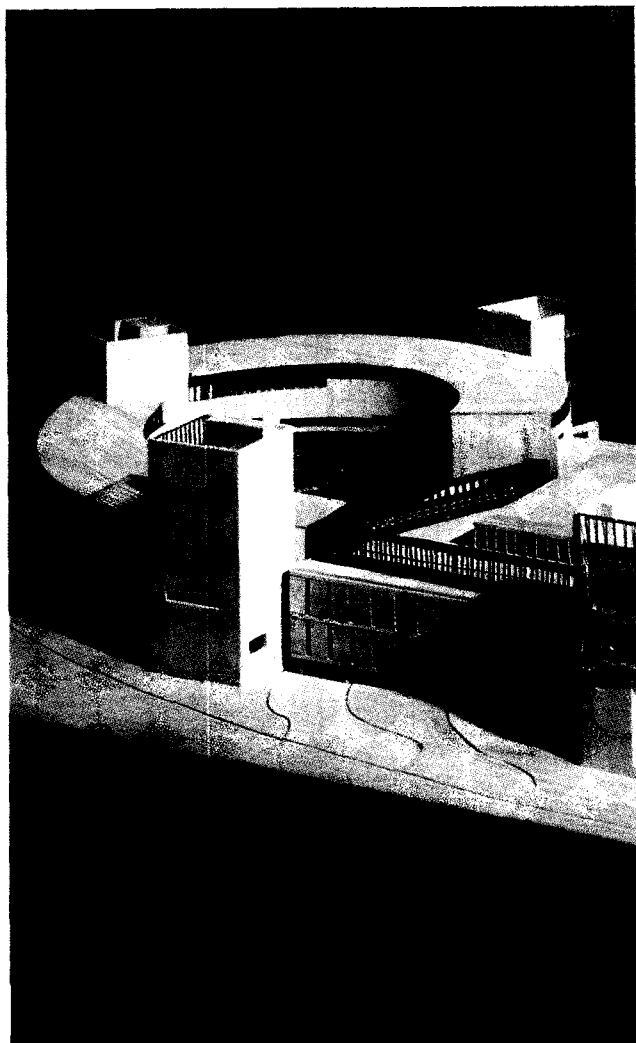


Architecture and
Landscape Architecture
University of Minnesota Bulletin
1990-92



Architecture and Landscape Architecture

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Introduction

Resources

This biennial bulletin, the official source of information about the College of Architecture and Landscape Architecture, should be kept handy for repeated reference. In addition, students are urged to become more familiar with the following resources:

College Office—For more information about policies and program requirements check with the College of Architecture and Landscape Architecture, 89 Church Street S.E., 110 Architecture Building, Minneapolis, MN 55455 (612/626-1000).

Program Adviser—The College has a Degree Program Adviser in the Student Affairs Office in 110 Architecture who advises prospective and current students on administrative procedures associated with admission, orientation, registration, scholastic conduct, degree requirements and graduation clearance.

Class Schedule—Each quarter you may pick up a *Class Schedule* with other registration materials in the College of Architecture and Landscape Architecture Office. This publication lists University day school courses with hours, rooms, instructors, prerequisites, registration instructions, tuition and fees, maps, final exam schedules, grading definitions, and other valuable information.

Other Bulletins—Evening and summer courses are featured in the *Continuing Education and Extension Classes Bulletin* and *Summer Session Bulletin*, respectively. Separate bulletins are also published for other University colleges. Most may be obtained from the Information Center, 207 Williamson Hall, Minneapolis campus or the Office of Admissions and Records, 130 Coffey Hall, St. Paul campus.

Policies

Bulletin Use—The contents of this bulletin and other University bulletins, publications, or announcements are

subject to change without notice. University offices can provide current information about possible changes.

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, veteran status, or sexual orientation. In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 20000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by Executive Order 11246, as amended; 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be addressed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, University of Minnesota, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547); or to the Director of the Office of Civil Rights, Department of Education, Washington, DC 20202; or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, DC 20210.

Access to Student Educational Records—In accordance with regents' policy on access to student records, information about a student generally may not be released to a third party without the student's permission. The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, telephone number, dates of enrollment and enrollment termination, college and class, major, adviser, academic awards, honors received, and degrees earned—is considered public or

directory information. To prevent release of such information outside the University while in attendance at the University, students must notify the records office on their campus.

Students are notified annually of their right to review their educational records. The regents' policy, including a directory of student records, is available for review at Williamson Hall Information Center, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

Postal Statement

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Directory

College Offices

College of Architecture and Landscape Architecture

University of Minnesota
110 Architecture Building
89 Church Street S.E.
Minneapolis, MN 55455
612/626-1000

Program Adviser
612/626-1000

Department Offices

Department of Architecture
110 Architecture Building
89 Church Street S.E.
Minneapolis, MN 55455
612/624-7866

Department of Landscape Architecture
205 North Hall
2005 Buford Avenue
St. Paul, MN 55108
612/625-8285

Center Offices

Built Environment Communications Center (BECC)
120 Architecture Building
89 Church Street S.E.
Minneapolis, MN 55455
612/624-4137

Center for Community Studies (CCS)
201 North Hall
2005 Buford Avenue
St. Paul, MN 55108
612/625-0270

Computer-Aided Architectural Design Center (CAAD)
148 Architecture Building
89 Church Street S.E.
Minneapolis, MN 55455
612/624-9583

Design Center for American Urban Landscape (DC/AUL)
320 Wulling Hall
86 Pleasant Street S.E.
Minneapolis, MN 55455
612/626-0333

Minnesota Cold Climate Building Research Center (MnBRC)
330 Wulling Hall
86 Pleasant Street S.E.
Minneapolis, MN 55455
612/626-7419

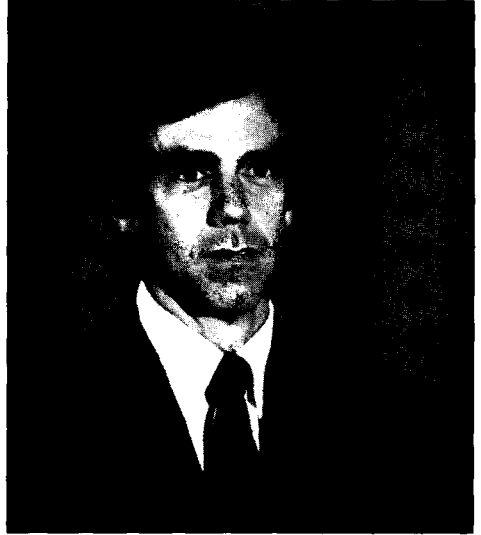
Regional Daylighting Center (RDC)
200 Music Education Building
147 Pillsbury Drive S.E.
Minneapolis, MN 55455
612/624-8349

Welcome

For over 75 years the University of Minnesota has offered a nationally acclaimed program in architectural education. In the last 20 years the University's program in landscape architecture has achieved a similar recognition for its excellence. The newly constituted College of Architecture and Landscape Architecture (CALA) brings these traditions together in a common mission and adds to them the stewardship of a future program in urban design.

The reputation of the college has been built on a faculty that combines leading full time teachers and scholars with outstanding design practitioners. Throughout its history the educational programs have served as the primary resource base for a vibrant professional design community in the Twin Cities and throughout Minnesota. Our graduates also are recruited and highly prized nationally because of their reputation for outstanding drawing and design skills.

The newly formed College of Architecture and Landscape Architecture now provides a better focus than ever for University of Minnesota students seeking to explore the complex relationship between people and their physical settings, both natural and man-made. With its departments of architecture and landscape architecture and its future program in urban design, CALA offers talented and dedicated students the opportunity to develop the potential for excellence and leadership in the design professions, in practice, in teaching, and in research. Through the academic and professional degree programs, students acquire the knowledge, skills, and habits of mind essential to quality design. In studying at CALA you are exposed to the intellectual discipline, curiosity, and questioning that can form the basis for



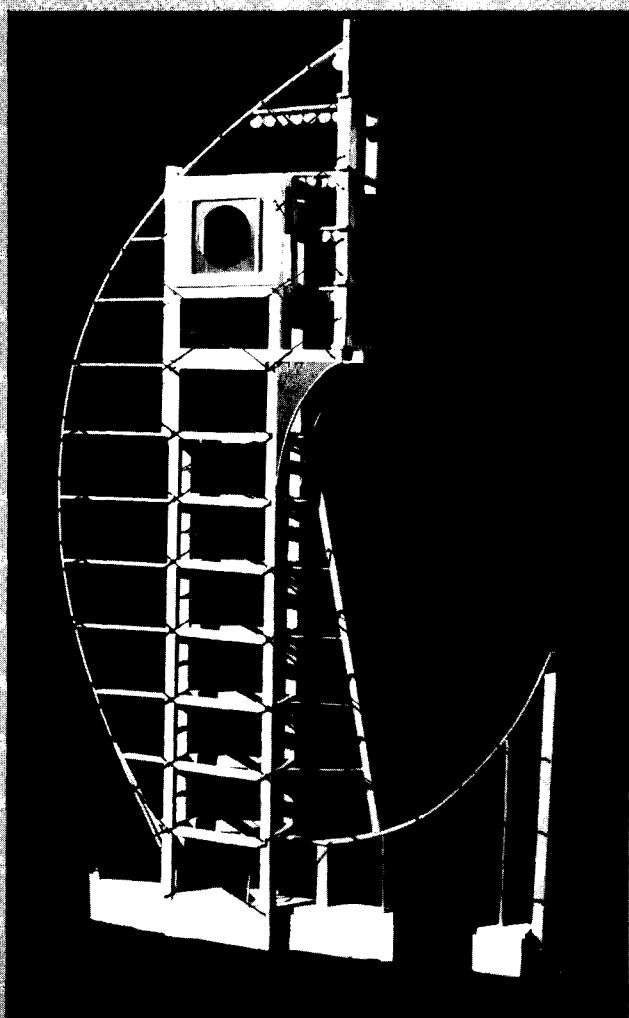
your entire professional career. It is our goal to educate professionals who are widely sought for their talent, training, and knowledge and who understand the ethical consequences of their actions.

This bulletin should help in introducing the College of Architecture and Landscape Architecture and in describing how it provides a physical and intellectual environment for the education of future architects, landscape architects, and urban designers. We hope it will serve you well whether you are a prospective student or one already matriculating. On behalf of the faculty, students, staff, and alumni of the college, I extend to all who use the CALA Bulletin a warm and cordial greeting.

A handwritten signature in black ink, which appears to read "Harrison Fraker". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Harrison Fraker
Dean

General Information



General Information

History—Architecture and Landscape Architecture at Minnesota

Although the College of Architecture and Landscape Architecture only achieved its collegiate status on July 1, 1989, the first professional degree in architecture was awarded by the University of Minnesota in 1877 when a B.Arch. degree was granted to Walter Stone Pardee, a student in the College of Mechanic Arts. That was the start of a proud tradition, which has now endured for over a century.

It was in 1912-13 that President George Vincent made what was clearly a critical step in the development of professional education in architecture and landscape architecture: recruiting Frederick Mann from the University of Illinois to become the first head of a fully constituted Department of Architecture. With Mann's arrival at Minnesota, President Vincent also changed the name of the College of Mechanic Arts to the College of Engineering and Architecture, setting the stage for 75 years of unbroken educational excellence reaching to the present day. The program grew steadily from 50 students in 1913-14 to 130 students in the early 20s while Mann recruited an outstanding faculty from Harvard, Illinois, Penn, London, and Paris. Thus began Minnesota's great Ecole des Beaux-Arts era wherein outstanding drawing and draughtsmanship became an enduring trademark of Minnesota grads.

In 1937 Roy Jones succeeded Frederick Mann as head of the department. This was the same year that Walter Gropius came to Harvard. It fell to Jones to guide the school through a difficult period: to reckon with the International style and to cope with the upheavals of WW II and its aftermath. During this period the school's reputation for outstanding design and drawing continued. Walter Gropius wrote to Jones, complimenting him for the quality of the

Minnesota students whom he described as "among the best" that come to Harvard.

In 1954 Ralph Rapson, then a talented young teacher and designer from MIT, was chosen as the third head of the School of Architecture at Minnesota. With his spirited designs and outstanding draughtsmanship, Professor Rapson led the school into its well known "International Style" or Modernist era. During his 30 years of leadership the school's reputation for design and drawing grew, with many graduates going on to significant leadership roles in academia and the profession throughout the country.

Professor Rapson's many accomplishments include moving the School of Architecture into its own building designed by Thorshov and Cerny in 1961 and gaining authorization from the central administration to start a program in landscape architecture in 1966. Roger Martin was hired as the founding chair in that year and spent 12 months developing program content and structure. Because of landscape architecture's strong ties to the biological sciences and because of the Horticulture Department's long-standing offering of courses in garden design and landscape planning, it was decided that administrative and fiscal responsibility for the program would be shared between architecture and horticulture. Over the subsequent twenty-plus years, the program has thrived and developed under strong leadership: first from Roger Martin, second from Peter Olin, again from Roger Martin, and currently with David Pitt who was appointed in 1987.

In 1984, Professor Rapson stepped down after 30 years of nationally acclaimed leadership and Harrison Fraker was selected as head of the school (only the 4th person to hold that position in its 75-year history). Acknowledging and building on a strong base of accomplishments (both the architecture and landscape architecture professional

degree programs are ranked in the top 10% among their respective disciplines in the country), the school was ready to assume a greater leadership role in the University and the State as an independent college, similar in status to other professional schools at the University and to many peer schools. The arguments in support of the concept to become a college were backed up by solid new accomplishments as the school revitalized curriculum and faculty, demonstrated research capabilities and potential, and showed the ability to address and serve the needs of the State and a vital professional community. These efforts culminated in June 1988 when the regents voted, as a part of Academic Priorities, that the school "should become an independent professional college."

During the succeeding year the new Constitution and Bylaws were written, and all the necessary administrative and academic changes made. On October 5, 1989, the College of Architecture and Landscape Architecture of the University of Minnesota was dedicated, officially marking the July 1, 1989, establishment of CALA.

Physical and Cultural Setting

CALA academic program activities occur on both the Minneapolis and St. Paul campuses. When taken together the Twin Cities of Minneapolis and St. Paul and surrounding metropolitan areas have a combined total population of 2.2 million people living in a dynamic environment that offers both urban and rural experiences and opportunities. Twin Cities are known for their spirit of public cooperation and a commitment to education; they enjoy an extensive park system, more than 900 lakes in the metropolitan area and over 10,000 lakes statewide. These two cities have an expansive offering of cultural attractions. In Minneapolis, theatre, music, dance, and the visual arts are expressed by the work of the Minnesota Orchestra, the nationally acclaimed Guthrie

Theatre, the Walker Art Center, the Minneapolis Institute of Arts, the Minneapolis College of Art and Design, and numerous other galleries, community theatres, and dance companies. St. Paul is home to the St. Paul Chamber Orchestra, the Ordway Theatre, the Minnesota Opera, the Science Museum and Omni Theatre, and a myriad of other community based theatre, music, art, and dance organizations.

The cultural environment of the Twin Cities has unusual vitality. A sense of freedom and a willingness to take risks have inspired remarkable accomplishments in all the arts. People with ideas and commitment can find the opportunities to realize their ambitions. The community is infused with talent who have found the Twin Cities to be a workshop of ideas and opportunity.

Academic Setting

The University of Minnesota is located at the geographic center of a metropolitan region from which CALA draws great strength. CALA students find a broad range of employment opportunities while in school and professional potential if they remain in the area after graduation. There is access to a wide range of construction sites and many historically significant buildings and landscapes in the area that can be studied by our students.

CALA students are able to find a broad range of intellectual stimulation from other leading departments and programs throughout the University. CALA enjoys close relations with the engineering and science disciplines in the Institute of Technology; with art history, studio arts, anthropology, geography, and other humanities in the College of Liberal Arts; with the Center for Urban and Regional Affairs; with Planning in the Humphrey Institute; and with Agricultural Extension activities, Forestry, and Design Housing and Apparel in the colleges of Agriculture, Natural Resources, and Home Economics.

General Information

Mission

The College of Architecture and Landscape Architecture is dedicated to exploring and understanding the relationship between people and their physical environment. This inquiry involves questions of how, whether, where, and why society builds; it involves understanding the relationship between human activity and physical space, between natural systems and human settlement. It focuses on the meaning and experience of people's physical settings: their landscapes, cities, and buildings. It requires a broad general education in the sciences and humanities and specialized study in history, theory, visual thinking, technology, and professional practice.

Central to CALA's mission is the discipline of design, which is understood as the fundamental means by which architects and landscape architects realize and give shape to their ideas. It is an intellectual activity of rational inquiry governed by guiding principles

and constraints and a matter of conviction, or intuitive insight, by which principles are invented, explored, and applied. It is practiced as a way of thinking, acting, drawing, making, modeling, representing, and thus exploring the many dimensions of these questions.

The college mission is pursued within the guidelines of the National Architecture Accreditation Board and the Landscape Architecture Accreditation Board. It supports the land grant tradition of the University of Minnesota.

The college mission also is carried out in the highest traditions of the University of Minnesota by the education of students and professionals at all levels through: 1) the commitment to excellence in teaching; 2) the pursuit and dissemination of knowledge through scholarship and/or research and/or exemplary professional practice and/or artistic production; and 3) the advancement and application of knowledge and expertise through discipline related service.



Administration

The college administration is structured to support the overall college mission. The college is organized into a Dean's office, academic units, and research centers with a College Assembly that acts as a legislative body. The role of each is discussed below.

Dean's Office—The *Dean of the College*, as chief executive officer, has general administrative authority over college affairs. The dean's responsibilities include providing overall leadership for academic, administrative, and fiscal policies while interpreting and communicating the college's programs to the University and the community. To assist the dean in fulfilling these responsibilities and to serve the needs of the faculty and students in the college's departments and programs, the dean's office has been organized into the following positions and activities:

The *Associate Dean for Academic Affairs* is responsible for all academic policy matters and all issues related to the faculty.

The *Associate to the Dean for Administration* is responsible for all administrative matters of the college including fiscal planning, student services, space management, and Equal Employment Opportunity/Affirmative Action.

The *Assistant to the Dean for Research* is responsible for coordinating and assisting in the development of all research policies and activities of the college.

The *Assistant to the Dean for Development* is in charge of all development activities (including annual giving and special gifts), alumni relations, and professional relations and also serves as secretary to the College Advisory Board.

The Dean has the power and responsibility as a part of the College Constitution and as further specified in its Bylaws to establish dean's committees to assist in college administration. The *Administrative Council*, consisting

of the dean, the associate dean, academic unit heads, and the chair of the College Assembly, is established to advise the dean on all matters and to ensure communication between the dean, the academic unit heads, and the College Assembly. A *College Advisory Board* is also established to advise the dean on issues of policy related to long-range strategic planning, alumni and professional relations, communications and fundraising. The board consists of 18 members selected from the professional community and reflects the interests of the academic units. The other committees of the dean include: *Faculty Promotion and Tenure Committee*; *Communications, Publications and Exhibitions Committee*; and *Collections Committee*.

Academic Units—The College of Architecture and Landscape Architecture consists of a Department of Architecture, a Department of Landscape Architecture, and a Program in Urban Design currently in the planning stage. These academic units are organized for the purpose of instruction leading to academic degrees. The tripartite college mission of teaching, research, and service is carried out within the framework of these academic units.

Each unit has an academic unit head who has general administrative authority over the affairs of the unit. Each head's responsibilities are focused primarily on internal matters of students, faculty, and curriculum. The head provides leadership in developing academic goals and policies related to teaching, research, and service and is responsible for budget procedures that serve these goals and policies.

College Assembly—The *CALA College Assembly* is the policy making and legislative body that discusses and approves all academic policy initiatives from the dean, the academic unit heads, and the faculty on College Assembly committees.

General Information

Centers—Centers have been established to pursue specific research activities. They may be located administratively within a department, within the college, or independently under the Graduate School. The centers contribute significantly to the “land grant” service mission of the University by transferring valuable knowledge to local communities. The centers also provide important research opportunities for faculty and students at all levels, including recent graduates. The following centers currently exist (their addresses and phone numbers are listed on page 3 of this bulletin):

- *Built Environment Communications Center* (BECC)
- *Center for Community Studies* (CCS)
- *Computer Aided Architectural Design Center* (CAAD)
- *Design Center for American Urban Landscape* (DC/AUL)
- *Minnesota Cold Climate Building Research Center* (MnBRC)
- *Regional Daylighting Center* (RDC)

Library—The University of Minnesota library system has an independent administrative structure. CALA has its own library in the Architecture Building and has strong leadership from its library staff in support of college programs. This tradition has been continued and enhanced under the new college structure.

Facilities and Resources

Buildings—Currently the College of Architecture and Landscape Architecture is located on the east bank campus in Minneapolis and on the St. Paul campus, and is housed in six different buildings.

The dean’s office and the Department of Architecture offices are located in the *Architecture Building* on the east bank campus. Most of the architecture programs are housed in this building. Many research activities are located in other buildings on the east bank: The

Design Center for American Urban Landscape is in *Wulling Hall*, the Minnesota Cold Climate Building Research Center is in *Wulling Hall* and the *Music Education Building*. Other research activities are also located in Music Education.

The Department of Landscape Architecture offices are located in *North Hall* on the St. Paul campus along with most of its programs; however additional office, research, and studio space is located nearby in *Alderman Hall*.

In addition to normal classroom, laboratory, studio, and office space, the college also has specialized facilities in the Architecture Building available for student use: 1) The *Shop* provides tools and equipment for model building to support studio activities; 2) the *Built Environment Communications Center* (BECC) provides facilities for photographing models and drawings, slide copy work, and video equipment. BECC also maintains an extensive video tape library of past lectures and presentations given by distinguished teachers and practitioners at the college; 3) the *Slide Library* houses and maintains our collection of over 200,000 slides; 4) The *Architecture Library* provides full library services for our collection of over 32,000 volumes; and 5) our *Computer Center* provides general access to a full range of computing systems employing Apple, IBM, Apollo, Iris and Microvax II equipment, and a high end CAAD workstation with software from McDonnell Douglas. The center is fortunate to also have a *CAAD classroom/studio* with 32 IBM networked student workstations.

Addition and Renovation—The college received planning money from the state legislature in 1987 to design a major addition and renovation to the Architecture Building. Schematic designs, completed by the architectural team of Ellerbe/Becket and Steven Holl have been approved by the Board of

Regents. The Legislature has given approval to proceed into the design development phase, and the project has been placed on the University's capital request to receive construction funds in the 1990 legislative session.

The project will provide the space necessary to unite all the activities of the college. It will provide much needed design studios, classroom/jury rooms, lecture hall, research facilities, faculty offices, administrative offices, student facilities, and an expanded library.

The addition and renovation has been designed to demonstrate basic didactic principles of architecture and landscape architecture. It should provide an exemplary and exciting home for the new college.

Degrees Offered

Undergraduate—Four undergraduate degrees are offered through the College of Architecture and Landscape Architecture (CALA). Included are: two accredited professional degrees, the Bachelor of Architecture (B.Arch.) and the Bachelor of Landscape Architecture (B.L.A.), each requiring a minimum of five years of study; and two non-professional degrees (not accredited), the Bachelor of Environmental Design in Architecture (B.E.D. Arch.) and the Bachelor of Environmental Design in Landscape Architecture (B.E.D. L.A.). A fifth undergraduate degree awarded through the College of Liberal Arts, the B.A. with a major in architecture, also requires admission to the College of Architecture and Landscape Architecture, since the heart of that major—Architecture 3081 through 3093—cannot be taken until students have been accepted by the CALA admissions committee.

Full descriptions of the CALA undergraduate degrees are provided here in the CALA Bulletin. To learn more about the B.A. with a major in Architecture, please consult the *College of Liberal Arts Bulletin*.

Graduate—CALA has also associated with the Graduate School to offer four graduate professional degrees, two in each professional discipline. The accredited two-year Master of Architecture (M.Arch.) serves students who hold a baccalaureate and have completed years one and two of the four-year architectural design sequence. The one-year M.Arch. serves students who already hold the B.Arch.; therefore it is not accredited. Students seeking the graduate degree in landscape architecture—the M.L.A.—must hold the accredited B.L.A. Thus those who already hold that degree when applying to the Graduate School seek admission to the M.L.A. program. Those who hold a non-landscape architecture baccalaureate seek entry to the joint B.L.A./M.L.A. program. All graduate degrees are offered by the Graduate School.

Currently in the planning stage, an additional graduate degree in urban design may be offered in the 1991-92 academic year. Those who are interested should contact either the CALA dean's office or the Design Center for the American Urban Landscape for more information.

Special Programs

Foreign Study—In spring quarter CALA sponsors study trips for architecture and landscape architecture students to Europe and/or China. Traditionally there is an exhibition of student work from the Foreign Study Program at the beginning of the fall quarter.

Centers develop programs and activities related to their specialty. For example, the Design Center for American Urban Landscape is offering an interdisciplinary expedition on and along the Mississippi River in the summer of 1990. The expedition will visit over 35 communities along the river and include a limited number of community design forums. The expedition is applicable for design studio credit and independent study.

General Information

Professional Registration

The College of Architecture and Landscape Architecture provides the only accredited professional degree programs in Minnesota for architects and landscape architects. Registration as an architect or landscape architect is a legal requirement in order to practice in Minnesota and in most states in the country. Furthermore, a professional license is required before an individual may use the designation of architect or landscape architect in any capacity.

A new rule scheduled for 1990 will require that all candidates for professional registration must graduate from a nationally accredited professional degree program (or its foreign equivalent) and complete 3 years of professional experience to be eligible to take the state registration exam.

For further information concerning professional registration, please contact the Executive Secretary, Minnesota Board of Architecture, Engineering, Land Surveying and Landscape Architecture, 402 Metro Square Building, 7th and Roberts Streets, St. Paul, MN 55101.

Admissions

One of the special characteristics of the College of Architecture and Landscape Architecture is the fact that it is an upper division college offering professional degrees. Students currently enrolled at the University of Minnesota who are accepted into one of CALA's professional degree programs normally will have completed their pre-architecture or pre-landscape architecture studies through another college at the University. Thus it is very important for students in those colleges to know that before being eligible to take courses in the core design curricula of architecture or landscape architecture (courses starting at the 3081 level), they must be granted admission to CALA.

It is also important for students who do preliminary work at institutions other than the University of Minnesota to realize that CALA admission—whether in architecture or in landscape architecture—must also be accompanied by admission to the University. The following sections describe the types of candidates who can be considered for admission and the application procedures associated with each CALA degree program.

Freshman Admission—Students in their senior year of high school or those who have earned high school degree status but have not studied at the college or university level, should seek admission to the University of Minnesota as freshmen by applying through the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455. Since *admission to CALA does not occur earlier than the start of the sophomore year for architecture and the start of the junior year for landscape architecture*, the college designated in that initial application should be the College of Liberal Arts or the Institute of Technology for pre-architecture students and the Institute of Technology or College of Agriculture for those desiring pre-landscape architecture.

Students may seek CALA admission in the B.Arch. degree program for fall quarter of their sophomore year provided the completion of all prerequisites can be expected to occur before the fall quarter offering of Architecture 3081. Those seeking B.E.D., B.A., major in architecture, or B.L.A. degrees do not apply to CALA until the third quarter of their sophomore year. When admission to CALA is sought, all application materials must reach the appropriate CALA department office (either architecture or landscape architecture) by *April 1* of the year in which admission is desired.

CALA Application Procedures: Architecture

The architecture degree programs at all levels (B.E.D., B.A., B.Arch., and M.Arch.), seek students with demonstrated academic skills, artistic talent, professional orientation, and a commitment to the study of architecture. Above all, successful applicants must show a capacity to think for themselves and to work independently. Like all professionals in a rapidly changing world, applicants should be inquisitive and be receptive to new and different experiences.

Consideration for admission is given to students who have a cumulative grade point average (GPA) of 2.75 (on a 4.00 scale). However, a 2.75 GPA does not assure acceptance or rejection; other skills or experiences may on occasion be used to compensate for a lower GPA. In exceptional circumstances, a student's most recent academic performance (the last 45 credits) may be used to determine the GPA considered for admission evaluation.

Undergraduate and Pre-Graduate Architecture Major Applicants—All applications are *due by noon April 1* in the year in which CALA admission is desired. The following materials must be submitted no later than that date:

- A completed application form (AR110) available from the Department of Architecture in 110 Architecture Building.
- Official transcripts of all classwork at the college, university, or graduate level.
- A portfolio. This should include best examples from a wide range of the applicant's skill in drawing—freehand sketching from life or nature, studies of light, texture, etc. using various media. Architectural drawing and graphics may be included, but mechanical or technical drafting is not recommended. Other material such as research papers or creative writing may be submitted.

- Students are encouraged to submit their most recent ACT, SAT, or GRE exam scores.

Those students who are already enrolled at the University of Minnesota must submit all specified materials directly to the Director of Architecture Admissions, College of Architecture and Landscape Architecture, University of Minnesota, 89 Church Street S.E., Minneapolis, MN 55455.

Students who are applying to a CALA department and are *not enrolled in the University of Minnesota* must also submit an application for admission to the University (form A360), official transcripts from each post-secondary institution attended, and a photocopy of the CALA admission application (AR110) to the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, MN 55455 (612/625-2008).

Pre-graduate applicants (those with undergraduate degrees in fields other than architecture and no training in architectural design) must follow the application procedure outlined above. *Pre-graduate applicants do not apply to the Graduate School as part of their initial application to the University.*

Pre-graduate students who have been admitted to CALA may apply to the Graduate School at any time between the completion of their first year of architectural design and the start of their final year of the architectural design curriculum, but application normally is made during winter quarter of the second year. Students must take a minimum of 44 credits and spend four quarters in the Graduate School before receiving the M.Arch. as a first professional degree. (Most spend six quarters and take between 70 and 80 graduate level credits.) The admission procedure requires the completion of an application to the Graduate School (form available through the CALA office), submission of

General Information

all academic transcripts, three letters of recommendation, and a portfolio containing recent work in architectural design courses.

Graduate Degree Applicants—

Students who hold an undergraduate degree and have completed at least one year of architectural design at CALA or another accredited school or college of architecture may seek admission to the Graduate School as candidates for the Master of Architecture as a first professional degree. Applications should normally be submitted by April 1, especially if a teaching assistantship is being sought. Those wishing to receive full consideration for financial aid are advised to apply by January 16 of the year in which admission is desired. The procedure requires the completion of an application to the Graduate School along with submission of all official transcripts and three letters of recommendation. A portfolio containing recent work in architectural design courses is submitted separately to the graduate program office in CALA. Further information on all graduate programs is contained in the *Graduate School Bulletin*. It may be obtained from the Prospective Students Office, Graduate School, 307 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455. Graduate application forms may be obtained from CALA.

Transfer and Advanced Standing Applicants—All transfer students must follow the appropriate application procedure outlined in the preceding paragraphs. Students with an undergraduate, non-professional degree in architecture such as the B.A. major in architecture or the B.E.D. may be qualified for application to the graduate program. Transfer credits for architectural courses normally are granted only if they were taken in an accredited school or college of architecture and are sufficiently similar in subject and

difficulty to those taught by the Department of Architecture in CALA. Students seeking advanced standing in architectural design must include examples of recent projects in their portfolio. For credit in other areas of study, students must be prepared to submit coursework (a syllabus, papers, exams, and projects) to be evaluated after their admission to CALA.

Reapplication—Entry to the design sequence in architecture has become quite competitive in recent years. In 1989-90 only one applicant out of four was selected for admission. Students not admitted may reapply in a subsequent year. Students should understand that even in reapplication circumstances, the process is still highly competitive. Consultation with an adviser to discuss application improvements is strongly encouraged.

Notification—Undergraduate degree and pre-graduate applicants will be notified by letter of the admission decision not later than June 1. Those admitted must notify the architecture department of their intention to attend by July 1 or their place will be forfeited. Those not accepting the opportunity must reapply if they wish to enter the program at a later date.

CALA Application Procedures: Landscape Architecture

Undergraduate Major Applicants—To enter the undergraduate landscape architecture programs (B.L.A. or B.E.D./L.A.) students must *submit an application by April 1* of the year of desired entry. Admission to the program is permitted only in the fall quarter unless advanced standing is granted. The procedure and requirements follow:

1. Apply to the University of Minnesota if not already a University of Minnesota student. Forms may be obtained from the Office of Admissions, 240

Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455; or the Office of Admissions, 130 Coffey Hall, University of Minnesota, 1420 Eckles Avenue, St. Paul, MN 55108.

2. Before an application will be considered, a student must have completed a minimum of 75 credits of required pre-LA courses; courses taken in the quarter of current enrollment are considered part of the 75 credit minimum. This total must include at least 8 credits in basic communications, 10 credits in physical and biological sciences, 8 credits in mathematics, 16 credits in social sciences, 12 credits in studio arts or design, and 8 credits in landscape architectural, environmental, or design theory.
3. Complete the landscape architecture department application form (available from the Landscape Architecture Department Office, 205 North Hall, University of Minnesota, 2005 Buford Avenue, St. Paul, MN 55108 or either the Williamson Hall or Coffey Hall admissions office) and submit the form plus all other application materials to the Landscape Architecture Department office.
4. Submit a letter of intent stating the reasons for selecting landscape architecture as a profession. This letter, generally consisting of one or two pages, should give an account of the student's reasons for becoming interested in the field and wanting to be a landscape architect and should cite experience in landscape architecture or related fields (art, horticulture, architecture, engineering, construction), experience or participation in other interests (travel, hobbies, avocations), and perception of self in the role of a landscape architect.
5. Submit official transcripts of all college work completed to date at the University of Minnesota and other

colleges. Generally, a student must have a grade point average of 2.75 or higher on a 4.00 scale for admittance.

6. Submit a portfolio of art or design work, environmental or design reports, photographs of sculptural work, slides, or similar examples of creative work. It is strongly suggested that the portfolio be a bound 8½ x 11-inch booklet. A portfolio that is larger than 24 x 36 inches will not be accepted. Loose material also are unacceptable. Any slides must be submitted in an 8½ x 11-inch transparent slide carrier.

Applicants also are encouraged to visit the design studios and talk to students who are in the program and to find out as much as they can about the profession.

The landscape architecture faculty vote on each applicant. The applicant may be admitted, rejected, or recommended for pre-landscape architecture status. Approval for admission is based on consideration of the following: (1) the student's academic standing and grade point average; (2) the student's maturity and experience; (3) the student's letter of intent; (4) the estimated design potential of the student; and (5) the availability of staff and space.

Graduate Degree Applicants in

Landscape Architecture—Students who hold baccalaureate degrees but have had no degree work in landscape architecture, may seek entry to the combined B.L.A./M.L.A. (a track described more fully in the Curriculum Requirements section of this bulletin.

Applicants for B.L.A./M.L.A. admission will be accepted at any time. However, *to receive full consideration for financial aid and to ensure the best chance of securing a position, applications should be received by January 16 of the year in which they wish to be admitted.* Applicants will be admitted to the B.L.A./M.L.A. track *only* in the fall

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quarter (which begins at the end of September) of each year. Applicants with accredited professional degrees in landscape architecture and applicants granted advanced standing may be admitted in other terms. Applications are made in two parts:

Send to the Graduate School:

1. Completed Graduate School Application (white form).
2. Official transcripts for *each* college attended.
3. The Graduate School Application fee.

Send to the Director of Graduate Studies in care of the Department of Landscape Architecture:

1. Letter of intent. This letter should describe how and why you have chosen to pursue a degree in landscape architecture. It should especially describe your interest in advancing scholarship in landscape architecture, which is the focus of the graduate program.
2. Three (3) letters of reference. At least one should be from a former teacher. Others may include employers, people with whom you have worked on volunteer projects, etc. These should be from people who know you through your work.
3. Copies of your transcripts (need not be official, may be photocopies).
4. Applicants *with previous professional degrees* in landscape architecture and applicants seeking *advanced standing* should also submit a portfolio of professional work. A portfolio is not required for normal admission to the B.L.A./M.L.A. track.

Reapplication—It is important for applicants to realize that a person who is unsuccessful on a first attempt may be admitted on a second attempt, especially if the grade point average can be raised, the portfolio improved, and more support courses added to the record. Students who are not admitted are urged to consult an adviser about reapplication in the next year.

Notification—Applicants will be notified by letter of the admission decision no later than June 1. Those admitted must notify the landscape architecture department head of their intention to attend by July 1, or their place will be forfeited. Those not accepting the opportunity must reapply if they wish to enter the program at a later date.

Financial Aid

University—The University offers three general types of financial aid to undergraduates: scholarships and grants, student loans, and college work-study. A student employment service to help students find jobs is also available. For more information, contact the Office of Student Financial Aid on the Minneapolis campus at 210 Fraser Hall, University of Minnesota, 106 Pleasant Street, S.E., Minneapolis, MN 55455 (612/624-1665) or on the St. Paul campus at 197 Coffey Hall, 1420 Eckles Avenue, St. Paul, MN 55108.

Special CALA Opportunities and Awards
Scholarships and Honor Awards—Each year CALA directly or indirectly participates in awarding many prizes to its students. Many of these include cash stipends.

AIA Foundation Scholarship—stipend awarded to architecture students on the basis of financial need and academic achievement. Nominations are made by CALA to the AIA Foundation.

AIA Henry Adams Medal and Certificate—awarded to the two graduating architecture students highest in academic ranking.

AIA Minority-Disadvantaged Scholarship Program—awarded to architecture students based upon need and background. Nominations are made by CALA to the AIA.

AIA-Minneapolis Chapter—two stipends for third year architecture students who do not qualify for other awards.

Alpha Rho Chi Medal—given to a graduating architecture student for leadership and service.

Thomas Ellerbe Fellowship—stipend awarded to architecture students in their final year by Ellerbe Associates based upon academic record, portfolio, and recommendations.

SPQR Award—Stipend awarded to architecture students for participation in Foreign Study Program based upon need and academic rank.

In addition, several corporations sponsor architectural design competitions (with financial awards) as part of design studios. Recent sponsors have included Minnegasco, Pella, and the Prestressed Concrete Institute.

Landscape Architecture students may apply for the Toro Corporation Award for Excellence in the Study of Landscape Technology. Graduate students may also apply for the Edmund J. Phelps Graduate Fellowship in Landscape Architecture. Numerous research and teaching assistantships are awarded to qualified graduate and undergraduate students. The Department of Landscape Architecture also administers a program of undergraduate scholarship assistance to qualified students.

Publications

CALA supports a number of newsletters, journals, and other publications to serve various constituencies and their communication needs. The following is a brief description of each:

CALA News—This is a newsletter for alumni and friends. It has been published annually since the fall of 1985. It contains feature articles about important developments at CALA, along with brief summaries of many other activities involving faculty, students, and staff. There is a section on alumni notes and recognition of our many donors. There are plans to publish *CALA News* twice annually, in both the fall and spring, to cover expanded collegiate activities.

Midgard—Journal of Architectural Theory and Criticism—CALA established *Midgard* as a scholarly journal to foster the presentation, exchange, and kindling of ideas on architecture and landscape architecture theory and practice. Volume 1, Number 1 was published in the fall of 1987. Subsequent issues on typology, on the relationship between philosophy and architecture, and on landscape architecture theory are in various stages of publication development. Each issue is organized around scholarly material presented at a national conference sponsored by CALA. For further information about subscriptions and publication schedules, please contact the CALA office.

WORKS—This is an annual journal of student work that is published by the students each fall as part of the foreign study show. Exemplary projects from architecture and landscape architecture design studios are selected for inclusion along with a brief description of studio pedagogy. The special focus and emphases of the spring quarter foreign study programs are featured in words and sketches. The publication is a student effort under the leadership of a student editor. *WORKS* has been published since 1985. Its contents give an important glimpse into the design activity at a college known internationally as an outstanding center for design.

Center Publications—In addition to the publications outlined above, the various research centers and departments in the college publish information related to their specific activities and initiatives. For more information, please contact the center or department directly. (See the directory section of this bulletin for a listing of addresses and phone numbers.)

Visiting Lecturers and Critics

Ideas from internationally and nationally known practitioners and educators in both landscape architecture and

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architecture are contributed to CALA each year on a face-to-face basis through the CALA Visiting Lecturers Series. Aided by funding from supportive professionals, the college typically brings five distinguished lecturers per quarter to address students, faculty, and interested practitioners on topics of educational importance. Recent lecturers and their subjects have included: Cesar Pelli, "Buildings and Thoughts about Current Work and Architecture"; Reuben M. Rainey, "A Prairie Metamorphosis: William LeBaron Jenney's Vision for Chicago's Central Park"; Frank Israel, "Sameness and Diversity"; Simon Pepper, "Parnasus on Main Street—Early American Library Architecture"; Barton Myers, "Recent Commissions"; Coy Howard, "Aura and Presence in Architecture"; John Reys, "Cities of the Mississippi"; and Julius Fabos, "Master Plan for Danube River."

Complementing the CALA Visiting Lecturer Series, are lecturers invited by such CALA Centers as MnBRC (Minnesota Cold Climate Building Research Center); DC/AUL (Design Center for the American Urban Landscape; RDC (the Regional Daylighting Center), and lectures presented in connection with new position searches.

Finally, CALA has received funding that supports outstanding scholars in both landscape architecture and architecture for up to a full quarter of residency under the recently created Horace W.S. Cleveland and Cass Gilbert chairs. These visitors typically conduct seminars, give lectures, and, when appropriate, participate in design studio reviews. Cleveland Professors have included Reuben Rainey and Warren Byrd of the University of Virginia, Sue Weidemann of the University of Illinois, Randolph Hester of the University of California-Berkeley, Catherine Howett of the University of Georgia, Dean Abbott of San Francisco, and Clifford Hansford of Humberside Polytechnic University in England, while Doug Suisman of the University of Southern

California and John Syvertsen of the Chicago Circle Campus, University of Illinois, have occupied the Gilbert chair.

In addition, the departments in CALA have successfully competed for University-wide Hill Visiting Professorships that bring outstanding scholars to campus for one quarter with Robert Thayer of the University of California-Davis being CALA's most recent Hill recipient.

Finally, students enjoy access to design criticisms offered in the end of the quarter reviews by fine practitioners from inside and outside Minnesota.

Continuing Education

CALA offers selected pre-professional courses and professional courses through evening classes as part of the programs of the division of Continuing Education and Extension. Continuing Professional Education courses and reviews for the architectural registration exam also are offered. Consult the *Extension Classes Bulletin* for further information.

Student Activities

Student Organizations

Membership and participation in student organizations can add a valuable dimension to an academic career and can contribute much to professional development. Check with the college office for further information.

College of Architecture and Landscape Architecture Student Board—The Student Board promotes student involvement in issues and activities related to the quality and content of educational experiences both in and out of the classroom. Board objectives are achieved through channels of communication created by the board to link students, faculty, administration, and member organizations of the college. Further information related to the CALA Student Board may be obtained in 110 Architecture.

American Institute of Architecture Students (AIAS)—This group, which is affiliated with the American Institute of Architects, helps to keep students aware of current issues within the field of architecture. The group is involved in various activities including the lecture series, competitions, design charettes, social activities, and portfolio workshops. It provides an excellent connection to the profession.

WORKS—Architecture and landscape architecture students cooperate to produce this annual publication. It emerges each fall and is a collection and presentation of student works from the prior academic year. *WORKS* features projects from each grade level of design and the foreign studies groups.

A Collective—A student co-operative that provides architectural supplies for students at a substantial discount. The store is located on the ground floor of CALA near the main office.

Alpha Rho Chi (APX)—A social and professional fraternity. This student group organizes and unites students in architecture and the allied arts.

Minnesota Chapter of the American Society of Landscape Architecture Students (MASLAS)—This group, which is affiliated with the American Society of Landscape Architects, helps keep students aware of current issues within the field of landscape architecture. The group is involved in various activities including the lecture series, competitions, design charettes, social activities, and portfolio workshops. It provides an excellent connection to the profession.

Landscape Architecture Club—The purpose of the Landscape Architecture Club is to unite graduate and undergraduate landscape architecture students with students in related fields of study, thereby helping to combine interests and desires that fulfill educational, social, and community needs while also broadening student understanding of the profession.

Student Services

Student Affairs Office—Prospective and current students can discuss any questions or problems with the *Degree Program Adviser* or a faculty member on the advising staff. Appointments can be made in the college office or by phone at 612/624-7866 (for architecture) or 612/625-8285 (for landscape architecture).

The CALA Student Affairs Office provides information on the administrative procedures related to admissions, orientation, registration, scholastic conduct, degree requirements, and graduation clearance.

Advisers—Departments use a combination of faculty and student peer advisers.

Architecture students may choose a specific adviser or may seek advice from the faculty members assigned to the advising staff. Sign up sheets indicating available appointment times are posted in 110 Architecture. Students are responsible for monitoring their degree program requirements and should visit an adviser whenever they have questions or concerns.

Landscape architecture students are assigned an adviser following admission. The assigned adviser will handle any questions or concerns of the student throughout the program or until another adviser is designated.

Graduate Teaching Assistants—

Departments use teaching assistants, most of whom are graduate students in the discipline, to assist faculty members with activities related to classroom instruction. Teaching assistants are trained, qualified, and able to assist students with problems or questions related to CALA coursework. The role of the teaching assistant is tailored to meet the specific needs of each course.

Career Planning and Placement—

The departments have had a long history of close association with their respective professional communities. Part of the link between the students and the professions has been created by

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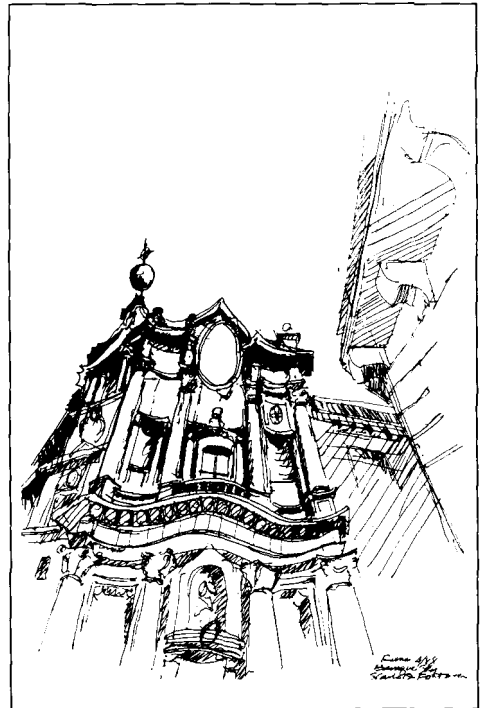
the 800-hour professional work requirement that is mandatory before thesis in architecture and strongly recommended in landscape architecture. These relationships with the two professions have expanded recently through such efforts as the Intern Development Program (IDP) in architecture. The IDP will become a required part of the architecture program as of the 1991 architecture licensure process.

The college also is moving toward implementing a more structured career planning and placement program.

All-University Student Services—

Numerous specialized services are provided by the University for all students. See the *University of Minnesota Student & Staff Directory* for listings of offices and units that offer specific services, including:

- Boynton Health Service
- Counseling
- Housing Office
- International Student Adviser's Office
- Libraries
- Minority and Special Student Affairs
- Office for Students with Disabilities
- Office of Student Financial Aid
- Placement Offices
- Recreational Sports
- St. Paul Health Service
- Student Employment Service
- Student Legal Service
- Student Ombuds Service
- Student Organization Development Center
- Veterans Programs



Academic Policies



Academic Policies

Registration

Each new College of Architecture and Landscape Architecture student is invited to an orientation-registration program. In addition to acquainting students with the campus, this program offers general information about both CALA and the University and gives students the opportunity to meet with a faculty adviser in their chosen major. The adviser will help in the course selection and registration process. Although attendance at the orientation program is voluntary, students are urged to participate because failure to attend may lead to a late registration date and difficulty in obtaining certain courses.

Each quarter students enter into a relationship with the University through the registration and payment process. The University agrees to provide certain instruction and facilities; students agree to attend and pay tuition and fees for their classes. The responsibility for accurate, timely registration and payment rests primarily with the student. Copying errors, excessive changes, failure to observe procedures, and late registration and payment can create an imposition on University personnel and can also be costly and time consuming for students.

Special Registration Procedures—

Certain special registration procedures allow students to audit courses, take them as independent study or reading courses, or take them for extra credit.

Auditing—Auditors attend and complete all work for a course, but do not take the final examination or receive credit. Audited courses may be taken for a grade and credit at a later time. An auditor must officially enroll in a course and pay regular tuition and fees. Both the adviser and course instructor must approve an audit registration. To enter a course as an audit on the Course Request, the student places a V after the course number (e.g., Arch 5128V).

Independent Study—Students have two options for earning credit through independent study. In some University courses, students may request an examination (or other evaluation). If students pass the examination, they will receive credit for the course. Students must pay a fee for each examination attempted. Check with the college office for further information and for Request for Special Examination forms.

A second method of independent study is to take a course without attending classes. Students pay the usual tuition and fees for the course, meet all deadlines, and take the final examination at the regular time. All usual regulations concerning grades, incompletes, and cancellations apply to students taking independent study in this manner. A course completed under independent study counts as part of the total credit load for the quarter. Check with the department offering the course concerning permission to take it for independent study. Students need approval from the course instructor on a registration override permit. Return the completed override to the Registration Center, 202 Fraser Hall, or to the Office of Admissions and Records, 130 Coffey Hall. Enter the course taken by independent study on the Course Request with a Y after the course number (e.g., Arch 5128Y).

Extra Credit—With the course instructor's approval, an additional one to three credits may be earned in a course a student is taking or has taken. For example, a course topic may be intensively explored or extended to a related topic. Students do the extra work on their own, according to standards set by the instructor.

Students need the course instructor's approval on a registration override permit. Submit the completed override along with the Course Request with an X after the course number (e.g., Arch 5128X). The usual regulations concerning tuition and fees, grades, and cancellations apply.

Cancel-Add Procedures—Students use a Course Request, available from their department office, to change registration. All such changes should be made as early as possible in the quarter.

Cancel—Students who cancel a course, are subject to the following procedures and requirements:

- Cancellations during the first two weeks of a quarter requires department imprint on the Course Request; the course is deleted from the student's record.
- Cancellations during the third through sixth weeks of the quarter require department imprint on the Course Request. A bracketed W is assigned.
- Withdrawal from a course after the sixth week of a quarter is strongly discouraged unless there are extenuating circumstances. Cancellations after the sixth week requires instructor's signature, department imprint, and approval from the Academic Standards and Student Affairs Committee representative on the Course Request. (See Scholastic Requirements section for information on the honor point deficiency incurred with cancellation.) *Cancellations during the ninth and tenth week of a quarter are seldom approved by the Academic Standards and Student Affairs Committee representative. If a cancellation is approved, a W is assigned.*

Add—Students must have their department imprint to add a class during the first week of a quarter. Students must have *both* their instructor's signature and department imprint during the second through eighth weeks of the quarter. After the eighth week of the quarter, adding a course requires the signature of the instructor, department imprint, and approval from the Academic Standards and Students Affairs Committee representative. *Approval after the eighth week of the quarter is rarely granted.*

Grading Change—A change from one grading system selected for a course to another (e.g., from A-F to S-N or Audit) must be made during the *first two weeks of a quarter* and requires department imprint on the Course Request. The choice of grading system *may not be changed after the end of the second week.*

Note: To obtain department imprint the student may need an adviser's signature.

Cancellation of Entire

Registration—Students who leave the University before the end of a quarter must cancel their registration when they stop attending classes. Submit a Course Request to the Registration Center, 202 Fraser Hall, or to the Office of Admissions and Records, 130 Coffey Hall. Cancellations are effective the day they are processed. Refunds are based on the date students officially cancel. Students are entitled to a full refund if they cancel before the first day of classes. Contact Admissions for current refund information.

Petition Procedures

Petitions are required for departures from either college or major requirements. Petitions for departures from college requirements should be submitted to the CALA office, and for major requirements to the department.

To substitute another course for a requirement, the petition must be approved *before* the student registers for the course. Students should always check to be sure their petitions are approved.

Credits and Class Attendance

Advanced Placement—The Advanced Placement (AP) program of the College Board provides a way for high schools to offer college-level studies to their more advanced students and for those students to demonstrate satisfactory achievement in those studies. Through this program students may earn college

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credit, exemption from requirements, or placement in advanced courses when they enroll in college. For more information, contact the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, MN 55455 (612/625-2008).

Course Load—The typical course load per quarter is 14 to 18 credits. A credit requires an average of three hours of work each week. To carry more than 18 credits, a C average (i.e., a cumulative grade point average [GPA] of not less than 2.00) is required. To carry more than 21 credits, a B average (3.00 GPA) in work of the previous quarter and permission from the Academic Standards and Student Affairs Committee are required. Undergraduates must carry at least 12 credits each quarter to be considered full-time students.

Class Attendance—Attendance for all scheduled classes in CALA is encouraged and in some cases is compulsory. Students who miss a class for a valid reason may request the instructor's assistance in making up the work missed, but instructors are under no obligation to give assistance if the absence is not justifiable.

The following four situations are accepted by instructors as justifiable reasons for absence from class and for a request for assistance in making up work: (a) illnesses certified by the University Health Service or by the student's family physician; (b) emergencies caused by a death or serious illness in the immediate family; (c) absences approved by the Academic Standards and Student Affairs Committee representative; and (d) participation, certified by the Office of Student Affairs, in University-approved, co-curricular activities.

To make up classwork, students should confer directly with their instructors. The Academic Standards and Student Affairs Committee representative intervenes only when emergencies are involved.

College Level Examination

Program—An alternative method of earning credit is through the College Level Examination Program (CLEP). Inquire at the CALA office for information.

Use of Elective Credits—Students who wish to use excess credits *earned as an undergraduate for credit in the Graduate School* should consult the *Graduate School Bulletin* for current policies or the Graduate School Office, 316 Johnston Hall, University of Minnesota, 101 Pleasant Street S.E., Minneapolis, MN 55455.

With the approval of their adviser and the Academic Standards and Student Affairs Committee, students may request that some *elective courses they have completed be omitted from the list of courses counted toward their degree*. A maximum of 10 credits of elective courses may be withheld to raise a student's GPA, but only to satisfy the graduation requirement of a 2.00 GPA. When a course is withheld from the undergraduate record, it can be reinstated only by an examination for credit or by repeating the course.

CALA students are not required to take courses in physical education or music. *A maximum of nine credits in physical education and six credits in chorus or concert band may be counted as elective credits toward graduation*. Note that Mus 1001 is not an acceptable course for area D.

The Academic Standards and Student Affairs Committee has ruled that *typing or basic business skills courses may not be given elective credit in any CALA program*.

Grading

Grading System and Grade Point Average—Academic progress in CALA is evaluated by one of two grading systems: the letter grade (A-F) or the satisfactory-no credit (S-N) system. Students should consult the *Class Schedule* for an explanation of these systems.

Only credits taken on the A-F grading system are calculated in the GPA. A GPA of 2.00 or better is considered satisfactory work. Each letter grade carries the following grade points per credit: A = 4.00, B = 3.00, C = 2.00, D = 1.00, and F = 0.00. The GPA is determined by dividing the sum of the grade points earned by the sum of the credits completed.

With the S-N grading system, an N is assigned when a student does not earn an S and is not assigned an I. It stands for no credit, carries no grade points, and is not used in calculating the GPA.

S-N Grading Option—A CALA student can elect the S-N grading option for any course offered on an S-N basis except those specifically designated by the student's major department to be taken on an A-F basis only. Each department has available a list of those courses that it restricts to A-F registration for its majors.

New students in CALA may take only one course on S-N grading during their first quarter in residence (in addition to any course available only S-N). A CALA student may take no more than two courses per quarter or one course per summer term on S-N grading.

No more than 25% of the total University of Minnesota residence credit presented for graduation for a given curriculum may be taken S-N. This regulation does not apply to credits presented in excess of the minimum required.

If all other requirements and regulations are met, a student may change from A-F to S-N or from S-N to A-F through the second week of a quarter but not thereafter. A change from or to S-N registration in a given course must be made on a Course Request. S-N registration is indicated by placing S-N in the grade option column on the Course Request.

Incompletes—An I is assigned only when a student has completed all but a small portion of the work of a course and

has made prior arrangements with the instructor to make up the work. An incomplete will become an F or an N if not made up by the end of the next quarter in residence.

Withdrawals—A W indicates official cancellation of a class without a grade. CALA students who withdraw from a course following the end of the second week of a quarter but no later than the end of the sixth week receive this symbol regardless of their academic standing in the class at the time of cancellation. Cancellations processed during the first two weeks of a quarter do not appear on a student's record. A W received through the end of the sixth week of a quarter is not used in calculating the honor point deficiency. Cancellation after the first six weeks of a quarter is granted only with approval from the Academic Standards and Student Affairs Committee representative. Such late cancellations are granted only under unusual circumstances.

To completely leave the University during a quarter, students must cancel all courses for which they are registered. They should notify the Office of Student Affairs, 110 Architecture, preferably in person.

Auditing—A V indicates that the student is a visitor or an auditor in a course and is taking it without credit. Audited courses may be taken again for a grade and credit at a later time. A student may change from a credit/graded registration to an audit/non-graded registration until the end of the sixth week of a quarter with permission from the instructor. Students who audit courses pay regular tuition and fees.

Continuation Courses—An X is reported in continuation courses in which a grade is not assigned until the entire sequence is completed. Upon completion of the sequence, a grade is submitted for each X on the academic transcript.

Satisfactory Progress

Honor Points and Honor Point Deficiency—CALA calculates honor points and an honor point deficiency (HPD), that are used to determine academic progress, as follows:

A = 2 per credit	S = 0 per credit
B = 1 per credit	D = -1 per credit
C = 0 per credit	F = -2 per credit
	N = -2 per credit

An I is not counted initially. If it is made up by the end of the next quarter in residence, the new grade will be counted on the basis of the above table. If not made up, the I reverts to an F, which carries a deficiency of two per credit.

Withdrawal after the end of the sixth week of a quarter is granted only with approval from the Office of Student Affairs. The W may be treated as an N in such cases.

Quarterly Honor Point Deficiency—

Students are strongly encouraged to speak with their advisers when their quarter honor points fall in the negative range. A student will be placed on probation when the honor point deficiency earned for a given quarter is 10 or more (quarter honor points less than or equal to -10). The student on probation may not register in CALA without permission of the Scholastic Standards Committee of his or her major department.

To obtain a decision on continuance, a student must complete a scholastic deficiency form (available in the major department) and appear in person before a representative of the department Scholastic Standards Committee.

A student who is allowed to continue will normally be required to complete specified goals for the next quarter in residence, and these will be indicated on the scholastic deficiency form. If the goals are met, the student will be continued automatically at the end of the quarter. If the goals are not met, the student will be dropped. A continued student will not be allowed to register for a future quarter until his or her goals are met.

Cumulative Honor Point Deficiency—

A CALA student will not be allowed to register in CALA if her or his cumulative HPD is 15 or more (cumulative honor points less than or equal to -15), unless granted continuance by the department. The cumulative calculation includes all work taken at the University of Minnesota beginning in fall quarter 1975. A student with an unsatisfactory cumulative HPD must appear before the Scholastic Standards Committee of his or her major department with a scholastic deficiency form. It is the responsibility of the committee to decide whether to continue or drop the student.

Drop Status—A dropped student may not re-enter day school classes or take CALA evening classes through Continuing Education and Extension unless granted permission by the Office of Student Affairs (110 Architecture) and the department Scholastic Standards Committee.

Repeating Courses—Students are allowed to repeat courses in which they receive a grade of D or less, and only the last grade earned is then used in computing their GPA and honor point deficiency. Students are not allowed to repeat courses in which they receive a grade of C or better.

Students who repeat a required course three times and do not earn a grade of C or higher will be subject to drop action by their department Scholastic Standards Committee.

Residency Requirement—CALA baccalaureate degree candidates must be enrolled in the college while taking all their professional degree courses at the University. Transfer students must complete their last 40 credits while enrolled in good standing in CALA.

Dean's List—The Dean's List is published at the end of fall, winter, and spring quarters. Students whose quarterly academic performance results in a GPA of 3.50 or above qualify for the Dean's List for that quarter. Students must complete at least 12 credits on A-F grading in the quarter to be eligible.

Conduct and Discipline

CALA expects the highest standard of honesty and integrity in the academic performance of its students. Any act of scholastic dishonesty is regarded as a serious offense and may result in some form of discipline up to and including expulsion. The college has broadly defined scholastic dishonesty as any act that violates the rights of another student in academic work or that involves misrepresentation of a student's own work. Scholastic dishonesty includes, but is not limited to: submission of false records of academic achievement; cheating on assignments or examinations; plagiarizing; altering, forging, or misusing a University academic record; taking, acquiring, or using test materials without faculty permission; acting alone or in cooperation with another to falsify records or to dishonestly obtain grades, honors, awards, or professional endorsement; depriving another student of necessary course materials; interfering with another student's work; and submitting the same paper or substantially similar papers to meet the requirements of more than one course without the express approval of all instructors concerned. Aiding and abetting a student in an act of scholastic dishonesty is also considered a serious offense.

When a case of scholastic dishonesty arises, the CALA faculty member who is the instructor for the course may modify the grade for the exam or piece of work in question or the course grade, or may refer the incident to the department head or the College Consultative and Appeals Committee for disposition. In any case, the instructor must report the incident and the action he or she takes to the College Consultative and Appeals Committee. At the time of the action, the student is informed by the instructor of his or her right to ask for a hearing by the College Consultative and Appeals Committee. Information on this process is available from the college office.

The College Consultative and Appeals Committee, consisting of faculty and students, reviews all reports of academic dishonesty filed with it by faculty members. The committee maintains confidential records of such reports for five years. These records are separate from students' academic records and are used only by the committee and in consideration of cases of scholastic dishonesty.

A student has the right to a hearing by the College Consultative and Appeals Committee and to appeal any disciplinary action taken by an instructor. Appeals of decisions made by the College Consultative and Appeals Committee that are nonacademic or cases that involve two or more colleges are referred to the Campus Committee on Student Behavior (612/624-6073).

If a student's infraction involves both CALA judicial proceedings and court proceedings and if a CALA decision might prejudice the court case, CALA will hold its decision in abeyance until the court proceedings have been concluded.

Grievances

Students with grievances have recourse through well-established grievance procedures. They are expected to first confer with the course instructor. If no satisfactory solution is reached, the complaint should be presented to the department or program head. If these informal processes fail, the department's grievance committee will hear the evidence. Further appeals go to college-level and University-level committees. The CALA degree program adviser in 110 Architecture is a competent source for interpreting college procedures or regulations and can often suggest suitable alternatives to solve a problem.

Graduation Requirements

Bachelor's Degrees—CALA administers requirements for the following degrees: B.Arch., B.L.A., B.E.D. in Architecture, and B.E.D. in Landscape Architecture. Candidates will be recommended for graduation after they:

1. Complete the prescribed curriculum, including required and elective courses to meet the total number of credits required;
2. Earn a minimum cumulative GPA of 2.00 overall and in their major;
3. Meet the honor point total requirements; and
4. Complete the necessary paperwork and meet the application deadlines. (Graduation application deadlines are set by the college office. Two quarters before the expected graduation date, students must have a complete and approved graduation checksheet on file with their department and the college office. In addition, students must turn in their application and fee in 150 Williamson Hall or 130 Coffey Hall. Deadline extensions rarely are granted.)

The Graduate School grants the M.Arch. and the M.L.A. The College of Liberal Arts (CLA) grants the B.A. degree with a major in architecture, although CALA cooperates with CLA in setting major requirements for the degree, and students cannot major in architecture in CLA unless they have been admitted by CALA. Students should check with the appropriate student affairs office for procedural information on Graduate School or CLA graduation.

Graduation With Distinction and High Distinction—Students with a GPA of 3.50 or above will graduate “with distinction” and students with a GPA of 3.80 or above will graduate with “high distinction.”

The GPA calculation used to determine class rank is based on the last 90 credits earned prior to graduation.



Curriculum, Courses, and Faculty



Curriculum, Courses, and Faculty

Liberal Education Requirements

The University of Minnesota requires all students receiving a bachelor's degree to take liberal education courses. These courses are designed to help students become proficient in writing, to acquaint them with the means by which knowledge is acquired and communicated, to help them better understand themselves and their environment, to increase their historical and philosophical perspective on the nature and relationships of individual and society, and to help them appreciate the value of the arts and literature in interpreting life and nature.

CALA, through its mission, has articulated the belief that excellence in professional education requires a broad general education and supports fully the guidelines and definitions of the All-University Council on Liberal Education. Breadth is assured by requiring students to take a minimum number of credits in each of four areas including: Group A (Language, Logic, Mathematics and the Study of Argument); Group B (The Physical and Biological Universe); Group C (The Individual and Society); and Group D (Literary and Artistic Expression).

CALA has established minimum liberal education requirements that conform to the guidelines set by the All-University Council on Liberal Education. Each CALA department has established its own liberal education requirements, which meet or exceed the college minimums. Students will meet their liberal education obligation by fulfilling the specific curriculum requirements of each department. For this reason, students should refer to the specific curriculum requirements of their major (listed on pages 32-35) in order to satisfy the liberal education requirements of the college and the University.

Architecture

In its educational philosophy the Department of Architecture is concerned with the design of the total environment and with the education of the total human being. The major in architecture combines the study of history, science and technology, the humanities, and the arts to provide the intellectual background and skill necessary to pursue careers in architecture. Two undergraduate non-professional degrees are offered, including a four-year program leading to a B.A. degree in architecture granted by the College of Liberal Arts (see the *College of Liberal Arts Bulletin*) and a four-year program leading to a B.E.D. degree in environmental design granted through CALA. Also offered are two accredited professional degrees, the B.Arch., an undergraduate professional degree granted through CALA, and the M.Arch., a graduate professional degree program offered through the Graduate School for students who have either a non-professional degree like the B.E.D., the B.A. with a major in architecture, or another baccalaureate plus added studies equal in scope to those of the non-professional degree.

Professional Degrees—Both of the professional degree programs are accredited by the National Architectural Accreditation Board. Registration to practice architecture in the State of Minnesota will require a professional degree, either the B.Arch. or the M.Arch.

Bachelor of Architecture (B.Arch.)—This degree normally requires one year of pre-architecture work, acceptance to the College of Architecture and Landscape Architecture, and four more years of coursework. Students must complete a minimum of 244 credits of required and elective work as described below.

Students should complete their graduation checksheet two quarters before registering for Arch 5123, the architecture thesis. In addition, before beginning the thesis, students must

present evidence that they have completed a minimum of 800 hours of practical experience in an architectural or planning office and have finished all required coursework.

Master of Architecture (M.Arch.)—

The M.Arch. degree is open to students who meet the entrance requirements of both the Graduate School and the College of Architecture and Landscape Architecture. Candidates holding a non-professional degree in architecture must have completed an undergraduate degree with at least two years of architectural design studies at a level equivalent to those of the B.E.D. If admitted to the Graduate School and CALA, they can expect to complete two more years in architectural design, an individual program, and a thesis. Students holding a B.A. or B.S. degree in majors other than architecture normally will complete four years of intensive studies: two years as a pre-graduate in the undergraduate program and two years in the Graduate School. See the *Graduate School Bulletin* or the director of graduate studies in architecture for details.

Non-Professional Degrees—These two four-year degrees permit students a less extensive study of architecture to prepare for careers in planning, design, development, real estate, or historic preservation without the extra time commitment needed to complete a professional degree. To pursue the professional degree upon completion of the non-professional B.A. or B.E.D., most students apply for the M.Arch. program offered in the Graduate School.

Bachelor of Environmental Design (B.E.D.)—This degree normally requires one year of pre-environmental design work, acceptance to the College of Architecture and Landscape Architecture and three more years of coursework. Students must complete a minimum of 192 credits of required and elective work in the following core areas: two years of architectural design, a core of environmental design and electives, drawing, history and structures, build-

ing construction, and environmental control technologies. This curriculum prepares students for application for graduate study in architecture leading to the M.Arch. degree or for transfer into other disciplines such as urban design, city and regional planning, product design, or related fields.

Bachelor of Arts (B.A. with a major in architecture) (four year degree granted by the College of Liberal Arts)—

This degree normally requires two years of pre-architecture work, *admission* to the College of Architecture and Landscape Architecture, and two more years of coursework in the major (architecture). Students must complete 180 credits of required and elective work in the following core areas: two years of architectural design, history, drawing, electives, and language distribution. Upon completion of the B.A. degree, students may: (a) apply for admission to graduate study in architecture leading to the M.Arch. degree; or (b) after two additional years of study, earn the B.Arch. degree. Introductory technical coursework in structures, construction, and environmental controls also is required before advanced work toward the M.Arch. or B.Arch. can begin.

Course Requirements—The one-year pre-architecture curriculum must be completed by all students, although most students have completed at least two years of college or university study before beginning their architectural design coursework. Pre-architecture studies prepare students for the required coursework in the department of architecture.

In all CALA undergraduate degree programs, each required course must be passed with a minimum grade of C.

The department will consider substitutions for any required courses in the curriculum upon petition to the Director of Undergraduate Studies. Permission for a substitution must be requested before the quarter in which the required course normally would be taken.

Curriculum, Courses, and Faculty

Liberal Education Requirements: Department of Architecture

For students majoring in architecture, a number of liberal education requirements apply. First, at least 10 credits must be taken in math, with work needed through Math 1211, 1221 or their equivalent. An added 10 credits of lab physics must then be taken, with Physics 1271, 1275 and 1281, 1285 or Physics 1311, 1321, 1331 and 1275, 1285, or Physics 1041/45, 1042/46 being offered as the Minnesota choices.

In addition, students must take at least 36 credits in the following categories:

English Composition (8-9 credits) *Writing practice and advanced composition* as specified by the architecture department. Most students complete writing practice by taking Composition 1011. The advanced composition course usually taken in the junior or senior year, might be Composition 3011, 3013, or 3031. Other 3xxx-level courses recommended by the architecture department are acceptable. Students who are exempt from the writing practice requirement can take 5 credits from Group C, Group D, or Group A (except for courses in mathematics, computer science, or statistics).

Group C: The Individual and Society (12-15 credits)

Group D: Literary and Artistic Expression (8-10 credits) The remaining credits to complete 36 may be taken in Groups C, D, A (except for courses in mathematics, computer science, or statistics), or B (some courses). Group B courses may include courses in the biological sciences and ecology, unless they are specifically excluded by the architecture department. A current list of acceptable courses in Groups C and D is available in 110 Architecture. Skills courses in a foreign language other than the student's native language also may be used to complete the 36 credits.

Study in depth also is a requirement. Students must take two courses in Group C or D that are either at the 3xxx- or 5xxx-level or have a prerequisite.

Bachelor of Architecture

Pre-Architecture (49 credits)

Comp 1011—Writing Practice I (5)
Arch 1021, 1022, 1023—History of Architecture, Landscape Architecture, and Cities (12)*
ArtS 1101—Basic Drawing or Arch 1041, 42, 43—Architectural Graphics (4-6)
Phys 1271/75, 1281/85—General Physics and Laboratory, or Phys 1311, 1321, 1331 and 1275, 1285—Comprehensive Introductory Physics with Calculus and General Physics Laboratory, or Phys 1041/45, 1042/46—Introductory Physics and Laboratory (10-14)
Math 1211, 1221—Calculus I, II (10)
Liberal Education Electives, Group C (8)

After substantial completion of the above work (normally with at least a 2.75 GPA), students must apply for admission to the Department of Architec-

ture, CALA, on form AR110 before April 1 of the year of desired admission.

* Transfer students can take Arch 1021, 1022, 1023 after admission.

Lower Division (96 credits)

Design and Communications Core (48 credits)
Arch 3081, 3082, 3083—Architectural Design I (18)
Arch 3091, 3092, 3093—Architectural Design II (18)
ArtS 1401—Color and ArtS 3105—Painting or Arch 1041, 1042, 1043—Architecture Graphics (6-8)
Comp 3011 or 3012 or 3013 or 3031 (4)
Technology Core (36 credits)
Arch 3060—Teknos: Force, Form and Architecture (4)
Arch 3061, 3062—Building Systems I, II (8)
Arch 3064, 3065—Environmental Management and Control (8)
Arch 3511—Introduction to Architectural Structures (4)
CE 3600, 3601, 3602—Structural Design for Architects (12)
History, Theory, Environment (4 credits)
Arch 5051-5064—Architectural History (4)
Liberal Education Electives—Group C (8)

Upper Division (99 credits)

Design and Communication Core (42 credits)
Arch 5111, 5112, 5113—Architectural Design III (18)
Arch 5121, 5122—Architectural Design IV (12)
Arch 5123—Thesis (12)
History, Theory, and Environment Core (16 credits)
Arch 5051-5064—Architectural History (8)
Arch 5137—Planning: Urban Function and Structure (4)
Arch 5138—Planning: Theory and Methodology (4)
Technology Electives (4 credits)
Arch 5116—Structure and Form (4), or
Arch 5142—Historic Building Conservation (4), or
Arch 5957—Climate and Architecture (4), or
Arch 5958—Energy and Architecture (4), or
Arch 5959—Lighting Design Techniques (4)
Practice Core (4 credits)
Arch 5126—Professional Practice (4)
Practice Electives (4 credits)
Arch 5124—Building Development Process (4), or
Arch 5127—Law for Architects I (4), or
Arch 5128—Law for Architects II (4), or
Arch 5952—Programming for Architectural Design (4), or
Arch 5125—Real Estate Development (4), or
Arch 5961—Computer-Aided Architectural Design (4), or
Arch 5962—Computer-Aided Architectural Design (4), or
Arch 5963—Advanced Computer-Aided Architectural Design (4)

Additional Elective Courses in Architecture or Related Disciplines (29-35), including:

- History, Theory, Environment, and Communications Electives (optional)
- Arch 3001—Environmental Design: Theory and Process (4)
 - Arch 3002—Environmental Design: People and Environment (4)
 - Arch 5850—Topics in Theory (2)
 - Arch 5851—Architecture: Theory and Philosophy (3)
 - Arch 5852—Architecture: Thought and Design Process (3)
 - Arch 5853—Architecture: Form and Meaning (3)
 - Arch 5854—The Language of Architecture, Semiotics, Symbolism, and Metaphor (3)
 - Arch 5855—Typology and Architecture (3)
 - Arch 5951—Architecture and Behavior (3)
 - Arch 5953—Housing and Values (3)
 - Arch 5954—Architecture & Behavior Research Methods (3)
 - Arch 5956—Meanings of Place (4)

Landscape Architecture

Landscape architecture is concerned with the impact, disposition, and management of natural resources as well as the quality of experience that results from the development and management of land for specific human uses. Landscape architects are concerned with a wide range of projects: large-scale regional landscape planning; design of exterior environments for working, living, and recreation; commercial, institutional, and industrial development; transportation systems; and multiple-use areas. Projects may vary in scale from single-family residences to regional open space systems. Professional services include: studies of land use feasibility, suitability, and capability; site selection studies; proposals for site layout and regional land use allocation and management; detail grading; construction drawings; and planting plans.

Landscape architects also are involved in regional resource planning and design, recreation planning and design, urban landscape design, and detail site planning projects, often in association with architects, planners, engineers,

geographers, physical scientists, social scientists, and others. The relationships between regional or single-site qualities of terrain, soil, climate, vegetation, wildlife, orientation, visual quality, and the management or development program are studied carefully to assure sound recommendations.

Bachelor of Landscape Architecture (B.L.A.) Program—This five-year program emphasizes the design process and an understanding of the various facets of nature, culture, and human behavior that affect the design, planning, and management of land. It is designed to provide basic professional training for the practice of landscape architecture. It leads to the professional Bachelor of Landscape Architecture degree. The B.L.A. degree program is accredited by the Landscape Architectural Accreditation Board, an affiliate organization of the American Society of Landscape Architects.

A total of 230 credits is required for graduation, 130 of them in 3xxx- and 5xxx-level courses. This more advanced work includes sequences in design, landscape technology, communications, and history and theory. Completion of the advanced work requires a minimum of three years. All required core courses with an LA prefix plus Hort 1021 and 1022 must be completed with a minimum grade of C.

It is recommended that students complete a minimum of 800 hours of work experience outside of classwork. At least 400 of these hours should be spent in landscape construction or in a landscape nursery and 400 hours in the office of a professional landscape architect.

Bachelor of Landscape Architecture B.L.A./M.L.A. Combined Degree Program—The combined B.L.A./M.L.A. degree program is available for students with previous baccalaureate degrees who wish to pursue both professional and scholarly degree studies in landscape architecture. The program is jointly offered by the College of Architecture

Curriculum, Courses, and Faculty

and Landscape Architecture and the Graduate School. It is designed to provide basic professional training for the practice of landscape architecture and give an opportunity for research into a specialized area of the field.

Specific requirements for this degree are defined in the Graduate School Bulletin.

Bachelor of Environmental Design (B.E.D.) Program—The non-professional Bachelor of Environmental Design degree program is designed to allow students to explore a broad range of environmental courses as well as complete two years of professional courses in landscape architecture. Upon completion of the B.E.D. degree requirements, students may continue on for the professional B.L.A. degree, enter a professional master's degree program, or transfer to another discipline such as urban design, city and regional planning, or an area of the social or natural sciences.

A total of 192 credits is required for the B.E.D. degree. All required core courses with an LA prefix plus Hort 1021 must be completed with a minimum grade of C. It is recommended that students also complete 400 hours of summer work in landscape architecture. Individualized study programs may be arranged with approval of the faculty.

Major Requirements for the Bachelor of Landscape Architecture Degree Program

Students must complete a minimum of 75 out of 100 credits of the pre-landscape architecture requirements in categories A through E before applying for admission to the Bachelor of Landscape Architecture degree program.

- A. Communication, Language, Symbolic Systems
Rhet 1101—Writing to Inform and Persuade (4)
Rhet 1104—Library Research Methods (1)
Rhet 1151—Writing in Your Major (4)
Rhet 1222—Public Speaking (4)
Rhet 3562—Writing in Your Profession (4)
Math 1111—College Algebra and Analytical Geometry (5)

One of the following:

- College Level Math (1008 or higher)
- College Level Statistics
- College Level Computer Programming

- Phil 1001—Introduction to Logic (5)
- Phil 3231—Introduction to the Philosophy of Language (4)
- AgEc 3300—Agricultural Management Systems (4)
- IDSc 3131—Database Management Systems (4)

B. Physical and Biological Sciences—18 credits minimum

These credits are to be selected from courses in such areas as botany, biology, chemistry, geology, natural sciences, and physics. Recommended courses include Biol 1009—General Biology, Biol 1104—General Botany, Geol 1001—The Dynamic Earth or Geog 1401—Physical Geography, and Ebb 3001—General Ecology. An adviser should be consulted if there are questions about selecting coursework.

C. The Individual and Society—16 credits minimum

D. Literature, Humanities, and Fine Arts—8 credits minimum

E. Professional and Supporting Courses required in the pre-Landscape Architecture curriculum.

- LA 1022—History of Landscape Architecture (4)
- Soil 1020—The Soil Resource (4)
- Hort 1022—Herbaceous Plant Materials (5)
- 12 credits in studio arts

One course from:

- LA 1021—History of Architecture (4)
- LA 1023—History of Cities (4)
- Arch 5056—Modern Architecture (4)
- Arch 5061—Contemporary Architecture (4)

Two courses from:

- LA 1001—The Design of Environments (2)
- LA 1024—Landscape Theory (4)
- LA 1031—Introduction to Landscape Architecture (4)
- LA 3001—Environmental Design: Theory and Process (4)
- LA 3002—Environmental Design: People and Environment (4)

F. Professional Courses required in the Bachelor of Landscape Architecture degree program:

1. Design

- LA 3081—Making Landscape Space and Place (6)
- LA 3082—Ecological Informants of Landscape Architectural Design (6)
- LA 3083—Landscape Architectural Design Paradigms and Methods (6)
- LA 3091—The Landscape of Dwelling (6)
- LA 3092—The Landscape Architectural Design of Community (6)
- LA 5103—Urban Design (6)
- LA 5105—Recreational and Park Planning and Design (6)
- LA 5107—Regional Landscape Design and Planning (6)
- LA 5110—Advanced Landscape Planning and Design (6)

2. Technology

- LA 3065—Landscape Construction: Landforms Systems (4)
- LA 3067—Landscape Construction: Structural Systems and Materials (4)
- LA 3069—Landscape Construction: Mechanical Systems (4)

- LA 5063—Landscape Construction: Spatial Performance (4)
- LA 5117—Planting Design: Aesthetic and Functional Criteria (4)
- LA 5119—Planting Design: Ecological Principles/Land Use Concepts (4)
- LA 5226—Professional Practice (4)
- LA 5562—Introduction to Geographic Information Systems (4)
- HORT 1021—Woody Plant Materials (5)
- 3. Communication
 - LA 1025—Basic Visualization I (4)
 - LA 1026—Basic Visualization II (4)
 - LA 3101—Communicating Landscape Quality (4)
- 4. History and Theory
 - LA 5224—Contemporary Issues in Landscape Architecture (4)
 - LA 5265—History of Landscape Architecture: Individual Influences (4)
- 5. Electives Supporting the Degree (14-16)

Major Requirements for the Bachelor of Environmental Design Degree Program

A minimum of 75 out of 100 credits of the pre-Environmental Design requirements in categories A through E must be completed before application for admission to the Bachelor of Environmental Design degree program is made.

- A. Communication, Language, Symbolic Systems
 - Rhet 1101—Writing to Inform and Persuade (4)
 - Rhet 1104—Library Research Methods (1)
 - Rhet 1151—Writing in Your Major (4)
 - Rhet 1222—Public Speaking (4)
 - Math 1111—College Algebra and Analytical Geometry (5)
- One of the following:
 - College Level Math (1008 or higher)
 - College Level Statistics
 - College Level Computer Programming
 - Phil 1001—Introduction to Logic (5)
 - Phil 3231—Introduction to the Philosophy of Language (4)
 - AgEc 3300—Agricultural Management Systems (4)
 - IDSc 3131—Database Management Systems (4)

B. Physical and Biological Sciences—15 credits minimum

These credits are to be selected from courses in such areas as botany, biology, chemistry, geology, natural sciences, and physics. Recommended courses include Biol 1009—General Biology, Biol 1104—General Botany, Geol 1001—The Dynamic Earth or Geog 1401—Physical Geography, and Ebb 3001—General Ecology. An adviser should be consulted to answer questions about coursework selection.

C. The Individual and Society—16 credits minimum

D. Literature, Humanities, and Fine Arts—12 credits minimum

- E. Professional and Supporting Courses required in the pre-Environmental Design degree programs.
 - LA 1022—History of Landscape Architecture (4)
 - Soil 1020—The Soil Resource (4)
 - 12 credits in studio arts
- One course from:
 - LA 1021—History of Architecture (4)
 - LA 1023—History of Cities (4)
 - Arch 5056—Modern Architecture (4)
 - Arch 5061—Contemporary Architecture (4)
- Two courses from:
 - LA 1001—The Design of Environments (2)
 - LA 1024—Landscape Theory (4)
 - LA 1031—Introduction to Landscape Architecture (4)
 - LA 3001—Environmental Design: Theory and Process (4)
 - LA 3002—Environmental Design: People and Environment (4)
- F. Upper level courses required in the Bachelor of Environmental Design degree program:
 - 1. Design
 - LA 3081—Making Landscape Space and Place (6)
 - LA 3082—Ecological Informants of Landscape Architectural Design (6)
 - LA 3083—Landscape Architectural Design Paradigms and Methods (6)
 - LA 3091—The Landscape of Dwelling (6)
 - LA 3092—The Landscape Architectural Design of Community (6)
 - LA 5107—Regional Landscape Design and Planning (6)
 - 2. Technology
 - LA 3065—Landscape Construction: Landforms Systems (4)
 - LA 5562—Introduction to Geographic Information Systems (4)
 - HORT 1021—Woody Plant Materials (5)
 - Ecology (8)
 - Planning (8)
 - 3. Communication
 - LA 1025—Basic Visualization I (4)
 - LA 1026—Basic Visualization II (4)
 - LA 3101—Communicating Landscape Quality (4)
 - 4. History and Theory
 - LA 5265—History of Landscape Architecture: Individual Influences (4)
 - 5. Electives Supporting the Degree (14-16)

Curriculum, Courses, and Faculty

Courses

Symbols—The following symbols are used throughout the course descriptions in lieu of page footnotes:

* Courses in which graduate students may prepare Plan B projects.

† All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence.

§ Credit will not be granted if credit has been received for the course listed after this symbol.

¶ Concurrent registration is allowed (or required) in the course listed after this symbol.

Registration Override Permit, completed and signed by the instructor, is required for registration.

Δ Registration Override Permit, completed and signed by the unit offering the course, is required for registration.

H Honors course.

f,w,s,su Following a course number, indicates fall, winter, spring, or summer terms.

x Course is offered more than one quarter.

A hyphen between course numbers (e.g., 3142-3143-3144) indicates a sequence of courses that must be taken in the order listed.

A comma between course numbers (e.g., 1234, 1235, 1236) indicates a series of courses that may be entered any quarter.

When no abbreviated department prefix precedes a course number listed as a prerequisite, that prerequisite is in the same department as the course being described.

Architecture (Arch)

1010. INTRODUCTION TO ARCHITECTURE DRAWING. (4 cr; 8 lab hrs per wk)
Basic drawing techniques, freehand drawing and sketching, perspective, shades, and shadows.

1021f. HISTORY OF ARCHITECTURE. (4 cr, §LA 1021; 4 lect hrs per wk)
Introduction to history and theory of architecture. Survey of architecture from ancient through modern periods.

1022w. HISTORY OF LANDSCAPE ARCHITECTURE. (4 cr, §LA 1022; 4 lect hrs per wk)
Introduction to history and theory of landscape architecture. Survey of landscape architecture from ancient through modern periods.

1023s. HISTORY OF CITIES. (4 cr, §LA 1023; 4 lect hrs per wk)
Introduction to history and theory of urban design. Survey of urban design from ancient through modern periods.

1041-1042-1043. ARCHITECTURAL GRAPHICS. (2 cr per qtr; restricted to students in pre-architecture and architecture [others #]; 2½ lab hrs per wk)
The skills, media, and techniques of architectural graphics communication, including perspective systems, shade and shadow, color, freehand drawing, and organizing presentation material.

3001f. ENVIRONMENTAL DESIGN: THEORY AND PROCESS. (4 cr, §LA 3001; not open to freshmen)
Design process, theory making, and interpreting environments. Effect of means on environmental outcomes: rooms, buildings, landscapes, cities. Issues of arts, natural and social sciences explored in readings, lectures, discussions, projects.

3002w. ENVIRONMENTAL DESIGN: PEOPLE AND ENVIRONMENT. (4 cr, §LA 3002; prereq 3001)
Interaction of people with the environment. Relations among individuals, groups, culture, and environment. Concepts such as: home, place, comfort, public and private, presented as biologically, socially, and culturally based. Focus on range of scales: rooms, buildings, cities and landscapes. Lectures, readings, discussions, and projects.

3060. TECHNOS: FORCE, FORM, AND ARCHITECTURE. (4 cr; prereq Arch 1021, Arch major, ¶Arch 3081)
Introduction to fundamental conceptual frameworks that relate science, technology, and building expression to architectural form. Present day to ancient periods. Climate, force, materials and structures case studies.

3061-3062. BUILDING SYSTEMS. (4 cr per qtr; prereq Arch major or adult special, 3081 or ¶3081 or #; 4 lect hrs per wk)
Building systems, subsystems, and components; principles of structural theory; materials and methods used in building; new and developing technologies.

3064-3065. ENVIRONMENTAL MANAGEMENT AND CONTROL. (4 cr per qtr; prereq Arch major or adult special, 3062, 3083 or #; 4 lect hrs per wk)

Environmental-mechanical considerations including comfort technology, space habitability, climate, psychometrics, control and management systems; waste management including plumbing systems and waste disposal techniques. Electrical systems, energy, power distribution and machinery; lighting systems, physiology of seeing, light sources and control; spatial acoustics, noise barriers, absorption.

3081-3082-3083. ARCHITECTURAL DESIGN. (6 cr per qtr; prereq Arch major or adult special, Δ; 12 lab hrs per wk)

Perceptual and conceptual aspects of the physical environment. Fundamentals of architectural design and design methodology. Architectural drawing. Model making.

3091-3092-3093. ARCHITECTURAL DESIGN. (6 cr per qtr; prereq Arch major or adult special, 3083; 12 lab hrs per wk)

Architectural problems with emphasis on development of structures as an integral part of design; site planning; design process.

3121. ARCHITECTURAL RENDERING: HISTORICAL AND CONTEMPORARY INFLUENCES. (4 cr, §LA 3121; prereq ArtS 1101; Arch, LA, environmental design major or #)

Relationships between depiction and built form explored through their historical manifestations. Beaux Arts watercolor techniques, modern value delineation techniques, and emerging electronically based techniques.

3511. INTRODUCTION TO ARCHITECTURAL STRUCTURES. (4 cr; prereq Arch major, Phys 1042, 1046, Math 1221, Arch 3081)

General theories and methods of analysis and design of architectural structures within the context of modern engineering. Fundamentals of structural behavior—bending, elasticity, tension, compression, shear, and deflection. Properties and limitations of structural elements and systems with emphasis on architectural applications.

3970. DIRECTED STUDY. (Cr ar; prereq #)

Areas of study useful to individual program objectives not available in regular course offerings.

5051. ANCIENT ARCHITECTURE. (4 cr; prereq 1021; 4 lect hrs per wk)

History of development of architecture and urban design in Egypt, Mesopotamia, Crete, Mycenae, and classical Greece and Rome until the advent of Christianity.

5052. EARLY MEDIEVAL ARCHITECTURE. (4 cr, §ArH 5052; prereq 1021; 4 lect hrs per wk)

History of the development of architecture and urban design during early Christian, Byzantine, Islamic, Carolingian, and Romanesque periods in the Near East and Western Europe until A.D. 1150.

5053. GOTHIC ARCHITECTURE. (4 cr, §ArH 5053; prereq 1021; 4 lect hrs per wk)

History of development of architecture and urban design in Western Europe from A.D. 1150 until 1400.

5054. RENAISSANCE ARCHITECTURE IN ITALY. (4 cr, §ArH 5054; prereq Arch major, 1021 or #; 4 lect hrs per wk)

History of architecture and urban design in Italy, 1400-1600. Emphasis on major figures (Brunelleschi, Alberti, Bramante, Palladio) and the evolution of major cities (Rome, Florence, Venice).

5055. 18TH-CENTURY ARCHITECTURE AND THE ENLIGHTENMENT. (4 cr, §ArH 5055; prereq 1021 or #; 4 lect hrs per wk)

Architecture, urban planning, and garden design in Europe, 1700-1850.

5056. MODERN ARCHITECTURE. (4 cr, §ArH 5056; prereq 1021; 4 lect hrs per wk)

History of development of architecture and urban design in Europe and America from early 19th century until World War II.

5058. PRIMITIVE ARCHITECTURE. (4 cr; prereq Arch major, 1021 or #; 4 lect hrs per wk)

Case studies of primitive environments in selected examples of Native North America, African, Asian, and Oceanic cultures.

5061. CONTEMPORARY ARCHITECTURE. (4 cr; prereq Arch major, 1022, 3083 or #; 3 lect and 1 seminar hrs per wk)

Developments, theories, and stylistic movements in architecture from World War II to the present time.

5064. BAROQUE ARCHITECTURE IN ITALY. (4 cr; prereq Arch major, 1021 or #; 4 lect hrs per wk)

Architecture and Urban Design in Italy, 1600-1750. Emphasis on major figures (Bernini, Borromini, Cortona, Guarini) and the evolution of major cities (Rome, Turin).

5101, 5102, 5103. TUTORIAL WORK IN HISTORY OF ARCHITECTURE. (4 cr; prereq 12 upper division cr in history or #; 1 conf and 5 research hrs per wk)

Reading and written reports on special historical problems.

5111-5112-5113. ARCHITECTURAL DESIGN. (6 cr per qtr; prereq ITArch major, 3093, 3064-3065 or ¶3064-3065, CE 3600-3601-3602 or ¶CE 3600-3601-3602; 18 lab hrs per wk)

Advanced architectural problems of complex requirements, involving thorough study and detailed solution; electrical and mechanical equipment as well as structure as an integral part of design; research techniques and design process. Individual effort and group collaboration.

Curriculum, Courses, and Faculty

5116. STRUCTURE AND FORM IN ARCHITECTURE. (4 cr per qtr; prereq Arch major or IT grad, 3093, CE 3602; 2 lect and 3 seminar hrs per wk)
Form as an interface between programmatic requirements for environmental change and the physical means available to the architect; physical parameters of statics, mechanics of solids, and three-dimensional manipulation of material to arrive at logical solutions for given problems of enclosing space; architectural morphology studied through contemporary and ancient examples and experimental work on models; modular and proportional relationships.

5121-5122. ARCHITECTURAL DESIGN. (6 cr per qtr; prereq Arch major, 5113, CE 3602; 27 lab hrs per wk)
Advanced architectural design with emphasis on more complex, architectural and urban issues and aspects of design development. Individual and collaborative effort.

5123. ARCHITECTURAL THESIS. (12 cr; prereq 5122, submission of a definitive thesis plan during qtr prior to thesis writing, 800 hrs of practical experience; 36 lab hrs per wk)
Individual choice, study, and solution of an architectural problem to demonstrate proficiency in all phases of design.

5124. BUILDING DEVELOPMENT PROCESS. (4 cr; prereq Arch 3062, 3093 or LA 3075, 3093 or #)
Examination of the architectural design process parallel to building project management and development processes. Controlling the scope of work, quality, schedule and budget management, organizational settings, system-based estimating, construction and delivery systems, logic networks. Analysis by case study methods.

5126. PROFESSIONAL PRACTICE. (4 cr; prereq 3rd-yr design or 1/3rd-yr design; Arch major or adult special; two 2-hr seminars per wk, field trips)
Relations of architect to clients, contractors, and fellow practitioners; procedures of architectural practice; preparation of contract documents.

5127, 5128. LAW FOR ARCHITECTS. (4 cr per qtr; prereq 3093 or Δ; 2 lect hrs per wk)
Legal subject matter relevant to the work of architects and design professionals.

5137. PLANNING: URBAN FUNCTION AND STRUCTURE. (4 cr; prereq #)
Economic, technological, and social factors that underlie the location, distribution, and internal structure of urban settlements. Quantitative and qualitative analysis of social, economic, and physical problems or consequences of contemporary urbanization.

5138. PLANNING: THEORY AND METHODOLOGY. (4 cr; prereq 5137 or #)
Logic of a planning process as a method of decision making. Formulation of goals and evaluation of alternative courses of action, standards, and requirements for specific planning objectives (housing, transportation, and community facilities). Legal, administrative, and fiscal devices for plan implementation. The place of the planning function in government and the role of citizens and private groups.

5141. HISTORIC PRESERVATION PROCESS. (4 cr; prereq 1021 or #; 4 lect hrs per wk)
Philosophy and theory of historic preservation, historic origins, descriptive analysis of buildings, building documentation, technology of building conservation, historical archaeology, economic considerations, preservation law, guidelines for preservation, neighborhood conservation, international preservation, and case studies of representative preservation projects.

5142. HISTORIC BUILDING CONSERVATION. (4 cr; prereq 5141 or #; 2 lect and 2 lab hrs per wk)
Historic building systems, materials and methods for their conservation; introduction to use of contemporary systems in historic buildings.

5143. HISTORIC BUILDING RESEARCH AND DOCUMENTATION. (4 cr; prereq 5141 or #; 2 lect and 2 lab hrs per wk)
Philosophy, theory, and methods of historic building research, descriptive analysis of buildings, building documentation, historical archaeology and architectural taxonomy.

5170. CITYSCAPE. (3 cr; prereq 3093 or #; hrs ar)
The city and its components as aesthetic elements. Factors that have helped to generate urban form.

5173. ENERGY AND URBAN FORM. (3 cr; prereq Arch major or adult special, 5171 or #; 3 lect hrs per wk)
The role of energy as a determinant of urban form.

5850. TOPICS IN THEORY. (Cr ar; prereq Arch major or adult special, #)
Special topics in architecture examined in a philosophical and theoretical context.

5851. ARCHITECTURE: THEORY AND PHILOSOPHY. (3 cr; prereq Arch major or adult special, 3093 or #; 2 lect hrs per wk)
Architecture examined within a general philosophical context: its nature, role, purpose, meaning; its definition; and its mode of operation as a discipline and in relation to other fields.

5852. ARCHITECTURE: THOUGHT AND DESIGN PROCESS. (3 cr; prereq Arch major or adult special, 3093 or #; 2 lect hrs per wk)
Architecture as a thought, creative, and transformational process; underlying attitudes, paradigms, models, and strategies and tools, and their potential, limitations, implications, formal outcome, and meaning.

5853. ARCHITECTURE: FORM, ORDER, AND MEANING. (3 cr; prereq Arch major or adult special, 3093 or #)

Investigations into architectural form, order and meaning relative to architecture as aesthetic, social, environmental, and technical object. Exploration of current theories and concepts, their potential and implications.

5854. THE LANGUAGE OF ARCHITECTURE: SEMIOTICS, SYMBOLISM, AND METAPHOR. (3 cr; prereq Arch major or adult special, 3083 or #; 2 lect hrs per wk)

Communicative dimensions of architecture, especially as they relate to linguistic analogies. Broad historical perspective including current aspects of subject.

5855. TYPOLOGY AND ARCHITECTURE: THEORIES OF ANALYSIS AND SYNTHESIS. (3 cr; prereq Arch major or adult special, 3083 or #; 2 lect hrs per wk)

Theoretical traditions and development of the use of typology in architecture. Works of Laugier, Quatremere De Quincy, Viollet-Le-Duc, Ledoux, Durand, Camillo Sitte, and Le Corbusier. Recent developments and theoretical positions of the "neo rationalist" and "contextual" arguments for contemporary applications of typology.

5950. TOPICS IN ARCHITECTURE. (Cr ar; prereq 3093 or #)

Special topics of concern to the field of architecture.

5951. ARCHITECTURE AND BEHAVIOR. (3 cr; prereq Arch major or adult special, 3083 or #; 4 lect hrs per wk)

Relation between people and built environments; consideration of behavior research methods as they relate to architecture, theoretical basis for exchange between designers and behavioral scientists, impact of knowledge of behavior on design and design process (design/evaluation/programming cycle), behavioral findings, problems of implementation. Guest lecturers and reading of materials from related disciplines. The design and implementation of a behavioral research project.

5952. PROGRAMMING FOR ARCHITECTURAL DESIGN. (3 cr; prereq Arch major or adult special, 3093 or #; 3 lect hrs per wk)

Principles of programming explored through case study method. Guest lecturers discuss how principles are applied in architectural practice. Students develop program for a specific academic design problem: examination of precedents, site selection, function analysis and relationship diagrams, assumptions examination, form options, and design directives.

5953. HOUSING AND VALUES. (3 cr; prereq upper division or grad; 3 lect/discussion hrs per wk)

Meanings and values attached to housing in different cultures, at various stages in the life cycle, and in differing climatic situations. Impact of housing heritage on housing choice, and potential impact of emerging constraints (such as energy availability) on current and future housing decisions.

5954. ARCHITECTURE AND BEHAVIOR RESEARCH METHODS. (3 cr; prereq Arch major or adult special, 3083 or #; 4 lect hrs per wk)

Use of behavior research in architectural practice: evaluation of buildings, architectural programming methods, application of findings in architectural design. Students design and implement a small behavioral research project.

5956. MEANINGS AND MESSAGES OF PLACE: CITY, TOWN, AND LANDSCAPE. (4 cr; prereq upper division undergrad or grad architecture, or LA major or #)

Direct experience analyzing meanings and messages of surroundings. What present-day environments reveal about the past and links between sense of place and feelings of well-being, in Twin Cities central districts and selected neighborhoods as well as other settings inside and outside Minnesota.

5957. CLIMATE AND ARCHITECTURE. (4 cr; prereq Arch major, 3082, 3064 or #)

Climate as a context for architectural form and thought. Thermal comfort, synthesis and energy in architectural design in relation to temperature, humidity, wind, and solar radiation. Investigation of specific buildings/sites through graphic analysis, physical/computer simulation, and writings.

5958. ENERGY AND ARCHITECTURE. (4 cr; prereq Arch major or adult special, 3093 or #; 2 lect and 2 lab hrs per wk)

Relationship of conservation, passive solar, and active solar strategies in design of small buildings. Exercises and case studies provide hands-on experience with systems, calculating techniques, and evaluative methods as a basis for understanding space-heat requirements.

5959. LIGHTING DESIGN TECHNIQUES. (4 cr; prereq Arch major or adult special, 3083 or #; 2 lect and 2 lab hrs per wk)

Design of architectural lighting effects to enhance perception and give direction to space through practice drawing and modeling skills exercises.

5961. COMPUTER-AIDED ARCHITECTURAL DESIGN. (4 cr; prereq Arch major, 3083 or #; 2 lect and 2 lab hrs per wk)

Introduction to computing and PASCAL programming. Methods in Computer-Aided Architectural Design; methods, hardware, software, problems, and potentials of CAAD; weekly lab projects using Terak microcomputers as a design tool.

5962. COMPUTER-AIDED ARCHITECTURAL DESIGN. (4 cr; prereq 5961 or #; 2 lect and 2 lab hrs per wk)

Applications of principles and practice of computer-aided design and drafting in architecture.

5963. ADVANCED COMPUTER-AIDED ARCHITECTURAL DESIGN. (4 cr; prereq Arch 5962 or #)

Large-scale computer-aided drafting, site modeling, facilities management, solid modeling, and design simulation. Expert systems language and application to design processes.

Curriculum, Courses, and Faculty

5970. DIRECTED STUDIES. (Cr ar; prereq #)
Areas of study useful to individual program objectives but not available in regular course offerings.

For Graduate Students Only

(For descriptions, see *Graduate School Bulletin*)

8201, 8202, 8203. SPECIAL RESEARCH IN ARCHITECTURAL HISTORY

8231, 8232, 8233. PLANNING

8251, 8252, 8253, 8254, 8255, 8256. ARCHITECTURAL DESIGN

8261, 8262, 8263. SELECTED PROBLEMS IN ARCHITECTURE

8271, 8272, 8273, 8274, 8275, 8276. PROBLEMS IN CITY AND COMMUNITY DESIGN

Landscape Architecture (LA)

1001. THE DESIGN OF ENVIRONMENTS. (2 cr)
The role of landscape architecture in designing and planning the environment for people. Exploration of the profession, from design of gardens, parks, and open spaces to siting buildings, urban design, and planning communities to regional design and visual assessment.

1021. HISTORY OF ARCHITECTURE. (4 cr, §Arch 1021; 4 lect hrs per wk)
Introduction to history and theory of architecture. Survey of architecture from ancient through modern periods.

1022. HISTORY OF LANDSCAPE ARCHITECTURE. (4 cr, §Arch 1022; 4 lect hrs per wk)
Introduction to history and theory of landscape architecture. Survey of landscape architecture from ancient through modern periods.

1023. HISTORY OF CITIES. (4 cr, §Arch 1023; 4 lect hrs per wk)
Introduction to history and theory of urban design. Survey of urban design from ancient through modern periods.

1024. LANDSCAPE THEORY. (4 cr; 3 lect and 3 lab hrs per wk)
Analysis of design elements and forms involving direction, shape, proportion, and color, with emphasis on their function in design; perception and our relationship to the environment; the social effects and psychological basis for design.

1025. BASIC VISUALIZATION I. (4 cr; 2 lect and 4 lab hrs per wk; prereq LA major or #)
Perspective drawing, landscape sketching, visual analysis of landscape materials, presentation techniques for plans, sections, elevations, and diagrams.

1026. BASIC VISUALIZATION II. (4 cr; prereq 1025; 6 studio hrs per wk)
Students continue to refine their ability to execute acceptable line drawings developed in 1025 and to develop their own techniques. Continued emphasis on perspective sketching, color sense, psychology of graphic interpretation, mixed media, and printing reproduction processes.

1031. INTRODUCTION TO LANDSCAPE ARCHITECTURE. (4 cr; 4 lect hrs per wk)
Design potential of materials of the landscape; exercises in assessment of land developments and detail landscapes; the role of the landscape architect in shaping the natural and cultural environment; brief historical review of site developments.

3001. ENVIRONMENTAL DESIGN: THEORY AND PROCESS. (4 cr, §Arch 3001; not open to freshmen)
Design process, theory making, and interpreting environments. Effect of means on environmental outcomes: rooms, buildings, landscapes, and cities. Issues of arts, natural and social sciences explored in readings, lectures, discussions, and projects.

3002. ENVIRONMENTAL DESIGN: PEOPLE AND ENVIRONMENT. (4 cr, §Arch 3002; prereq 3001)
Interaction of people with the environment. Relations among individuals, groups, culture, and environment. Concepts such as: home, place, comfort, public and private, presented as biologically, socially, and culturally based. Focus on range of scales: rooms, buildings, cities and landscapes. Lectures, readings, discussions, and projects.

3065. LANDSCAPE CONSTRUCTION: LANDFORM SYSTEMS. (4 cr; prereq LA 3081 or #; 2 lect and 4 lab hrs per wk)
Lectures, projects, and exercises on landform systems for landscape architecture. Topics include landform types, representation methods, manipulation techniques, use of survey data, earth work construction concerns, and design standards. Landform performance issues of storm water management, landscape integrity assurance, and economic viability with methods for evaluation.

3067. LANDSCAPE CONSTRUCTION: STRUCTURAL SYSTEMS AND MATERIALS. (4 cr; prereq LA 3081 or #; 2 lect and 4 lab hrs per wk)
Lectures, projects, and exercises on the design of structures for landscape architecture. Topics include principles and procedures for structural design, historical applications, properties and use of materials, and design communication. Performance issues of landscape integrity assurance and economic viability with evaluation methods.

3069. LANDSCAPE CONSTRUCTION: MECHANICAL SYSTEMS. (4 cr; prereq LA 3091 or #; 2 lect and 4 lab hrs per wk)

Lectures, projects, and exercises on the landscape architectural use of storm water management, urban utilities, irrigation, pool and foundation, electrical, and lighting systems. Topics include system planning and design, historical applications, and design communication. Mechanical performance issues and evaluation methods for landscape integrity and economic viability.

3081. MAKING LANDSCAPE SPACE AND PLACE. (6 cr; prereq LA student; 2 lect and 10 lab hrs per wk)

Design studio. An exploration of landscape space perception and creation by manipulating the landscape architectural palette of landforms, plants, and structures through construction of scale models. Metaphor is introduced as an informant of design concept.

3082. ECOLOGICAL INFORMANTS OF LANDSCAPE ARCHITECTURAL DESIGN. (6 cr; prereq LA 3081; 2 lect and 10 lab hrs per wk)

Design studio. Examinations of ecological systems as informants of landscape architectural design and the use of aesthetic principles to reveal ecological systems at scales ranging from the garden through medium-sized sites.

3083. LANDSCAPE ARCHITECTURAL DESIGN PARADIGMS AND METHODS. (6 cr; prereq LA 3082; 2 lect and 10 lab hrs per wk)

Design studio. A comparative analysis of the philosophical, cultural, and historical bases of diverse views of landscape architectural design. Application of design methods emanating from each view to the creation of landscape space on medium- to large-scale sites.

3091. THE LANDSCAPE OF DWELLING. (6 cr; prereq LA 3083; 2 lect and 10 lab hrs per wk)

Design studio. An examination of the meaning of home and the behavior patterns of dwelling as they relate to the design of the residential landscape. Landscape architectural design explorations range in scale from the individual home landscape to the organization of dwellings into neighborhoods.

3092. THE LANDSCAPE ARCHITECTURAL DESIGN OF COMMUNITY. (6 cr; prereq LA 3091; 2 lect and 10 lab hrs per wk)

Design studio. An examination of public places as settings for the gathering of people. Historic precedent is used as idea source for the design of streets and outdoor public gathering spaces in the context of mixed use development on large-scale sites.

3093. DETAIL SITE DESIGN. (6 cr; prereq 3092) Design of small-scale site systems with complex variables.

3094. INDEPENDENT STUDY IN GRAPHICS. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, in graphic communication. Proposal must be submitted for approval by LA faculty member.

3095. INDEPENDENT STUDY IN PLANTING DESIGN. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, related to planting design. Proposal must be submitted for approval by LA faculty member.

3096. INDEPENDENT STUDY IN HISTORY OR THEORY. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, related to history and/or theory of landscape architecture. Proposal must be submitted for approval by LA faculty member.

3097. INDEPENDENT STUDY IN COMPUTER-AIDED DESIGN. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, related to use of computers to aid design and analysis. Proposal must be submitted for approval by LA faculty member.

3098. INDEPENDENT STUDY IN DESIGN. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, related to landscape architecture or pertinent design theory or practice. Proposal must be submitted for approval by LA faculty member.

3099. INDEPENDENT STUDY IN TECHNOLOGY. (1-4 cr; prereq LA student, #)

Independent study of topics, of student's choice, related to landscape architecture technology. Proposal must be submitted for approval by LA faculty member.

3101. COMMUNICATING LANDSCAPE QUALITY. (4 cr; prereq 1025, 3092; 2 lect and 4 lab hrs per wk)

Lectures and exercises in drawing techniques focused on developing graphic skills for designers working predominantly with exterior environments.

3121. ARCHITECTURAL RENDERING: HISTORICAL AND CONTEMPORARY INFLUENCES. (4 cr, §Arch 3121; prereq ArtS 1101, Arch, LA or Env Des majors or #)

Relationships between depiction and built form explored through their historical manifestations. Beaux Arts watercolor techniques, modern value delineation techniques, and emerging electronically based techniques.

3200. LANDSCAPE ARCHITECTURE PRACTICUM. (1-6 cr; prereq LA student, Δ)

Approved design, planning, engineering, contracting, or travel experience in application or development of landscape architecture theory. Proposal must be submitted for approval by LA faculty; final written, graphic, and/or oral presentation must be submitted.

5010. PRINCIPLES OF OUTDOOR RECREATION DESIGN AND PLANNING. (4 cr, §FR 5233; 4 lect hrs per wk)

For advanced students interested in design, management, and planning of recreation facilities. Planning and design principles related to recreational land use and development; parks, campsites, water areas, highways, and summer and winter recreational facilities.

Curriculum, Courses, and Faculty

5063. LANDSCAPE CONSTRUCTION: SPATIAL PERFORMANCE. (4 cr; prereq LA 3081 or #; 2 lect and 4 lab hrs per wk)

Lectures, projects, and exercises on the use of space standards, proportions, and dimensions to achieve and evaluate spatial performance in landscape architecture. Topics include the spatial accommodation of people and automobiles in the basic array of landscape applications. Introduction to land use controls and development standards.

5099. RESOURCE AND COMMUNITY DEVELOPMENT INTERDISCIPLINARY SEMINAR I. (4 cr, \$RCD 5099; prereq RCD sr or #)

Selected speakers, readings, and discussion topics dealing with resource and community development analysis and implications for resource allocation. Student teams combine disciplinary skills to analyze complex resource development problems.

5100. RESOURCE AND COMMUNITY DEVELOPMENT INTERDISCIPLINARY SEMINAR II. (4 cr, \$RCD 5100; prereq RCD sr or #)

(Continuation of 5099) Papers, presentations, and critiques on selected complex resource problems in Seminar I.

5101. SITE PLANNING AND DESIGN. (6 cr; prereq 3093; 2 lect and 10 lab hrs per wk)

Case study analysis and design of site organizational systems.

5103. URBAN DESIGN. (6 cr; prereq LA 3092; 2 lect and 10 lab hrs per wk)

Design Studio. Landscape architectural design investigations of the creation of urban form and space as a function of the relationship between the physical and structure of landscape and historical, political, economic, and philosophical ideologies of urban place.

5105. RECREATION AND PARK PLANNING AND DESIGN. (6 cr; prereq 3092; 2 lect and 10 lab hrs per wk)

Design studio. An exploration of the meaning of park, landscape architectural conventions of park design, departures from park design conventions, patterns of recreation behavior, and processes of participatory design as informants of the design of settings for outdoor recreation.

5107. REGIONAL LANDSCAPE DESIGN AND PLANNING. (6 cr; prereq LA 3092, LA 5562; 2 lect and 10 lab hrs per wk)

Design studio. Application of geographic information systems to analyses, plans and policies for regional landscapes based on concepts of landscape ecology, landscape perception, settlement patterns and policy planning.

5109. SPECIAL PROBLEMS: THESIS PROPOSAL. (2 cr; hrs ar)

Individual research resulting in a proposal for thesis project to be developed in LA 5110.

5110. ADVANCED LANDSCAPE PLANNING AND DESIGN. (6 cr; prereq terminal qtr of study; 2 lect and 12 lab hrs per wk)

Advanced studies in area of student's option.

5117. PLANTING DESIGN: AESTHETIC AND FUNCTIONAL CRITERIA. (4 cr; prereq LA 3083, Hort 1021 or #)

Lectures, presentations, field trips, readings, and projects exploring aesthetic and functional design principles related to the use of plants in the landscape. Exploration of both historic and modern principles through design projects of various scales.

5119. PLANTING DESIGN: ECOLOGICAL PRINCIPLES/LAND USE CONCEPTS AND IMPLEMENTATION OF PLANTING DESIGN. (4 cr; prereq 3083 or #)

Lectures, presentations, field trips, readings and projects related to principles and practices of using plant materials in an ecologically sound and environmentally sensitive manner. Principles derived from *prairie, northwoods, riverine, and wetland* environments. Integration of naturalized materials in environments of various scales. Exploration of various land use planting concepts from both historic and modern perspectives. Investigation of planting implementation skills.

5131. DIRECTED STUDIES IN LANDSCAPE ARCHITECTURE HISTORY AND THEORY. (1-6 cr; prereq 3rd-yr LA student, Δ)

Advanced independent studies. Student expected to have successfully completed 3000-level independent study courses in previous quarters.

5132. DIRECTED STUDIES IN LANDSCAPE ARCHITECTURE DESIGN. (1-6 cr; prereq 3rd-yr LA student, Δ)

Advanced independent studies. Student expected to have successfully completed 3000-level independent study courses in previous quarters.

5133. DIRECTED STUDIES IN LANDSCAPE ARCHITECTURE TECHNOLOGY. (1-6 cr; prereq 3rd-yr LA student, Δ)

Advanced independent studies. Student expected to have successfully completed 3000-level independent study courses in previous quarters.

5134. DIRECTED STUDIES IN EMERGING AREAS OF LANDSCAPE ARCHITECTURE. (1-6 cr; prereq 3rd-yr LA student, Δ)

Advanced independent studies in areas of student's choice that relate to new or renewed direction in landscape architecture. Student expected to have successfully completed 3000-level independent study courses in previous quarters.

5136. GOVERNMENT RECREATION FACILITIES PLANNING. (4 cr; prereq 3rd-yr LA student or #)

Exploration of design policies in regard to development of specific recreational facilities at federal water resource projects. Lectures, discussions, and field trips in analyzing criteria for organization of federal recreational environments.

5140. INTERDISCIPLINARY STUDIES IN LANDSCAPE ARCHITECTURE. (Cr ar [2-6 cr per qtr up to 18 cr]; prereq #)

Interdisciplinary research, planning, and/or design project related to landscape architecture; subject matter selected by students, faculty, or real users requesting assistance. Topics may include natural resource conservation, downtown revitalization, recreational facilities and programming, energy-efficient design, historic preservation, agricultural land utilization, land reclamation, environments for the aged, computerized land use planning, visual assessment, housing, new towns.

5224. CONTEMPORARY ISSUES IN LANDSCAPE ARCHITECTURE. (4 cr; prereq terminal yr of study; 4 discussion hrs per wk)

Analysis of design principles and design goals in modern society. Review of current site development projects. In-depth investigation into specific areas of land development.

5225. LANDSCAPE TECHNOLOGY: WORKING DRAWINGS AND SPECIFICATIONS. (4 cr; prereq 3072; 3 lect and 3 lab hrs per wk)

Lectures, exercises, and projects in working drawing and specification preparation.

5226. PROFESSIONAL PRACTICE. (4 cr; prereq terminal yr of study)

Professional ethics, responsibility, and relations in business. Office management, preparation of professional communications, estimates, specifications, and contracts. Lectures, written exercises, and office visits.

5227. IMPACT ASSESSMENT AND ENVIRONMENTAL MEDIATION. (5 cr; prereq sr, grad or #)

Lectures on history, laws, and analysis of impact assessment and environmental mediation. Integrated with interdisciplinary emphasis on fieldwork related to a selected issue, actual document preparation, presentation, and individual responsibility.

5228. SEMINAR: TOPICS IN CAMPUS PLANNING. (4 cr; prereq 3093 or #)

Lectures, discussion, presentations, field trips, readings, and paper on various aspects of contemporary and historic issues in campus planning, use of energy-efficient buildings, and efficient land use and site planning.

5261. HISTORY OF LANDSCAPE ARCHITECTURE: THE EUROPEAN, ORIENTAL, AND AMERICAN TRADITION. (4 cr; prereq 1st-yr LA student)

Influences and forms that established basis for landscape architecture tradition in Europe, the Orient (Part I), and the United States (Part II). Principles and techniques and continuity of design imagination inherent in specific examples of the altered environment. Public and private spaces, gardens, estates, streets, parks, housing sites, and new town plans. Historical manner in which determinants—cultural, ecological, legal, strategic, economic—suggest themselves in design solutions.

5265. HISTORY OF LANDSCAPE ARCHITECTURE: INDIVIDUAL INFLUENCES. (4 cr; prereq 3rd-yr LA student)

How personal influences on noteworthy designers (current and historic) precipitated design structures within affective domain of expression. Structural design ideas first espoused by these designers that are basic to vocabulary of contemporary design.

5562. INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS. (4 cr, §Geog 5562; 4 lect hrs per wk)

Basic concepts of geographic information systems structure. Theory and applications for landscape location, resource analysis, and regional planning. Location principles, data structure, and variable attributes.

For Graduate Students Only

(For descriptions, see *Graduate School Bulletin*)

8110. GRADUATE LANDSCAPE PLANNING AND DESIGN

8111. DIRECTED STUDIO IN LANDSCAPE ARCHITECTURE

8281. RESEARCH ISSUES IN LANDSCAPE ARCHITECTURE

8282. RESEARCH ANALYSIS METHODS IN LANDSCAPE ARCHITECTURE

8283. RESEARCH PROPOSALS IN LANDSCAPE ARCHITECTURE

8284. LANDSCAPE ARCHITECTURE COLLOQUIUM

8310. DESIGNED LANDSCAPE SPACE TYPOLOGIES

8330. CONCEPTS OF LANDSCAPE EVALUATION

8350. SMALL COMMUNITY PLANNING AND THE CONSERVATION OF NATURAL RESOURCES

8370. THE SUBLIME, THE BEAUTIFUL AND THE PICTURESQUE: THEORY AND PRACTICE

8390. DESIGNING THE LONG-TERM LANDSCAPE

8500. LANDSCAPE ARCHITECTURE RESEARCH PROJECT

8600. LANDSCAPE ARCHITECTURE EDUCATION

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College of Architecture and Landscape Architecture Faculty

In the following faculty listing, R.A. designates licensure as a registered architect; R.L.A. designates licensure as a registered landscape architect; A.I.A. designates member, American Institute of Architects (members of the A.I.A. must be a registered architect); F.A.I.A. designates the honor of Fellow, American Institute of Architects, and F.A.S.L.A. designates the honor of Fellow, American Society of Landscape Architects; A.I.C.P. designates member by examination of the American Institute of Certified Planners; and P.E. designates licensure as a professional engineer.

Architecture

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James Stageberg, M.Arch. (F.A.I.A.)
Milo Thompson, M.Arch. (F.A.I.A.)
Duane Thorbeck, M.Arch. (F.A.I.A.)

Associate Professor

Gunter Dittmar, M.Arch., *Acting Head*
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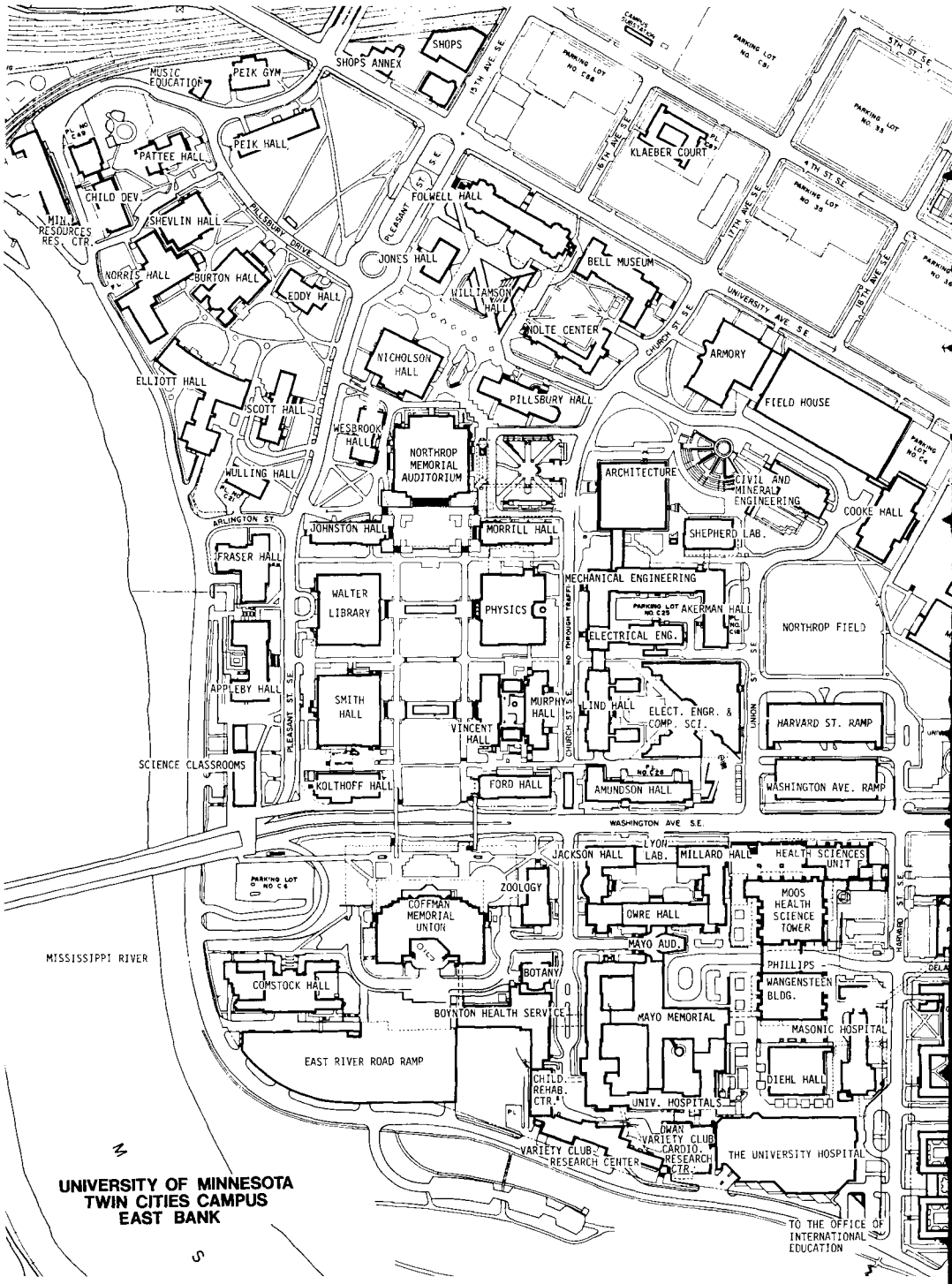
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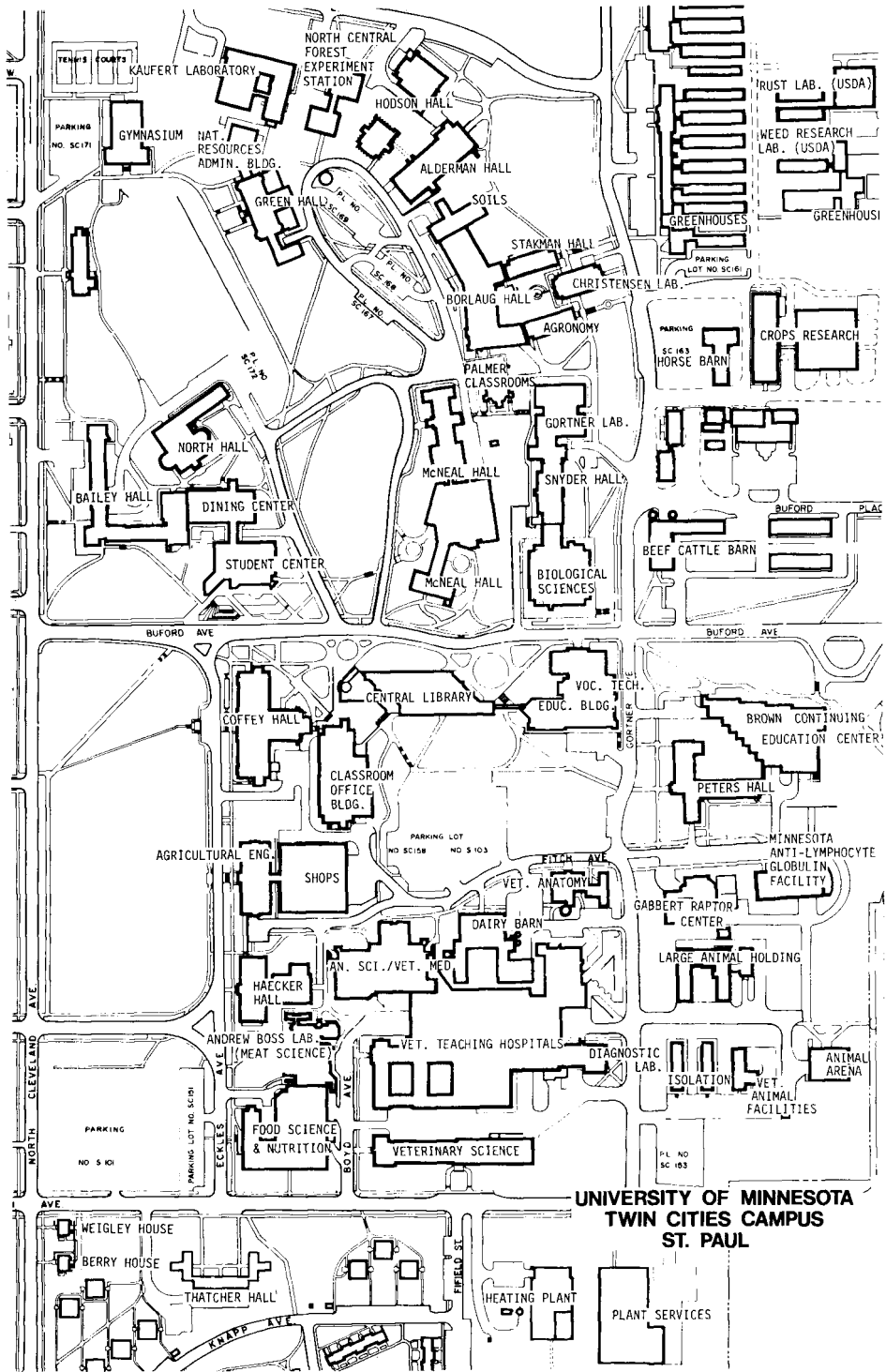
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