

LANDSCAPE ARCHITECTURE

Landscape architecture is an environmental design discipline. Landscape architects actively shape the human environment: they map, interpret, imagine, draw, build, conceptualize, synthesize, and project ideas that transform landscapes. The design process involves creative expression that derives from an understanding of the context of site (or landscape) ecosystems, cultural frameworks, functional systems, and social dynamics. Students in our program learn to change the world around them by re-imagining and re-shaping the landscape to enhance its aesthetic and functional dimensions, ecological health, cultural significance, and social relevance. The profession addresses a broad range of landscapes in urban, suburban, rural, and wilderness settings. The scale of landscape architecture projects varies from broad, regional landscape analysis and planning to detailed, individual site-scale designs. The curriculum at Iowa State prepares students for this challenge as they develop their abilities to design and communicate ideas through a sequence of foundational courses and studios. The program seeks to produce graduates who understand the ethical, social, and environmental/ecological dimensions of issues involving changes in the landscape.

Graduates are active in a broad range of careers, such as sustainable site design, land development, park management, environmental advocacy, community planning, urban design, and others. In their professional lives, graduates apply their creative and technical skills in the planned arrangement of natural and constructed elements on the land with a concern for the stewardship and conservation of natural, constructed, and human resources. The resulting environments serve useful, aesthetic, safe, and enjoyable purposes. Graduates are able to communicate effectively with colleagues in the sciences and humanities as well as in the allied professions, and are prepared to work individually and in multidisciplinary teams to address complex problems dealing with the cultural/ecological environment.

The department offers graduate and undergraduate degree programs and cooperates in the undergraduate minors in Design Studies, Critical Studies in Design, and Digital Media.

The undergraduate curriculum includes one year of the college's Core Design Program followed by a four-year professional program. Admission to the professional program is subject to the approval of a faculty committee at the completion of the Core Design Program. Applicants are reviewed on the basis of academic performance, a portfolio of original work, and a written essay.

Following admission to the professional program, students embark on the traveling studio during the fall semester of their second year. This studio is a full semester's credit of integrated departmental courses and involves extensive travel within and beyond the great Midwest region

of North America, to study regional natural systems and the cultural responses to those systems.

To enhance the study of landscape architecture in off-campus settings, the department requires students to choose from among the following options during the spring and summer of their fourth year: a professional internship; the College of Design Rome Program; an independent study abroad experience; or National Student Exchange. The department assists students with placement, and additional information is provided through the department and the College of Design's Career Services Office.

The undergraduate program consists of a five-year curriculum, requiring 149.5 credits, leading to the degree Bachelor of Landscape Architecture. These credits are distributed between a one-year Core Design Program of 30 credits and a four-year professional program of 119.5 credits.

Curriculum in Landscape Architecture

The department offers graduate and undergraduate degree programs.

The undergraduate program consists of a five-year curriculum, requiring 149.5 credits, leading to the degree Bachelor of Landscape Architecture. These credits are distributed between a one-year Core Design Program of 30 credits and a four-year professional program of 119.5 credits.

Admission into the professional program depends upon available resources and is subject to the approval of a faculty committee at the completion of the Core Design Program. Applicants are reviewed on the basis of academic performance, a portfolio of original work, and a written essay.

The BLA from Iowa State University is an LAAB (Landscape Architectural Accreditation Board)-accredited professional degree program. In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for professional licensure. The LAAB is the sole entity recognized by the Council for Higher Education Accreditation to accredit U.S. first-professional degree programs in landscape architecture at the bachelor's and master's levels.

Total Degree Requirement: 149.5 credits

Only 65 credits from a two-year institution may apply, which may include up to 16 technical credits; 9 P-NP credits of free electives; 2.00 minimum GPA.

International Perspective: 3 credits

U.S. Diversity: 3 credits

Communications: 10 credits

(C or better grade in ENGL 150 and ENGL 250)

ENGL 150	Critical Thinking and Communication	3
ENGL 250	Written, Oral, Visual, and Electronic Composition	3
LIB 160	Information Literacy	1

One of the following:	3
ENGL 302 Business Communication	
ENGL 309 Proposal and Report Writing	
ENGL 314 Technical Communication	

Total Credits **10**

Humanities: 9 credits

9 credits from PHIL, HIST, MUSIC or other humanities course offerings.

Social Sciences: 6 credits

6 credits from ANTHR, ECON, POL S, PSYCH, or SOC.

Mathematics and Science: 12 credits

One of the following: 3-4

MATH 140 College Algebra	
MATH 145 Applied Trigonometry	
MATH 165 Calculus I (4 crs)	
ENV S 120 Introduction to Renewable Resources	3
Science Elective	6

Additional General Education Course 3 credits

3 credits from 300-400-level courses

Design Core: 11.5 credits

DSN S 102 Design Studio I	4
DSN S 115 Design Collaborative Seminar	0.5-1
or DSN S 110 Design Exchange Seminar I	
DSN S 131 Drawing I	4
DSN S 183 Design in Context	3

Total Credits **11.5-12**

Landscape Architecture: 89 credits

L A 201 Studio: Landscape Interpretation and Representation	6
L A 202 Studio: Site Design I	6
L A 221 Native Plants of the Savanna Ecotone	3
L A 222 Introduced Plants of the Midwest	3
L A 241 Developing Identity as a Landscape Architect	1
L A 272 Landscape Studies	3
L A 274 The Social and Behavioral Landscape	3
L A 281 Investigating Landscape Form, Process, and Detail	3
L A 282 Landscape Dynamics	3
L A 301 Site Design II	6
L A 302 Ecological Design at the Regional Scale	6
L A 341 Contemporary Landscape Architecture	1
L A 371 History of Modern Landscapes, 1750 to Present	3
L A 373 Gardens and Landscapes from Antiquity to 1750	3
L A 381 Shaping the Land	3

L A 402 Urban Design	6
L A 404 Advanced Landscape Architectural Design	6
L A 444 Landscape Architecture Independent Educational Enrichment	R
L A 442 Professional Practice	2
L A 481 Landscape Construction	3
L A 482 Landscape Construction Documentation	3
DSN S 546 Interdisciplinary Design Studio	6
Plus nine credits professional electives	9
Total Credits	88

Electives: 14 credits

Complete electives sufficient to complete graduation requirements.

Landscape Architecture, B.L.A.

First Year

Fall	Credits Spring	Credits
DSN S 102 or 131	4	
DSN S 183 (or General Education)	3 DSN S 131 or 102	4
DSN S 115	0.5 Soc. Sciences/Humanities Elective	3
ENGL 150 or 250	3 Science Elective or MATH 142	3
Soc. Sciences/Humanities Elective	3 LIB 160	1
MATH 145	3 Elective (Optional for pre-professional year; not required for program application. If not taken in first year, add 3 cr. to a subsequent semester to meet the 150.0 credit total)	3
	16.5	14

Second Year

Fall	Credits Spring	Credits
L A 201	6 L A 202	6
L A 221	3 L A 274	3
L A 241	1 L A 222	3
L A 272	3 L A 282	3
L A 281	3 Elective	3
	16	18

Third Year

Fall	Credits Spring	Credits
L A 301	6 L A 302	6

L A 381	3 L A 341	1	the application of research and/or scholarly methods to professional practice.
L A 373	3 L A 371	3	
ENV S 120	3 Social Science/Humanities Electives	3	
ENGL 250	3 Math/Science Elective	3	

18	16
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Fourth Year

Fall	Credits Spring	Credits	
L A 402	6 One of the following:		
L A 481	3 L A 444A	R	
Social Science/Humanities Elective	3 L A 444B	R	
LA electives	3 L A 444C	R	
Communications (300 level English)	3		
DSN S 301 (Rome option only)	1		
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	19	0	

Fifth Year

Fall	Credits Spring	Credits	
L A 401	6 DSN S 546	6	
LA Electives	3 L A 442	2	
Social Science/Humanities Elective (300 level)	6 L A 482	3	
LA Electives	3 Electives/LA Electives	3	
	Professional Elective	1	
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	18	15	

Additionally: Each student needs to take 3 credits of a US Diversity (usually covered by LA 272) and 3 credits of an International Perspectives course (usually covered by LA 373). Students also need to take at least 6 credits of 300 level or above in the combined areas of communication, science, math, humanities, and social science (6 total from all the areas).

Graduate Study

The department offers the Master of Landscape Architecture (MLA), an accredited professional degree designed for students with or without an undergraduate degree in landscape architecture. The degree provides skills and knowledge as measured by the Landscape Architectural Accreditation Board (LAAB) and the licensing exam for students seeking to practice as a licensed professional in the public or private sectors. The MLA degree also offers competency for students interested in post-professional study as it provides the skills and knowledge for

The MLA program offers three concentration tracks in the following topical areas — Theory/Urbanism, Technology/Ecology, Advocacy/Community — through coursework and an optional thesis and creative component. The concentration in one of the three tracks will be determined by the student in consultation with his/her adviser. Concentration electives may be selected from within the college and university from an approved list and up to three (3) credits from within the department. In their final year, students may undertake a creative component or thesis option with the approval of their major professor and the department Graduate Committee.

Students are also able to pursue double degrees with Master of Community and Regional Planning (MLA/MCRP), Master of Urban Design (MLA/MUD), and Master of Design in Sustainable Environments (MLA/MDesSE). Students interested in the double-degree programs should contact the departments to receive a detailed description of requirements.

The department also offers courses in the Graduate Certificate Program in Geographic Information Systems (GIS), administered by the Department of Community and Regional Planning.

Design and Planning: 34 credits

L A 601 Design Representation	4
L A 602 Studio I – Land/Form & Plant/Scape	6
L A 603 Studio II – Living Systems	6
L A 604 Studio III – City Matters	6
L A 605 Studio IV – LandWorks/LandDigits	6
DSN S 546 Interdisciplinary Design Studio	6
or 2 cr. L A 580 Thesis, Creative Comp. Tutorial + 4 cr. L A 599 Creative Comp. or L A 699 Thesis	

Theory/History/Urbanism: 11 credits

L A 571 Landscape Architectural Theory	3
L A 590D Special Topics: History/Theory/Criticism	3
or L A 578D: LA History elective*	
L A 543 Colloquium I	1
L A 545 Colloquium II	1

Technology/Ecology/Materiality: 14 credits

L A 557 Computer Applications	3
L A 583 Landscape TopoGraphics	3
L A 581 Landscape Structure	3
L A 542 Professional Practice & Enterprise	2
L A 522 Advanced Plant Technology	3

Advocacy/Planning/Policy: 6 credits

L A 594	Environmental Justice in Built Environments	3
Planning Elective**		3

Concentration Electives: 9 credits**Elective: 3 credits****Total 80 credits****Approved Distribution Electives:****LA History elective (3 credits)*****Courses offered on term-by-term basis**

L A 590D: Special Topics: History

L A 578D: Landscape Architecture: History

Planning elective (3 credits)**

C R P 566: Planning Policy

C R P 568: Planning & Development

C R P 591: Environmental Law and Planning

C R P 592: Land Use and Development Regulation Law

Theory elective (3 credits)***

Theory course in your concentration area (Theory, Technology or Advocacy) – Select from CRP, ARCH, MUD, SUS E, IND D, or other relevant field in the college or university.

Concentration Track Electives

1. Theory/History/Urbanism MLA/MUD
2. Advocacy/Planning/Community MLA/CRP
3. Technology/Ecology/Materiality MLA/MDES SE

Concentration track electives from approved list on separate sheet.

Students may also take courses from other departments across college.

Elective

3 credit non-LA course from college or university courses (incl. LA 509: Field Trip)

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

(0-12) 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

(0-12) 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

(Cross-listed with C R P). (3-0) Cr. 3. S.

Foundational knowledge and basic skills in 2D, 3D, and 4D computer applications used for design development and communication, with emphasis on 3D modeling and workflow interoperability.

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. F.

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: Landscape Studies

(3-0) Cr. 3. F.

Prereq: Enrollment in the professional program

Exploration of landscapes, from broad settlement patterns to individual sites. 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. 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

(0-12) 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

(0-12) 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

(0-12) 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

(0-12) 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

(0-12) 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

(0-12) 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

(0-12) 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

(0-12) 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). (2-2) Cr. 3. F.

Prereq: C R P 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 459: Digital Design Methods for Landscape Architecture

(Dual-listed with L A 559). (3-0) Cr. 3. S.

Introduction to digital tools used by landscape architects for design communication, visualization, and design development, with emphasis on 3D modeling 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

(3-0) Cr. 3. F.

Prereq: L A 381

Development of construction details with an emphasis on the aesthetic and functional use of landscape materials. Explore characteristics, applications, systems, and uses of wood, paving, walls, masonry, concrete, and metals in the landscape. Preliminary preparation of construction documents and design documentation software.

L A 482: Landscape Construction Documentation

(3-0) Cr. 3. S.

Prereq: L A 481

Development of advanced construction documents, including documentation processes, cost estimation, sheet coordination, and specification writing. Emphasis on documentation software as a tool for design communication.

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

(2-2) Cr. 3. F.

Prereq: Junior or graduate standing

Introduction to the science that supports green technologies. Plant and soil design for performance in the built environment. Design studies and lab explorations will complement readings, lecture and project case study presentations by practitioners. Green streets, green roofs, bio-phyto-remediation and other technologies are introduced. Final project integrates scientific and technical knowledge in a holistic landscape design.

L A 541: Design Inquiry

(3-0) Cr. 3. S.

Prereq: Graduate standing

Examination of design inquiry and introduction to research methods relevant to design. Consideration of where knowledge comes from, and how different research methods help create knowledge in various contexts. Readings, discussions, and sketch 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). (2-2) Cr. 3. F.

Prereq: C R P 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 Coding

(3-0) Cr. 3. F.

Prereq: Graduate standing or senior status, or instructor permission.

Introduction to parametric landscape design through computer programming of the landscape palette. Terrain, vegetation, water, weather, and lighting effects are modeled and represented algorithmically in Rhino-Grasshopper. Computational thinking, logic, and interactivity are combined to address core design principles.

L A 558: Web Mapping and Spatial Data Visualization

(Cross-listed with C R P). (2-2) Cr. 3.

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

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

L A 559: Digital Design Methods for Landscape Architecture

(Dual-listed with L A 459). (3-0) Cr. 3. S.

Introduction to digital tools used by landscape architects for design communication, visualization, and design development, with emphasis on 3D modeling 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 landscape architectural ideas in their historical contexts and in relation to social and cultural practices. 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 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

(1-4) Cr. 3. S.

Prereq: L A 583

Introduction to construction practices in landscape architecture. Emphasis on the aesthetic and functional components of built environments including materials, assemblies, and techniques. Introduction to the preparation of construction documents and design documentation software.

L A 590: Special Topics

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Graduate standing.

Investigation of a topic of special interest to the student.

L A 590A: Special Topics: Landscape Design

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590B: Special Topics: Planting Design

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590C: Special Topics: Construction

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

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

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590E: Special Topics: Landscape Planning

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590F: Special Topics: Urban Design

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590G: Special Topics: Graphics

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590I: Special Topics: Interdisciplinary Studies

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590J: Special Topics: International Studies

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590K: Special Topics: Computer Applications

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590L: Special Topics: Ecological Design

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590M: Special Topics: Social/Behavioral

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

L A 590N: Special Topics: Natural Resources

Cr. 1-6. Repeatable, maximum of 2 times. F.S.SS.

Prereq: Approval of instructor and Director of Graduate Education on required form

Investigation of a topic of special interest to the student.

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.

Disproportionate environmental exposures threaten sustainable and resilient cities. Focus on cumulative effects of climate change, social exclusion, and physical isolation on vulnerable populations. Empirical research and visual surveys are synthesized into planning and design strategies for human well-being. Mapping in GIS and spatial analysis assess potential urban environmental burdens.

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

(4-0) Cr. 4. 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 Scape

(0-12) Cr. 6. S.

Prereq: L A 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

(0-12) Cr. 6. S.

Prereq: L A 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

(0-12) Cr. 6. S.

Prereq: L A 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 emerging infrastructural systems. Development of innovative strategies for sustainable, healthy, and just cities. Special attention is paid to new technologies and building material in cities.

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

(0-12) Cr. 6.

Prereq: L A 604

Landscape design focusing on broadening the representational palette for landscape architectural concepts applied to complex sites at multiple scales. Emphasis on ideation and technical competency through advanced conceptualization, performance metrics, and 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.