAD, geospatial data handling (GIS), and animation. Emphasis on concepts and workflow interoperability.

L A 461I: Introduction to GIS

(Cross-listed with ENSCI, ENV S, IA LL). Cr. 4. SS.

Descriptive and predictive GIS modeling techniques, spatial statistics, and map algebra. Application of GIS modeling techniques to environmental planning and resource management.

L A 478: Topical Studies in Landscape Architecture

(Dual-listed with L A 578). Cr. 2-3. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections. Course contact hours can range from (2-0) to (3-0) depending on number of credits.

L A 478A: Topical Studies in Landscape Architecture: Landscape Design

(Dual-listed with L A 578A). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478B: Topical Studies in Landscape Architecture: Planting Design

(Dual-listed with L A 578B). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478C: Topical Studies in Landscape Architecture: Construction

(Dual-listed with L A 578C). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

**L A 478D: Topical Studies in Landscape Architecture: History/Theory/
Criticism**

(Dual-listed with L A 578D). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478E: Topical Studies in Landscape Architecture: Landscape Planning

(Dual-listed with L A 578E). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478F: Topical Studies in Landscape Architecture: Urban Design

(Dual-listed with L A 578F). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478G: Topical Studies in Landscape Architecture: Graphics

(Dual-listed with L A 578G). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478H: Topical Studies in Landscape Architecture: Honors

Cr. 2-3. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

**L A 478I: Topical Studies in Landscape Architecture: Interdisciplinary
Studies**

(Dual-listed with L A 578I). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

**L A 478J: Topical Studies in Landscape Architecture: International
Studies**

(Dual-listed with L A 578J). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 478K: Landscape Architecture: Computer Applications

(Dual-listed with L A 578K). Cr. 2-3. Repeatable. F.S.SS.

Prereq: Senior classification or graduate standing

Offerings vary with each term; check with department for available sections. Course contact hours can range from (2-0) to (3-0) depending on number of credits.

L A 478L: Topical Studies in Landscape Architecture: Ecological Design

(Dual-listed with L A 578L). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

**L A 478M: Topical Studies in Landscape Architecture: Landscape
Architecture: Social/Behavioral**

(Dual-listed with L A 578M). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

L A 478N: Topical Studies in Landscape Architecture: Natural Resources

(Dual-listed with L A 578N). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

L A 481: Landscape Construction

(Dual-listed with L A 581). (3-0) Cr. 3. F.

Prereq: L A 381

Development of construction details with emphasis on materials and their aesthetic and functional uses as building materials. Explore characteristics and uses of construction materials and application of wood systems, paving systems, retaining walls, masonry and concrete systems, and metals; investigate structural theory of wood systems. Preliminary preparation of construction documents.

L A 482: Advanced Landscape Construction

(Dual-listed with L A 582). (3-0) Cr. 3. S.

Prereq: L A 481

Advanced site construction issues, including proposal preparation, construction documentation, project scheduling, estimating, and specification writing.

L A 490: Independent Study

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490A: Independent Study: Landscape Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490B: Independent Study: Planting Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490C: Independent Study: Construction

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490D: Independent Study: History/Theory/Criticism

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490E: Independent Study: Landscape Planning

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490F: Independent Study: Urban Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490G: Independent Study: Graphics

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490H: Independent Study: Honors

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490I: Independent Study: Interdisciplinary Studies

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490J: Independent Study: International Studies

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490K: Independent Study: Computer Applications

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490L: Independent Study: Ecological Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490M: Independent Study: Social/Behavioral

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 490N: Independent Study: Natural Resources

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: Written approval of instructor and department chair on required form

Investigation of a topic of special interest to the student.

L A 491: Environmental Law and Planning

(Dual-listed with L A 591). (Cross-listed with C R P, ENV S). (3-0) Cr. 3. S.

Prereq: 6 credits in natural sciences

Environmental law and policy as applied in planning at the local and state levels. Brownfields, environmental justice, water quality, air quality, wetland and floodplain management, and local government involvement in ecological protection through land use planning and other programs.

Courses primarily for graduate students, open to qualified undergraduates:

L A 509: Field Travel

Cr. 1. Repeatable, maximum of 2 times.

Prereq: Enrollment in the professional program and permission of instructor

Observation of and reflection on professional and academic practice and landscapes. Field study and travel to conferences and educational events. Reading and final report. Offered on a satisfactory-fail basis only.

L A 517: Urban and Peri-urban Watershed Assessment

(Dual-listed with L A 417). (2-3) Cr. 3. F.

Prereq: Junior classification and 6 credits of natural science

Assessment and reduction of impacts in urban and peri-urban watershed areas. Course prepares students to work with various analysis methods for vegetation, topography, stormwater and stream condition as well as work with data from other disciplines. Emphasis on communicating with the public. Introductory GIS and GPS technologies are utilized. Learning is largely field-based.

L A 522: Advanced Plant Technology

(1-2) Cr. 3. F.

Prereq: Junior or graduate standing

Planting design and emergent technologies for design performance in the urban built environment. Emphasis on innovative strategies for planting design and plant technology in building design, sustainable streetscapes, and urban systems integrating storm water and urban "hardscape" design. Interviews with practitioners, technical experts and agency program leaders will complement readings, lecture and site visits to exemplary project sites.

L A 541: Design Inquiry

(3-0) Cr. 3. S.

Prereq: Graduate standing

Examination of design inquiry and research methods relevant to landscape architectural projects, including bibliographical, historical, numerical, statistical, survey, and geographical methods. Readings, discussions, and application problems. Preparation of a written research proposal.

L A 542: Professional Practice

(Dual-listed with L A 442). (2-0) Cr. 2. S.

Prereq: L A 481

Studies of conventional and developing forms of public and private practice. Explore relationships between professional life and the culture of the professional design firm; investigate firm identities and structures; understand design projects, their delivery process, and contractual agreements. Lecture and class discussion.

L A 543: Colloquium I: Landscape Architecture Research

(0-1) Cr. 1. S.

Prereq: Graduate standing.

Graduate forum on current research in landscape architecture. Weekly presentations of scholarly and professional work by department faculty. Readings, discussions, and development of student research focus. Offered on a satisfactory-fail basis only.

L A 545: Colloquium II: Interdisciplinary Research

Cr. 1. Repeatable. F.

Prereq: LA 543 or graduate standing.

Student-run graduate forum on current research in landscape architecture and related disciplines. Weekly presentations by invited faculty from the departments across the College of Design, University, and professional guests. Readings, discussions, and writing. Offered on a satisfactory-fail basis only.

L A 554: Fundamentals of Remote Sensing

(Dual-listed with L A 454). (Cross-listed with C R P). (3-0) Cr. 3. F.

Prereq: CRP 351 or equivalent or permission of the instructor

Introduction to remote sensing techniques needed for basic analysis of satellite images, including: filtering and conflation techniques, stacking, pan sharpening, image rectification, image enhancement, unsupervised and supervised classification. Practical applications in a variety of topics to understand how to interpret images.

L A 557: Landscape Parametrics & Design Computing

(Dual-listed with L A 457). (3-0) Cr. 3. F.

Prereq: Junior classification

Exploration of computational representation of the landscape palette. Geometric parameters for terrain, vegetation, water, weather and lighting effects are modeled and developed algorithmically. Basic computer programming logic and computer graphics interactivity are combined to produce stand-alone software application prototypes that address core landscape design principles.

L A 558: Web Mapping/GIS

(Dual-listed with L A 458). (Cross-listed with C R P). (2-2) Cr. 3.

Prereq: CRP 451/551, LA 302. GEOL 452/552 or instructor permission.

Use and development of online mapping tools to support participatory GIS, Volunteered Geographic Information, information sharing, geodesign and decision making actions. Geoprocessing and Web Scripting/coding and user interface design. Laboratory emphasis practical applications and uses of Web GIS.

L A 559: Digital Design Methods for Landscape Architecture

(Dual-listed with L A 459). (Cross-listed with C R P). (3-0) Cr. 3. S.
Introduction to digital tools used by landscape architects for design communication, visualization, and design development. Include 2D drafting, 3D modeling, image CAD, geospatial data handling (GIS), and animation. Emphasis on concepts and workflow interoperability.

L A 567: Advanced GIS Landscape Modeling

(0-6) Cr. 3.

Prereq: L A 302 or C R P 451/C R P 551

Application of Geographic Information Systems (GIS) modeling techniques to landscape planning and management issues. Selection, acquisition, and conversion of digital landscape data. Modeling applications for studio projects, outreach projects, and research projects.

L A 571: Landscape Architectural Theory

(3-0) Cr. 3. F.

Prereq: graduate classification or permission of instructor

Examination of the development of ideas in landscape architecture in their historical context of social practices and knowledge systems. Emphasis on exposure to key modern and contemporary texts and projects in landscape architecture, architecture, art, and related fields. Readings, discussions, and writings.

L A 578: Topical Studies in Landscape Architecture

(Dual-listed with L A 478). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections. Course contact hours can range from (2-0) to (3-0) depending on number of credits.

L A 578A: Topical Studies in Landscape Architecture: Landscape Design

(Dual-listed with L A 478A). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578B: Topical Studies in Landscape Architecture: Planting Design

(Dual-listed with L A 478B). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578C: Topical Studies in Landscape Architecture: Construction

(Dual-listed with L A 478C). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578D: Topical Studies in Landscape Architecture: History/Theory/Criticism

(Dual-listed with L A 478D). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578E: Topical Studies in Landscape Architecture: Landscape Planning

(Dual-listed with L A 478E). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578F: Topical Studies in Landscape Architecture: Urban Design

(Dual-listed with L A 478F). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578G: Topical Studies in Landscape Architecture: Graphics

(Dual-listed with L A 478G). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578I: Topical Studies in Landscape Architecture: Interdisciplinary Studies

(Dual-listed with L A 478I). Cr. 2-3. Repeatable, maximum of 3 times.
F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578J: Topical Studies in Landscape Architecture: International Studies

(Dual-listed with L A 478J). Cr. 2-3. Repeatable, maximum of 3 times. F.S.SS.

Prereq: L A 202 or senior or graduate classification

Offerings vary with each term; check with department for available sections.

L A 578K: Landscape Architecture: Computer Applications

Cr. 2-3. Repeatable. F.S.SS.

Prereq: Senior classification or graduate standing

Offerings vary with each term; check with department for available sections. Course contact hours can range from (2-0) to (3-0) depending on number of credits.

L A 578L: Topical Studies in Landscape Architecture: Ecological Design

(Dual-listed with L A 478L). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

L A 578M: Topical Studies in Landscape Architecture: Landscape Architecture: Social/Behavioral

(Dual-listed with L A 478M). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

L A 578N: Topical Studies in Landscape Architecture: Natural Resources

(Dual-listed with L A 478N). Cr. 2-3. Repeatable, maximum of 3 times.

F.S.SS.

Prereq: L A 202 or senior classification or graduate standing

Offerings vary with each term; check with department for available sections.

L A 580: Thesis, Creative Component Tutorial

Cr. 1-4. Repeatable, maximum of 4 credits. F.S.SS.

Prereq: Permission of major professor

Hands-on participation in a creative or research activity in the student's area of specialization. Development of a detailed prospectus that defines the thesis or creative component.

L A 581: Landscape Construction

(Dual-listed with L A 481). (3-0) Cr. 3. F.

Prereq: L A 381

Development of construction details with emphasis on materials and their aesthetic and functional uses as building materials. Explore characteristics and uses of construction materials and application of wood systems, paving systems, retaining walls, masonry and concrete systems, and metals; investigate structural theory of wood systems. Preliminary preparation of construction documents.

L A 582: Advanced Landscape Construction

(Dual-listed with L A 482). (3-0) Cr. 3. S.

Prereq: L A 481

Advanced site construction issues, including proposal preparation, construction documentation, project scheduling, estimating, and specification writing.

L A 583: Landscape TopoGraphics

(3-0) Cr. 3. F.

Prereq: LA 602

Design of landforms to achieve aesthetic, functional, and safety goals. Impacts and implications of landform transformation on the surrounding environment. Design communication using CAD, perspectives, cross-sections, contour maps, landform models, and narratives. Class exercises, case study precedents, and preliminary construction documents.

L A 587: Landscape Structures

(1-2) Cr. 3. S.

Prereq: LA 583

Introduction to construction practices in landscape architecture. Emphasis on the aesthetic and functional components of built environments including materials, assemblies and techniques; integrate the principles of sustainability as they relate to current and emerging construction methods, materials and technologies. Introduction to the preparation of construction documents.

L A 590: Special Topics

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590A: Special Topics: Landscape Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590B: Special Topics: Planting Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590C: Special Topics: Construction

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590D: Special Topics: History/Theory/Criticism

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590E: Special Topics: Landscape Planning

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590F: Special Topics: Urban Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590G: Special Topics: Graphics

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590I: Special Topics: Interdisciplinary Studies

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590J: Special Topics: International Studies

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590K: Special Topics: Computer Applications

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590L: Special Topics: Ecological Design

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590M: Special Topics: Social/Behavioral

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 590N: Special Topics: Natural Resources

Cr. 1-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: graduate standing.

L A 591: Environmental Law and Planning

(Dual-listed with L A 491). (Cross-listed with C R P). (3-0) Cr. 3. S.

Prereq: 6 credits in natural sciences

Environmental law and policy as applied in planning at the local and state levels. Brownfields, environmental justice, water quality, air quality, wetland and floodplain management, and local government involvement in ecological protection through land use planning and other programs.

L A 594: Environmental Justice in Built Environments

(3-0) Cr. 3. S.

Prereq: Graduate standing or senior classification.

Examination of the equitable distribution of environmental burdens and benefits for sustainable and resilient cities. Focus on impact of climate change, social exclusion, and physical isolation on cumulative risk amongst vulnerable populations. Synthesis of recent social and environmental research to develop innovative physical planning and urban design strategies that support healthy behaviors.

L A 599: Creative Component

Cr. 1-8. Repeatable, maximum of 8 credits. F.S.SS.

Prereq: Permission of major professor

Comprehensive study and original development of a project selected by the student and approved by the major professor. Completed project must be submitted to and approved by a graduate faculty committee as evidence of mastery of the principles of landscape architecture.

Courses for graduate students:

L A 601: Studio I: Design Representation

(3-0) Cr. 3. F.

Prereq: Graduate standing

Introduction to history, techniques, and conventions of landscape architecture representation. Production of design drawings that facilitate critical thinking, the testing of design ideas, and effective communication. Use of two- and three-dimensional media, both analog and digital.

L A 602: Studio II: Land Form and Plant Scope

(1-15) Cr. 6. S.

Prereq: LA 601

Landscape design integrating knowledge of land patterns, plant ecosystems, and human processes. Project involve landform and plants at varied scale of design. Emphasis on competencies in design based in natural process, human behavior, and representation.

L A 603: Studio III: Performance Landscapes

(1-15) Cr. 6. S.

Prereq: LA 602

Theory and methods of landscape design at a variety of scales to achieve desired cultural and biophysical impacts. Development and use of performance metrics drawn from design, humanities, and science. Construction of integrated rhetorical structures of representation and analysis and critical viewpoints to create rigorous design "arguments" and meaningful, just and vibrant environments.

L A 604: Studio IV: City Matters

(1-15) Cr. 6. S.

Prereq: LA 603

Exploration of sociopolitical, ecological, and visual-spatial conditions of the urban environment through design at multiple scales. Focus on urban projects that highlight the complexity of human, ecological, and infrastructural systems. Development of innovative strategies for sustainable, healthy, and just cities. Special attention is paid to building material and construction of physical elements in cities.

L A 605: Studio V: Land Works/Land Digits

(1-15) Cr. 6.

Prereq: LA 604

Landscape design focusing on broadening the representational palette for landscape architectural concepts to complex sites at multiple scales. Emphasis on technical competency through advanced skills in design research, digital representation and teamwork.

L A 699: Thesis Research

Cr. 1-8. Repeatable, maximum of 8 credits. F.S.SS.

Prereq: Permission of major professor

Advanced and original scholarship in a specialized area. Culminates in a thesis document submitted to and approved by a graduate faculty committee as evidence of mastery of research in landscape architecture.