

2020–21 Bulletin

Graduate School of Architecture & Urban Design



Washington University in St. Louis



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About This Bulletin

The graduate and professional *Bulletins* are the catalogs of programs, degree requirements and policies of the following schools of Washington University in St. Louis: Architecture & Urban Design; Art; Arts & Sciences; Business; Engineering; Law; Medicine; and Social Work & Public Health.

The *University College Bulletin* is the catalog of University College, the professional and continuing education division of Arts & Sciences at Washington University in St. Louis. The catalog includes programs, degree requirements, course descriptions and pertinent university policies for students earning a degree through University College.

The 2020-21 *Bulletin* is entirely online but may be downloaded in PDF format for printing. Individual pages may be downloaded in PDF format using the "Download This Page as a PDF" option on each page. To download the full PDF, please choose from the following:

- Architecture & Urban Design Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Grad_Arch.pdf)
- Art Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Grad_Art.pdf)
- Arts & Sciences Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Grad_School.pdf)
- Business Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Grad_Business.pdf)
- Engineering Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Grad_Engineering.pdf)
- Law Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Law.pdf)
- Medicine Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Medicine.pdf)
- Social Work & Public Health Bulletin (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_Brown.pdf)
- University College Bulletin (undergraduate & graduate) (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2020-21_UCollege.pdf)

The degree requirements and policies in the 2020-21 *Bulletin* apply to students entering Washington University during the 2020-21 academic year.

Every effort is made to ensure that the information, applicable policies and other materials presented in the *Bulletin* are accurate and correct as of the date of publication (November 6, 2020). Washington University reserves the right to make changes at any time without prior notice. Therefore, the electronic version of the *Bulletin* may change from time to time

without notice. The governing document at any given time is the then-current version of the *Bulletin*, as published online, and then-currently applicable policies and information are those contained in that *Bulletin*.

For the most current information about available courses and class scheduling, visit WebSTAC (<https://acadinfo.wustl.edu>). Please email the Bulletin editor (bulletin_editor@wustl.edu) with any questions concerning the *Bulletin*.

About Washington University in St. Louis

Who We Are Today

Washington University in St. Louis — a medium-sized, independent university — is dedicated to challenging its faculty and students alike to seek new knowledge and greater understanding of an ever-changing, multicultural world. The university is counted among the world's leaders in teaching and research, and it draws students from all 50 states, the District of Columbia, Guam, Puerto Rico and the Virgin Islands. Students and faculty come from more than 100 countries around the world.

The university offers more than 250 programs and 5,500 courses leading to associate, bachelor's, master's, and doctoral degrees in a broad spectrum of traditional and interdisciplinary fields, with additional opportunities for minor concentrations and individualized programs. For more information about the university, please visit the University Facts (<http://wustl.edu/about/facts/>) page of our website.

Enrollment by School

For enrollment information (<https://wustl.edu/about/university-facts/#students>), please visit the University Facts page of our website.

Committed to Our Students: Mission Statement

Washington University's mission is to discover and disseminate knowledge and to protect the freedom of inquiry through research, teaching and learning.

Washington University creates an environment that encourages and supports an ethos of wide-ranging exploration. Washington University's faculty and staff strive to enhance the lives and livelihoods of students, of the people of the greater St. Louis community, of the country and of the world.

Our goals are as follows:

- to welcome students, faculty and staff from all backgrounds to create an inclusive community that is welcoming, nurturing and intellectually rigorous;
- to foster excellence in our teaching, research, scholarship and service;
- to prepare students with the attitudes, skills and habits of lifelong learning and leadership, thereby enabling them to be productive members of a global society; and
- to be an institution that excels by its accomplishments in our home community of St. Louis as well as in the nation and the world.

To this end, we intend to do the following:

- to judge ourselves by the most exacting standards;
- to attract people of great ability from diverse backgrounds;
- to encourage faculty and students to be bold, independent and creative thinkers;
- to provide an exemplary, respectful and responsive environment for living, teaching, learning and working for present and future generations; and
- to focus on meaningful, measurable results for all of our endeavors.

Trustees & Administration

Board of Trustees

Please visit the Board of Trustees website (<http://boardoftrustees.wustl.edu>) for more information.

University Administration

In 1871, Washington University co-founder and then-Chancellor William Greenleaf Eliot sought a gift from Hudson E. Bridge, charter member of the university's Board of Directors, to endow the chancellorship. Soon it was renamed the "Hudson E. Bridge Chancellorship."

Led by the chancellor, the officers of the university administration (<http://wustl.edu/about/leadership/>) are detailed on the university website.

Academic Calendar

The academic calendar of Washington University in St. Louis is designed to provide an optimal amount of classroom instruction and examination within a manageable time frame, facilitating our educational mission to promote learning among both students and faculty. Individual schools — particularly our graduate and professional schools — may have varying calendars due to the nature of particular fields of study. Please refer to each school's website for more information.

Fall Semester 2020

College of Arts & Sciences, McKelvey School of Engineering, Olin Business School, Sam Fox School of Design & Visual Arts, and University College

Date	Day	Description
September 14	Monday	First day of classes
November 26-27	Thursday-Friday	Thanksgiving break (no classes)
December 18	Friday	Last day of classes
January 4-10, 2021	Monday-Sunday	Final exams (remote)

Brown School at Washington University

Date	Day	Description
August 24	Monday	First day of classes
September 7	Monday	Labor Day holiday
November 26-27	Thursday-Friday	Thanksgiving break (no classes)
December 16	Wednesday	Last day of classes

Washington University Law

Date	Day	Description
August 24	Monday	First day of classes
September 7	Monday	Labor Day holiday
November 20	Friday	Last day of classes
November 30-December 11	Monday-Friday	Final exams (remote)

Spring Semester 2021

College of Arts & Sciences, McKelvey School of Engineering, Olin Business School, Sam Fox School of Design & Visual Arts, and University College

Date	Day	Description
January 25	Monday	First day of classes
March 15-19	Monday-Friday	Spring break (no classes)
May 6	Thursday	Last day of classes
May 7-13	Friday-Thursday	Final exams

Brown School at Washington University

Date	Day	Description
January 19	Tuesday	First day of classes
March 15-19	Monday-Friday	Spring break (no classes)
May 12	Wednesday	Last day of classes

Washington University Law

Date	Day	Description
January 19	Tuesday	First day of classes
March 15-19	Monday-Friday	Spring break (no classes)
April 23	Friday	Last day of classes
April 26-May 7	Monday-Friday	Final exams

Commencement Ceremonies

Date	Day	Description
May 21	Friday	Class of 2021 Commencement
May 30	Sunday	Class of 2020 Commencement

Summer Semester 2021

Date	Day	Description
May 24	Monday	First Summer Session begins
May 31	Monday	Memorial Day holiday
July 5	Monday	Independence Day holiday
August 19	Thursday	Last Summer Session ends

Washington University recognizes the individual student's choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

Campus Resources

Student Support Services

The Learning Center is located on the ground floor of Gregg House on the South 40, and it is the hub of academic support at Washington University in St. Louis. We provide undergraduate students with assistance in a variety of forms. Most services are free, and each year more than 2,000 students participate in one or more of our programs. For more information, visit the Learning Center website (<https://learningcenter.wustl.edu/>) or call 314-935-5970. There are three types of services housed within the Learning Center:

- **Academic Mentoring Programs** offer academic support in partnership with the academic departments in a variety of forms. Academic mentoring programs are designed to support students in their course work by helping them develop the lifelong skill of "learning how to learn" and by stimulating their independent thinking. Programs include course-specific weekly structured study groups facilitated by highly trained peer leaders as well as course-specific weekly walk-in sessions facilitated by academic mentors in locations, at times and in formats convenient for the students. The Learning Center also offers individual consulting/coaching for academic skills such as time management, study skills, note taking, accessing resources and so on. Other services include fee-based graduate and professional school entrance preparation courses.

- **Disability Resources** supports students with disabilities by fostering and facilitating an equal access environment for the Washington University community of learners. Disability Resources partners with faculty and staff to facilitate academic and housing accommodations for students with disabilities on the Danforth Campus. Students enrolled in the School of Medicine should contact their program's director. Please visit the Disability Resources website (<https://students.wustl.edu/disability-resources/>) or contact the Learning Center at 314-935-5970 for more information.
- **TRIO: Student Support Services** is a federally funded program that provides customized services for undergraduate students who are low income, who are the first in their family to go to college, and/or who have a documented disability. Services include academic coaching, academic peer mentoring, cultural and leadership programs, summer internship assistance and post-graduation advising. First-year and transfer students are considered for selection during the summer before they enter their first semester. Eligible students are encouraged to apply when they are notified, because space in this program is limited. For more information, visit the TRIO Program website (<https://students.wustl.edu/trio-program/>).

Medical Student Support Services. For information about Medical Student Support Services, please visit the School of Medicine website (<https://medicine.wustl.edu>).

Office for International Students and Scholars. If a student is joining the university from a country other than the United States, this office can assist that individual through their orientation programs, issue certificates of eligibility (visa documents), and provide visa and immigration information. In addition, the office provides personal and cross-cultural counseling and arranges social, cultural and recreational activities that foster international understanding on campus.

The Office for International Students and Scholars is located on the Danforth Campus in the Danforth University Center at 6475 Forsyth Boulevard, Room 330. The office can be found on the Medical Campus in the Mid Campus Center (MCC Building) at 4590 Children's Place, Room 2043. For more information, visit the Office for International Students and Scholars website (<http://oiss.wustl.edu>) or call 314-935-5910.

Office of Military and Veteran Services is located in Umrath Hall on the Danforth Campus. This office serves as the university's focal point for military and veteran matters, including transitioning military-connected students into higher education, providing and connecting students with programs and services, and partnering across campus and in the community. Services include advising current and prospective students on how to navigate the university and maximize Department of Defense and Veterans Affairs (VA) educational benefits, transition support, Veteran Ally training for faculty and staff, veteran-unique programming, and connecting students to campus and

community resources. Military-connected students include veterans, military service members, spouses, dependent children, caregivers, survivors and Reserve Officer Training Corp cadets. There are two university policies that apply to students who still serve in the Armed Forces and students who use VA educational benefits:

- The Policy on Military Absences, Refunds and Readmissions (<https://veterans.wustl.edu/policies/policy-for-military-students/>) applies to students serving in the U.S. Armed Forces and their family members when military service forces them to be absent or withdraw from a course of study.
- The Policy on Protections for VA Educational Benefit Users (<https://veterans.wustl.edu/policies/policy-for-va-students/>) applies to students using VA education benefits when payments to the institution and the individual are delayed through no fault of the student.

Please visit the Military and Veteran Services website (<https://veterans.wustl.edu/>) or send an email to veterans@wustl.edu for more information.

Relationship and Sexual Violence Prevention (RSVP) Center.

The RSVP Center offers free and confidential services including 24/7 crisis intervention, counseling services, resources, support and prevention education for all students on the Danforth Campus. The RSVP Center operates from a public health model and uses trauma-informed practices to address the prevalent issues of relationship and sexual violence. By providing support for affected students, it is our goal to foster post-traumatic growth and resilience and to help ensure academic retention and success. Our prevention efforts call for community engagement to engender an intolerance of violence and an active stance toward challenging cultural injustices that perpetuate such issues. Learn more at the RSVP Center website (<https://rsvpcenter.wustl.edu/>).

WashU Cares. WashU Cares assists the university with handling situations involving the safety and well-being of Danforth Campus students. WashU Cares is committed to fostering student success and campus safety through a proactive, collaborative and systematic approach to the identification of, intervention with and support of students of concern while empowering all university community members to create a culture of caring. If there is a concern about the physical or mental well-being of a student, please visit the WashU Cares website (<https://washucares.wustl.edu/>) to file a report.

The Writing Center. The Writing Center, a free service, offers writing advice to all Washington University undergraduate and graduate students. Tutors will read and discuss any kind of work in progress, including student papers, senior theses, application materials, dissertations and oral presentations. The Writing Center staff is trained to work with students at any stage of the writing process, including brainstorming, developing and

clarifying an argument, organizing evidence, and improving style. Rather than editing or proofreading, tutors will emphasize the process of revision and teach students how to edit their own work.

The Writing Center is located in Mallinkrodt Center on the lower level. Appointments (<http://writingcenter.wustl.edu>) are preferred and can be made online.

Student Health Services, Danforth Campus

Habif Health and Wellness Center, formerly known as Student Health Services, provides medical and mental health care for undergraduate and graduate students. Habif staff members include licensed professionals in Medical Services, Mental Health Services and Health Promotion Services. Please visit Dardick House on the South 40 or the Habif Health and Wellness Center website (<http://shs.wustl.edu>) for more information about Habif's services and staff members.

Hours:

Monday, Tuesday and Thursday 8 a.m.-6 p.m.

Wednesday 10 a.m.-6 p.m.

Friday 8 a.m.-5 p.m.

Saturday 9 a.m.-1 p.m.

A nurse answer line and after hours mental health crisis line are available to answer any medical or mental health questions a student may have when Habif is closed. For after-hours care, please call 314-935-6666.

Medical Services staff members provide care for the evaluation and treatment of an illness or injury, preventive health care and health education, immunizations, nutrition counseling, physical therapy, and travel medicine and sexual health services. Habif Health and Wellness Center providers are participating members of the Washington University in St. Louis Physician's Network. Any condition requiring specialized medical services will be referred to an appropriate specialist. Habif accepts most health insurance plans and will be able to bill the plan according to plan benefits. The student health insurance plan requires a referral for medical care any time care is not provided at Habif (except in an emergency). Call 314-935-6666 or visit the Habif website to schedule an appointment (<http://shs.wustl.edu>).

Appointments are also available for the assessment, treatment, and referral of students who are struggling with substance abuse.

The Habif Health and Wellness Center pharmacy is available to all Washington University students and their dependents who participate in the student health insurance plan. The pharmacy accepts most prescription insurance plans; students should check with the pharmacist to see if their prescription plan is accepted at the pharmacy.

The Habif Health and Wellness Center lab provides full laboratory services. Approximately 20 tests can be performed in the lab. The remainder of all testing that is ordered by Habif is completed by LabCorp. LabCorp serves as Habif's reference lab, and it is a preferred provider on the student health insurance plan. This lab can perform any test ordered by Habif providers or outside providers.

All incoming students must provide proof of immunization for measles, mumps, and rubella (i.e., two vaccinations after the age of one year old; a titer may be provided in lieu of the immunizations). Proof of receiving a meningococcal vaccine is required for all incoming undergraduate students. A PPD skin test in the past six months is required for students entering the university from certain countries; this list of countries may be found on the Habif website. It is also recommended that, during the five years before beginning their studies at Washington University, all students will have received the tetanus diphtheria immunization, the hepatitis A vaccine series, the hepatitis B vaccine series, and the varicella vaccine. Medical History Forms (<http://shs.wustl.edu>) are available online. Failure to complete the required forms will delay a student's registration and prevent their entrance into housing assignments. Please visit the Habif website for complete information about requirements and deadlines (<http://shs.wustl.edu>).

Mental Health Services staff members work with students to resolve personal and interpersonal difficulties, including conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. Staff members help each person figure out their own situation. Services include individual, group and couples counseling; crisis counseling; psychiatric consultation; and referral for off-campus counseling. Call 314-935-6666 or visit the Habif website to schedule an appointment (<http://shs.wustl.edu>).

Health Promotion Services provides free programs and risk reduction information related to issues such as stress, sleep, sexual health and alcohol/other drugs. For more information, visit the Zenker Wellness Suite in Sumers Recreation Center to learn about the programs on campus led by student peer health educators. Call 314-935-7139 or send an email to wellness@wustl.edu for more information.

In 2018, this department launched the **WashU Recover Group** to provide an opportunity for students in recovery from substance use to connect with other students with similar experiences. The group provides local resources, support, meetings and activities. Members have 24/7 access to a private facility to study, meet and socialize. The group is not a recovery program; it is a confidential resource that students can add to their support system. For more information, send an email to recovery@wustl.edu.

Important Information About Health Insurance, Danforth Campus

Washington University has a student health fee that was designed to improve the health and wellness of the entire Washington University community. This fee supports health and wellness services and programs on campus. In addition, all full-time, degree-seeking Washington University students are automatically enrolled in the Student Health Insurance Plan upon completion of registration. Students may opt out of this coverage if they provide proof of existing comprehensive insurance coverage. Information concerning opting out of the student health insurance plan (<http://shs.wustl.edu>) can be found online after June 1 of each year. Habif provides billing services to many of the major insurance companies in the United States. Specific fees and co-pays apply to students using Medical Services and Mental Health Services; these fees may be billable to the students' insurance plan. More information is available on the Habif Health and Wellness Center website (<http://shs.wustl.edu>).

Student Health Services, Medical Campus

For information about student health services on the Medical Campus, please visit the Student & Occupational Health Services page (<https://wumhealth.wustl.edu/students/>) of the School of Medicine website.

Campus Security

The Washington University campus is among the most attractive in the nation, and it enjoys a safe and relaxed atmosphere. Your personal safety and the security of your property while on campus is a shared responsibility. Washington University has made safety and security a priority through our commitment to a full-time professional police department, the use of closed-circuit television, card access, good lighting, shuttle services, emergency telephones, and ongoing educational safety awareness programs. The vast majority of crimes that occur on college campuses are crimes of opportunity, which can be prevented.

The best protection against crime is an informed and alert campus community. Washington University has developed several programs to help make your experience here a safe and secure one. An extensive network of emergency telephones — including more than 200 "blue light" telephones — is connected directly to the University Police Department and can alert the police to your exact location. In addition to the regular shuttle service, an evening walking escort service and a mobile Campus Circulator shuttle are available on the Danforth Campus.

The Campus2Home shuttle will provide a safe ride home for those living in four designated areas off campus — Skinker-DeBaliviere, Loop South, north of the Loop, and just south of the campus — from 6:00 p.m. to 4:00 a.m. seven days a week. The shuttle leaves from the Mallinckrodt Center every 30 minutes and

takes passengers directly to the front doors of their buildings. Shuttle drivers will then wait and watch to make sure passengers get into their buildings safely. Community members can track the shuttle in real time using the WUSTL Mobile App. The app can be downloaded free of charge from the Apple App Store or the Google Play Store.

The University Police Department is a full-service organization staffed by certified police officers who patrol the campus 24 hours a day throughout the entire year. The department offers a variety of crime prevention programs, including a high-security bicycle lock program, free personal-safety whistles, computer security tags, personal safety classes for women and men, and security surveys. Community members are encouraged to download and install the personal safety app Noonlight on their phones; this app allows users to call for help during emergencies. For more information about these programs, visit the Washington University Police Department website (<https://police.wustl.edu/Pages/Home.aspx>).

In compliance with the Campus Crime Awareness and Security Act of 1990, Washington University publishes an annual report (<http://police.wustl.edu/clerylogsandreports/Pages/default.aspx>) entitled *Safety & Security: Guide for Students, Faculty, and Staff — Annual Campus Security and Fire Safety Reports and Drug & Alcohol Abuse Prevention Program*. This report is available to all current and prospective students on the Danforth Campus and to university employees on the Danforth, North and West campuses. To request a hard copy, contact the Washington University Police Department, CB 1038, One Brookings Drive, St. Louis, MO 63130-4899, 314-935-9011.

For information regarding protective services at the School of Medicine, please visit the Security page (<https://facilities.med.wustl.edu/security/>) of the Washington University Operations & Facilities Management Department.

University Policies

Washington University has various policies and procedures that govern our faculty, staff and students. Highlighted below are several key policies of the university. Web links to key policies and procedures are available on the Office of the University Registrar website (<http://registrar.wustl.edu>) and on the university's Compliance and Policies page (<http://wustl.edu/policies/>). Please note that the policies identified on these websites and in this *Bulletin* do not represent an entire repository of university policies, as schools, offices and departments may implement policies that are not listed. In addition, policies may be amended throughout the year.

Nondiscrimination Statement

Washington University encourages and gives full consideration to all applicants for admission, financial aid and employment. The university does not discriminate in access to or treatment or employment in its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.

Policy on Discrimination and Harassment

Washington University is committed to having a positive learning and working environment for its students, faculty and staff. University policy prohibits discrimination on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information. Harassment based on any of these classifications is a form of discrimination; it violates university policy and will not be tolerated. In some circumstances, such discriminatory harassment may also violate federal, state or local law. A copy of the Policy on Discrimination and Harassment (<http://hr.wustl.edu/policies/Pages/DiscriminationAndHarassment.aspx>) is available on the Human Resources website.

Sexual Harassment

Sexual harassment is a form of discrimination that violates university policy and will not be tolerated. It is also illegal under state and federal law. Title IX of the Education Amendments of 1972 prohibits discrimination based on sex (including sexual harassment and sexual violence) in the university's educational programs and activities. Title IX also prohibits retaliation for asserting claims of sex discrimination. The university has designated the Title IX Coordinator identified below to coordinate its compliance with and response to inquiries concerning Title IX.

For more information or to report a violation under the Policy on Discrimination and Harassment, please contact the following individuals:

Discrimination and Harassment Response Coordinator

Apryle Cotton, Assistant Vice Chancellor for Human Resources
Section 504 Coordinator
Phone: 314-362-6774
apryle.cotton@wustl.edu

Title IX Coordinator

Jessica Kennedy, Director of Title IX Office
Title IX Coordinator
Phone: 314-935-3118
jwkennedy@wustl.edu

You may also submit inquiries or a complaint regarding civil rights to the United States Department of Education's Office of Civil Rights at 400 Maryland Avenue, SW, Washington, DC 20202-1100; by visiting the U.S. Department of Education website (<https://www.ed.gov/>); or by calling 800-421-3481.

Student Health

Drug and Alcohol Policy

Washington University is committed to maintaining a safe and healthy environment for members of the university community by promoting a drug-free environment as well as one free of the abuse of alcohol. Violations of the Washington University Drug and Alcohol Policy (<http://hr.wustl.edu/policies/Pages/DrugandAlcoholPolicy.aspx>) or Alcohol Service Policy (<http://pages.wustl.edu/prograds/alcohol-service-policy/>) will be handled according to existing policies and procedures concerning the conduct of faculty, staff and students. This policy is adopted in accordance with the Drug-Free Workplace Act and the Drug-Free Schools and Communities Act.

Tobacco-Free Policy

Washington University is committed to providing a healthy, comfortable and productive work and learning environment for all students, faculty and staff. Research shows that tobacco use in general, including smoking and breathing secondhand smoke, constitutes a significant health hazard. The university strictly prohibits all smoking and other uses of tobacco products within all university buildings and on university property, at all times. A copy of our complete Tobacco-Free Policy (<http://hr.wustl.edu/policies/Pages/tobaccofreepolicy.aspx>) is available on the Human Resources website.

Medical Examinations

Entering students must provide medical information to the Habif Health and Wellness Center. This will include the completion of a health history and a record of all current immunizations.

If students fail to comply with these requirements prior to registration, they will be required to obtain vaccinations for measles, mumps and rubella at the Habif Health and Wellness Center, if there is no evidence of immunity. In addition, undergraduate students will be required to obtain meningitis vaccinations. Students will be assessed the cost of the vaccinations. Students will be unable to complete registration for classes until all health requirements have been satisfied.

Noncompliant students may be barred from classes and from all university facilities, including housing units, if in the judgment of the university their continued presence would pose a health risk to themselves or to the university community.

Medical and immunization information is to be given via the Habif Health and Wellness Center (<http://shs.wustl.edu>) website. All students who have completed the registration process should access the website and create a student profile by using their

WUSTL Key. Creating a student profile enables a student to securely access the medical history form. Students should fill out the form and follow the instructions for transmitting it to the Habib Health and Wellness Center. Student information is treated securely and confidentially.

Student Conduct

The Student Conduct Code sets forth community standards and expectations for Washington University students. These community standards and expectations are intended to foster an environment conducive to learning and inquiry. Freedom of thought and expression is essential to the university's academic mission.

Disciplinary proceedings are meant to be informal, fair and expeditious. Charges of non-serious misconduct are generally heard by the student conduct officer. With limited exceptions, serious or repeated allegations are heard by the campuswide Student Conduct Board or the University Sexual Assault Investigation Board where applicable.

Complaints against students that include allegations of sexual assault or certain complaints that include allegations of sexual harassment in violation of the Student Conduct Code are governed by the procedures found in the University Sexual Assault Investigation Board Policy (<https://wustl.edu/about/compliance-policies/governance/usaib-procedures-complaints-sexual-assault-filed-students/>), which is available online or in hard copy from the Title IX coordinator or the director of Student Conduct and Community Standards.

Students may be accountable to both governmental authorities and to the university for acts that constitute violations of law and the Student Conduct Code.

For a complete copy of the Student Conduct Code (<https://wustl.edu/about/compliance-policies/academic-policies/university-student-judicial-code/>), visit the university website.

Undergraduate Student Academic Integrity Policy

Effective learning, teaching and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted for academic credit or conducted in the wider arena of scholarly research. Such an atmosphere of mutual trust fosters the free exchange of ideas and enables all members of the community to achieve their highest potential.

In all academic work, the ideas and contributions of others must be appropriately acknowledged, and work that is presented as original must be, in fact, original. Faculty, students and administrative staff all share the responsibility of ensuring the honesty and fairness of the intellectual environment at Washington University.

Scope and Purpose

This statement on academic integrity applies to all undergraduate students at Washington University. Graduate students are governed by policies in each graduate school or division. All students are expected to adhere to the highest standards of behavior. The purpose of the statement is twofold:

1. To clarify the university's expectations with regard to undergraduate students' academic behavior; and
2. To provide specific examples of dishonest conduct. The examples are only illustrative, *not* exhaustive.

Violations of This Policy Include but Are Not Limited to the Following:

1. Plagiarism

Plagiarism consists of taking someone else's ideas, words or other types of work product and presenting them as one's own. To avoid plagiarism, students are expected to be attentive to proper methods of documentation and acknowledgment. To avoid even the suspicion of plagiarism, a student must always do the following:

- Enclose every quotation in quotation marks and acknowledge its source.
- Cite the source of every summary, paraphrase, abstraction or adaptation of material originally prepared by another person and any factual data that is not considered common knowledge. Include the name of author, title of work, publication information and page reference.
- Acknowledge material obtained from lectures, interviews or other oral communication by citing the source (i.e., the name of the speaker, the occasion, the place and the date).
- Cite material from the internet as if it were from a traditionally published source. Follow the citation style or requirements of the instructor for whom the work is produced.

2. Cheating on an Examination

A student must not receive or provide any unauthorized assistance on an examination. During an examination, a student may use only materials authorized by the faculty.

3. Copying or Collaborating on Assignments Without Permission

When a student submits work with their name on it, this is a written statement that credit for the work belongs to that student alone. If the work was a product of collaboration, each student is expected to clearly acknowledge in writing all persons who contributed to its completion.

Unless the instructor explicitly states otherwise, it is dishonest to collaborate with others when completing any assignment or test, performing laboratory experiments, writing and/or documenting computer programs, writing papers or reports, or completing problem sets.

If the instructor allows group work in some circumstances but not others, it is the student's responsibility to understand the degree of acceptable collaboration for each assignment and to ask for clarification, if necessary.

To avoid cheating or unauthorized collaboration, a student should never do any of the following:

- Use, copy or paraphrase the results of another person's work and represent that work as one's own, regardless of the circumstances.
- Refer to, study from or copy archival files (e.g., old tests, homework, solutions manuals, backfiles) that were not approved by the instructor.
- Copy another's work or permit another student to copy one's work.
- Submit work as a collaborative effort if they did not contribute a fair share of the effort.

4. Fabrication or Falsification of Data or Records

It is dishonest to fabricate or falsify data in laboratory experiments, research papers or reports or in any other circumstances; to fabricate source material in a bibliography or "works cited" list; or to provide false information on a résumé or other document in connection with academic efforts. It is also dishonest to take data developed by someone else and present them as one's own.

Examples of falsification include the following:

- Altering information on any exam, problem set or class assignment being submitted for a re-grade.
- Altering, omitting or inventing laboratory data to submit as one's own findings. This includes copying laboratory data from another student to present as one's own; modifying data in a write-up; and providing data to another student to submit as one's own.

5. Other Forms of Deceit, Dishonesty or Inappropriate Conduct

Under no circumstances is it acceptable for a student to do any of the following:

- Submit the same work, or essentially the same work, for more than one course without explicitly obtaining permission from all instructors. A student must disclose when a paper or project builds on work completed earlier in their academic career.

- Request an academic benefit based on false information or deception. This includes requesting an extension of time, a better grade or a recommendation from an instructor.
- Make any changes (including adding material or erasing material) on any test paper, problem set or class assignment being submitted for a re-grade.
- Willfully damage the efforts or work of other students.
- Steal, deface or damage academic facilities or materials.
- Collaborate with other students planning or engaging in any form of academic misconduct.
- Submit any academic work under someone else's name other than one's own. This includes but is not limited to sitting for another person's exam; both parties will be held responsible.
- Engage in any other form of academic misconduct not covered here.

This list is not intended to be exhaustive. To seek clarification, students should ask the professor or the assistant in instruction for guidance.

Reporting Misconduct

Faculty Responsibility

Faculty and instructors are strongly encouraged to report incidents of student academic misconduct to the academic integrity officer in their school or college in a timely manner so that the incident may be handled fairly and consistently across schools and departments. Assistants in instruction are expected to report instances of student misconduct to their supervising instructors. Faculty members are expected to respond to student concerns about academic dishonesty in their courses.

Student Responsibility

If a student observes others violating this policy, the student is strongly encouraged to report the misconduct to the instructor, to seek advice from the academic integrity officer of the school or college that offers the course in question, or to address the student(s) directly.

Exam Proctor Responsibility

Exam proctors are expected to report incidents of suspected student misconduct to the course instructor and/or the Disability Resource Center, if applicable.

Procedure

Jurisdiction

This policy covers all undergraduate students, regardless of their college of enrollment. Cases will be heard by school-specific committees according to the school in which the class is listed rather than the school in which the student is enrolled. All violations and sanctions will be reported to the student's college of enrollment.

Administrative Procedures

Individual undergraduate colleges and schools may design specific procedures to resolve allegations of academic misconduct by students in courses offered by that school, so long as the procedures are consistent with this policy and with the Student Conduct Code.

Student Rights and Responsibilities in a Hearing

A student accused of an academic integrity violation — whether by a professor, an assistant in instruction, an academic integrity officer or another student — is entitled to do the following:

- Review the written evidence in support of the charge
- Ask any questions
- Offer an explanation as to what occurred
- Present any material that would cast doubt on the correctness of the charge
- Receive a determination of the validity of the charge without reference to any past record of misconduct

When responding to a charge of academic misconduct, a student may do the following:

- Deny the charges and request a hearing in front of the appropriate academic integrity officer or committee
- Admit the charges and request a hearing to determine sanction(s)
- Admit the charges and accept the imposition of sanctions without a hearing
- Request a leave of absence from the university (however, the academic integrity matter must be resolved prior to re-enrollment)
- Request to withdraw permanently from the university with a transcript notation that there is an unresolved academic integrity matter pending

A student has the following responsibilities with regard to resolving the charge of academic misconduct:

- Admit or deny the charge. This will determine the course of action to be pursued.
- Provide truthful information regarding the charges. It is a Student Conduct Code violation to provide false information to the university or anyone acting on its behalf.

Sanctions

If Found *Not* in Violation of the Academic Integrity Policy

If the charges of academic misconduct are not proven, no record of the allegation will appear on the student's transcript.

If Found in Violation of the Academic Integrity Policy

If, after a hearing, a student is found to have acted dishonestly or if a student has admitted to the charges prior to a hearing, the school's academic integrity officer or committee may impose sanctions, including but not limited to the following:

- Issue a formal written reprimand
- Impose educational sanctions, such as completing a workshop on plagiarism or academic ethics
- Recommend to the instructor that the student fail the assignment (a given grade is ultimately the prerogative of the instructor)
- Recommend to the instructor that the student fail the course
- Recommend to the instructor that the student receive a course grade penalty less severe than failure of the course
- Place the student on disciplinary probation for a specified period of time or until defined conditions are met. The probation will be noted on the student's transcript and internal record while it is in force.
- In cases serious enough to warrant suspension or expulsion from the university, refer the matter to the Student Conduct Board for consideration.

Additional educational sanctions may be imposed. This list is not intended to be exhaustive.

Withdrawing from the course will not prevent the academic integrity officer or hearing panel from adjudicating the case, imposing sanctions or recommending grade penalties, including a failing grade in the course.

A copy of the sanction letter will be placed in the student's academic file.

Appeals

If a student believes the academic integrity officer or the committee did not conduct a fair hearing or if a student believes the sanction imposed for misconduct is excessive, they may appeal to the Student Conduct Board within 14 days of the original decision. Appeals are governed by Section VII C of the Student Conduct Code.

Records

Administrative Record-Keeping Responsibilities

It is the responsibility of the academic integrity officer in each school to keep accurate, confidential records concerning academic integrity violations. When a student has been found to have acted dishonestly, a letter summarizing the allegation, the outcome and the sanction shall be placed in the student's official file in the office of the school or college in which the student is enrolled.

In addition, each school's academic integrity officer shall make a report of the outcome of every formal accusation of student academic misconduct to the director of Student Conduct and Community Standards, who shall maintain a record of each incident.

Multiple Offenses

When a student is formally accused of academic misconduct and a hearing is to be held by an academic integrity officer, a committee, or the Office of Student Conduct and Community Standards, the person in charge of administering the hearing shall query the Office of Student Conduct and Community Standards about the student(s) accused of misconduct. The director shall provide any information in the records concerning that student to the integrity officer. Such information will be used in determining sanctions *only* if the student is found to have acted dishonestly in the present case. Evidence of past misconduct may not be used to resolve the issue of whether a student has acted dishonestly in a subsequent case.

Reports to Faculty and Student Body

School and college academic integrity officers are encouraged to make periodic (at least annual) reports to the students and faculty of their school concerning accusations of academic misconduct and the outcomes, without disclosing specific information that would allow identification of the student(s) involved.

Graduate Student Academic Integrity Policies

For graduate student academic integrity policies, please refer to each individual graduate school.

Statement of Intent to Graduate

Students are required to file an Intent to Graduate at WebSTAC (<https://acadinfo.wustl.edu/>) prior to the semester in which they intend to graduate. Additional information is available in the dean's offices of each school and in the Office of the University Registrar (<http://registrar.wustl.edu>).

Student Academic Records and Transcripts

The Family Educational Rights and Privacy Act of 1974 (FERPA) — Title 20 of the United States Code, Section 1232g, as amended — provides current and former students of the university with specific rights of access to and control over their student record information. In compliance with the statute, appropriate federal regulations, and guidelines recommended by the American Association of Collegiate Registrars and Admissions Officers, the university has adopted procedures that implement these rights.

A copy of the university policies regarding educational records and the release of student record information is available from the Office of the University Registrar (<http://registrar.wustl.edu>) and the university website (<https://wustl.edu/>).

Transcript requests for Danforth Campus students may be submitted to the Office of the University Registrar through WebSTAC. The School of Medicine registrar (<http://registrar.med.wustl.edu/services/transcripts-and-certification/>) accepts requests for transcripts and certification records for students and alumni of Audiology and Communication Sciences, Biomedical Informatics, Biostatistics, Clinical Investigation, Genetic Epidemiology, Health Administration, Health Behavior Research, Nurse Anesthesia, Occupational Therapy, Pediatric Nurse Practitioner, Physical Therapy, Population Health Sciences, Psychiatric Epidemiology, the School of Dentistry and the School of Medicine. Instructions and additional information are available on the University Registrar website (<http://registrar.wustl.edu>).

University Affiliations

Washington University is accredited by the Higher Learning Commission (<https://www.hlcommission.org/>) (800-621-7440). Washington University is a member of the American Academy of Arts & Sciences, the American Association of University Women (AAUW), the American Council of Learned Societies (ACLS), the American Council on Education (ACE), the Association of American Colleges & Universities (AACU), the Association of American Universities (AAU), the College Board, the Hispanic Association of Colleges & Universities (HACU), the Independent Colleges and Universities of Missouri (ICUM), the National Association of Independent Colleges and Universities (NAICU), the National Council for State Authorization Reciprocity Agreements (NC-SARA), the Oak Ridge Associated Universities (ORAU), and the University Research Association (URA).

The College of Arts & Sciences is a member of the American Association of Collegiate Registrars and Admissions Officers (AACRAO), the International Center for Academic Integrity (ICAI), the National Association of Fellowship Advisors (NAFA), the National Association of Advisors for Health Professions (NAAHP), and the Midwest Associate of Pre-Law Advisors (MAPLA).

The College of Architecture was one of the eight founding members of the Association of Collegiate Schools of Architecture (ACSA) in 1912.

The Graduate School is a founding member of both the Association of Graduate Schools and the Council of Graduate Schools.

The Graduate School of Architecture & Urban Design's Master of Architecture degree is accredited by the National Architectural Accreditation Board (NAAB), and its Master of Landscape Architecture degree is accredited by the Landscape Architecture Accrediting Board (LLAB).

The Sam Fox School of Design & Visual Arts is a founding member of and accredited by the National Association of Schools of Art and Design (NASAD).

The Olin Business School is a charter member (1921) of and accredited by the Association to Advance Collegiate Schools of Business International (AACSB). Olin Business School is also accredited by the Association of MBAs (AMBA).

In the McKelvey School of Engineering, many of the professional degrees are accredited by the Engineering Accreditation Commission of ABET (<http://abet.org>).

University College is a member of the University Professional and Continuing Education Association, the North American Association of Summer Sessions, the Association of University Summer Sessions, and the Center for Academic Integrity. Business-related programs in University College are not accredited by the Association to Advance Collegiate Schools of Business International (AACSB).

The School of Law is accredited by the American Bar Association. The School of Law is a member of the Association of American Law Schools, the American Society of Comparative Law, the Clinical Legal Education Association, the Southeastern Association of Law Schools, the Central Law Schools Association, the Mid-America Law Library Consortium, the American Association of Law Libraries, and the American Society of International Law.

The School of Medicine is a member of the Liaison Committee on Medical Education.

The Brown School at Washington University is accredited by the Council on Social Work Education and the Council on Education for Public Health.

The University Libraries are a member of the Association of Research Libraries.

The Mildred Lane Kemper Art Museum is nationally accredited by the American Alliance of Museums.

Graduate School of Architecture & Urban Design

The Graduate School of Architecture & Urban Design cultivates the designer's identity as a leader and as both an expressive individual and a socially responsible citizen. Our programs emphasize the physicality of design through regard for site, purpose, material, technique and meaning. Our commitment to the ethical practice of architecture, landscape architecture and urban design spans disciplines, contending cultural theories and the range of representational media.

The Graduate School of Architecture & Urban Design provides an intimate environment for learning, with individualized attention in the design studios and correspondingly small lectures and seminars. The independent character of a student's abilities is demonstrated and tested in the final semester through the Degree Project, in which students work individually with faculty and critics. The graduate school also has a strong teaching and research assistant program, with approximately one out of every four students engaged in this learning experience.

Contact Information

Graduate School of Architecture & Urban Design
CB 1079
One Brookings Drive
St. Louis, MO 63130-4899
Phone: 314-935-6227
Contact Form (http://samfoxschool.wustl.edu/gradarch_contact/)

Email: wuarch@wustl.edu
Website: <http://samfoxschool.wustl.edu/archprograms> (<http://samfoxschool.wustl.edu/archprograms/>)

Faculty

Endowed Professors

Bruce Lindsey, AIA (http://samfoxschool.wustl.edu/portfolios/faculty/bruce_lindsey/)
E. Desmond Lee Professor for Community Collaboration
MFA, University of Utah
MArch, Harvard University

Adrian Luchini (<http://samfoxschool.wustl.edu/directory/479/>)
Raymond E. Maritz Professor of Architecture
MArch, Harvard University

Igor Marjanovic (http://samfoxschool.wustl.edu/portfolios/faculty/igor_marjanovic/)

JoAnne Stolaroff Cotsen Professor
PhD, Bartlett School of Architecture, University College of London

Robert McCarter (<http://samfoxschool.wustl.edu/directory/298/>)
Ruth & Norman Moore Professor
MArch, Columbia University

Eric Mumford (<http://samfoxschool.wustl.edu/directory/487/>)
Rebecca and John Voyles Professor of Architecture
PhD, Princeton University

Heather Woofter (http://samfoxschool.wustl.edu/portfolios/faculty/heather_woofter/)
Sam and Marilyn Fox Professor
MArch, Harvard University

Professors

John Hoal (http://samfoxschool.wustl.edu/portfolios/faculty/john_hoal/)
PhD, Washington University

Sung Ho Kim (<http://samfoxschool.wustl.edu/directory/139/>)
MSci, Massachusetts Institute of Technology

Stephen P. Leet (<http://samfoxschool.wustl.edu/directory/473/>)
BArch, University of Kentucky

Professors of Practice

Philip Holden (<http://samfoxschool.wustl.edu/directory/471/>)
MArch, Washington University

Mónica Rivera (http://samfoxschool.wustl.edu/portfolios/monica_rivera/)
MArch, Harvard University

Nanako Umemoto
BArch, The Cooper Union

Henry S. Webber (<https://samfoxschool.wustl.edu/directory/9783/>)
MPP, Harvard University

Associate Professors

Chandler Ahrens (<http://samfoxschool.wustl.edu/directory/7147/>)
MArch, University of California, Los Angeles

Gia Daskalakis (<http://samfoxschool.wustl.edu/directory/1589/>)
Dipl de Postgrado, Universidad Politecnica de Catalunia

Catalina Freixas (<http://samfoxschool.wustl.edu/directory/52/>)
Dipl Arch, Universidad de Buenos Aires

Patricia Heyda (<http://samfoxschool.wustl.edu/directory/59/>)
MArch, Harvard University

Derek Hoeflerlin (<http://samfoxschool.wustl.edu/directory/61/>)
MArch, Tulane University

Zeuler Lima (<http://samfoxschool.wustl.edu/directory/474/>)
PhD, Universidade de São Paulo

Linda C. Samuels (http://samfoxschool.wustl.edu/portfolios/linda_samuels/)
PhD, University of California, Los Angeles

Hongxi Yin (<http://www.samfoxschool.wustl.edu/directory/10636/>)
PhD, Carnegie Mellon University

Assistant Professors

Shantel Blakely (https://samfoxschool.wustl.edu/portfolios/shantel_blakely/)
PhD, Columbia University

Wyly Brown (https://samfoxschool.wustl.edu/portfolios/wyly_brown/)
MArch, Harvard University

Eric Ellingsen (<http://samfoxschool.wustl.edu/directory/12104/>)
MArch, MLA, University of Pennsylvania
MA, St. John's College

Petra Kempf (http://samfoxschool.wustl.edu/portfolios/petra_kempf/)
PhD, Karlsruhe Institute of Technology
MSc, Columbia University

Pablo Moyano (http://samfoxschool.wustl.edu/portfolios/faculty/pablo_moyano/)
MArch, Washington University
MUD, Washington University

Kelly Van Dyck Murphy (http://samfoxschool.wustl.edu/portfolios/kelley_van_dyck_murphy/)
MArch, Washington University

Constance Vale
MArch, Yale University

Visiting Assistant Professor

Ian Trivers (http://samfoxschool.wustl.edu/portfolios/ian_trivers/)
PhD, University of Michigan

Senior Lecturers

Ryan Abendroth
MArch, University of Illinois at Urbana-Champaign

Michael Allen (http://samfoxschool.wustl.edu/portfolios/michael_allen/)
BA, The Union Institute

Julie Bauer (http://samfoxschool.wustl.edu/portfolios/julie_bauer/)
Diplom-Ingenieur in Architecture, Technical University of Berlin

Richard Janis (<https://samfoxschool.wustl.edu/directory/13919/>)
MArch, Washington University
MSME, Washington University

George Johannes
MArch, Washington University

Don Koster (<http://samfoxschool.wustl.edu/directory/47/>)
MArch, Washington University

Doug Ladd (http://samfoxschool.wustl.edu/portfolios/doug_ladd/)
BA, Southern Illinois University Carbondale

Gay Lorberbaum (<http://samfoxschool.wustl.edu/directory/475/>)
MArch, Washington University

Emiliano López Matas (http://samfoxschool.wustl.edu/portfolios/emiliano_lopez/)
MArch, Washington University

Dennis McGrath (http://samfoxschool.wustl.edu/portfolios/dennis_mcgrath/)
BArch, University of Kansas

Bob Moore (<https://samfoxschool.wustl.edu/directory/10845/>)
PhD, Washington University
BFA, Syracuse University

Jim Scott (https://samfoxschool.wustl.edu/portfolios/jim_scott/)
JD, Saint Louis University School of Law

Phillip Shinn (<https://samfoxschool.wustl.edu/directory/491/>)
BS, Princeton University

Jonathan Stitelman (http://samfoxschool.wustl.edu/portfolios/jonathan_stitelman/)
MArch, Washington University
MUD, Washington University

Lindsey Stouffer (<http://samfoxschool.wustl.edu/directory/492/>)
MFA, Washington University

Professors Emeriti

Paul Donnelly

Iain A. Fraser

Gerald Gutenschwager

Robert Hansmann

James Harris

Sheldon S. Helfman

Udo Kultermann

Leslie J. Laskey

Donald Royse

Thomas L. Thomson

Deans Emeriti

Constantine E. Michaelides
FAIA

Cynthia Weese
FAIA

Courses

Below are listings for course levels 500 and above. For available 300- and 400-level courses, please visit our online course listings (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&crslvl=3:4>).

- A46 ARCH (p. 16): Architecture
- A48 LAND (p. 29): Landscape Architecture
- A49 MUD (p. 34): Urban Design

Architecture

Visit online course listings to view semester offerings for A46 ARCH (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A46&crslvl=5:8>).

A46 ARCH 501A Designing With Words

Writing is a creative act; a means by which designers craft the story of their vision with words. Writing is also a critical act; a way of thinking that refines and sculpts our ideas, sharpening and shaping the depth and clarity of the design process. And yet, writing at times can feel treacherous. We can frequently feel as if we are stumbling over words or even swimming up a river against them. How do we transform words into another way of designing? How do we put writing at our own command? This course will help to develop writing skills as another tool for the designer by addressing how we use writing in our own field, particularly in portfolios, presentations and research. We will practice techniques to make writing meaningful as a critical and creative practice so that words are not barriers or add-ons, but a colorful complement to creative vision. This course will be geared toward supporting students at all writing levels, particularly students writing in English as a second language. Credit 3 units. Arch: GARW, HT

A46 ARCH 5080 Community Arts and Social Practice: An Introduction

This seminar brings together several different disciplines and methodologies to look at the practice of the arts in the context of community. The seminar combines hands-on work and observation, theoretical analysis and reflection, and specific proposals. For our case studies, we concentrate on several programs and places currently existing or developing in the St. Louis region. We discuss both ends and means, and systems of evaluation that draw on, among other things, art, architecture, social work and community development. Credit 3 units.

A46 ARCH 511 Architectural Design V

Prerequisite: satisfactory completion of Arch 419 or equivalent. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 511B Architectural Design V (Buenos Aires)

Prerequisite: satisfactory completion of Arch 419 or equivalent. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 511H Architectural Design V (Mumbai)

Prerequisite: satisfactory completion of Arch 419 or equivalent. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 512 Architectural Design VI

Prerequisite: satisfactory completion of Arch 511. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 512B Architectural Design VI (Buenos Aires)

Prerequisite: satisfactory completion of Arch 511. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 512H Architectural Design VI (Mumbai)

Prerequisite: satisfactory completion of Arch 511. Twelve hours of studio work a week. Credit 6 units.

A46 ARCH 520 Shifting from Lines to Surfaces/Virtual to Empirical

Digital Media Design: Introduction to Exploring Digital and CAD/CAM Technology. This is a course in computing theory and techniques on two-dimensional digital software and advanced three-dimensional modeling software. Weekly demonstrations on software operations and individual projects are developed. This course bridges the gap between 2D computational tools that define lines and the 3D tools that develop complex surfaces. These surfaces explore the possibilities of creating and articulating the nonlinear geometries manipulated on the digital environment. The final project consists of two-dimensional drawings, digital models and physical models produced by advanced CAD/CAM technology. By employing alternative techniques and emerging technologies of manufacturing, new forms of objects and perceptions redefine multiple design processes. Credit 3 units.

A46 ARCH 521H Topics in Advanced Architectural Computing: Performative Skins

Course participants will explore the materiality and environmental suitability of skins, and will be encouraged to find the answers to questions about their topological performance in the context of dynamic environments and in the reality of their anthropospheric state of existence. Building Performance Analysis will facilitate the morphing of architectural design through various phases of environmental simulations: insolation, light, wind and acoustics, for the purpose of creating a digitally altered tectonic that is most suitable of in situ conditions. Prerequisites for the class are an advanced knowledge of various digital modeling techniques and a basic understanding of sustainable design principles. An attempt will be made to establish a direct link between analytical results obtained with Ecotect and various applications supporting Smart Geometry (Generative components). Credit 3 units.

A46 ARCH 521M Surface of Affect/Effect

This course is a digital design and fabrication seminar that introduces the notion of architecture affecting human senses as well as the effects generated by the architectural entity. The affective ability will focus on tactility since it is the sense perceived by the entire body and opticality due to the visual nature of architecture. Both affect and effect focus on the surface as a plane of contact between people and their architectural environment. The class will develop digital modeling techniques that will lead to the development of physical prototypes that explore dynamic conditions responding to environmental variables that continually modify the visual and tactile boundary of the surface as division between a person and the exterior environment. In particular, the class will develop surfaces that explore physical movement, implied movement, and perceived movement. The course will involve readings and discussion along with the production of digital and physical prototypes. The class is a prelude to the digital fabrication studio, but not a prerequisite for the studio. Students enrolled in this seminar will receive priority placement in the studio.
Credit 3 units.

A46 ARCH 523J Berlin Bricks: Paradigm Shifts and Continuity (Berlin)

In this course, Berlin will be considered as an architectural manual. According to the uniqueness of every city, on the example of Berlin we will try to focus on significant contradictory attitudes in architecture and urbanism to study their effects. "Weiterbauen": how to continue building the city. What are the time-transcending narrations? Which programmatic shifts can we observe and what are their lessons? Karl Scheffler, a German art historian in the first half of 20th century, made a clear distinction in his book, *The Spirit of Gothic* from 1917, between two alternating fundamental attitudes in design: Gothic and Romanesque. The pendulum over the centuries, he argues, swings permanently from one side to the other. It's never a stagnation — and never a progression. In architecture, fighting, influencing and overlaying of attitudes with their contradictory potential makes the city as a whole — especially in Berlin, following another word by Scheffler — as a city "always to become and never to be." The situation today is much more chaotic than in 1917, but thinking in black-and-white terms seems to be over. We want to read important aspects — literally, by visual perceptions and through abstractions, interpretations and applications — to learn and to adapt knowledge by understanding how knowledge is generated and was adapted so far.
Credit 3 units. Arch: GAUI

A46 ARCH 524E Ordinance: Territorial Rules & Urban Administration

What is the link between rules and form? What is the relationship between form and politics? This course will essay an administrative history of the built environment, taking as its starting point the rules, codes, ordinances, laws and guidelines that shape the landscape. We will turn a critical yet curious eye toward historic and contemporary case studies that shape or are shaped by a robust regulatory framework — from the French Forest Ordinance of 1669 to the work of MVRDV and contemporaries. We will examine both the built results and the theories and philosophies of design by which they are animated. In the arc of our readings, we will seek to link our territorial, urban and architectural understanding with broader

historical and economic moments. In addition to carrying out readings, discussions and analyses, students will work toward *Ordonnance*, a collective publication that will historicize and diagram this administrative impulse.
Credit 3 units.

A46 ARCH 524F Critical Spatial Practice: Art / Architecture / Landscape / Urbanism

Critical Spatial Practice reads the history of art, architecture, landscape and urbanism across the grain in an effort to tease out latent affinities and to heighten meaningful antagonisms. In particular, this class takes a critical look at the ways in which creative practice has situated itself in relation to politics, power, society and space, while maintaining a certain autonomy from each of these registers. Themes such as historic and collective memory; empire and war; publics and counterpublics; city and countryside; institutions and the everyday; will all be central tropes as we ask questions of what, exactly, provokes one to make. Each of these disciplines shares a certain projective and critical orientation to the world — but what is it that makes their methods so distinct? What might we learn from knowledge of these differences? Where do shared passions break down? As critical practitioners, we look to make sense of the world — while our search for meaning may take radically different forms. Throughout the term, we will be focusing on a range of projects, movements, artists/practitioners and groups that take seriously the situatedness of their work. We will cover practices that might fall under more recognized categories, such as performance, land art, ecology, social practice, everyday urbanism, pedagogy, curation and installation. We will interrogate the modes of production as well as modes of distribution that creative practitioners work within and against. We will look at the history of artists and designers engaging the built and natural worlds in ways that exceed the disciplinary frameworks of their time. From the Dada excursions to the Situationist Derives, from the urban representation of the CIAM grille to the urban choreography of Daniel Buren, and from the Romantic geography of Humboldt to the displaced geography of the Atlas Group. Throughout, we will be reading foundational texts — theoretical, historical and methodological — that help situate these projects and movements within their contemporary milieu. By focusing on the context of these practices, this course has its eye on the many conceptual elisions and canonical lacunas that emerge in disciplinary-specific histories from the early 20th century to the present — while also operating as a retroactive genealogy of the aspirations of the Sam Fox School. Weekly meetings will be structured around an organizing theme with related readings, screenings and viewings. Each class will consist of a short lecture by the instructor framing the topic, a student presentation weaving a network of thought around a single specific work/project, and subsequent discussion. Final projects will critically engage the themes of the course as students produce a publication, installation, video or performance that takes a position.
Credit 3 units.

A46 ARCH 524G American Cultural Landscapes

Whether we are designing buildings, landscapes or neighborhoods, we are working on a cultural landscape — a place built from customs, memories, histories and associations as much as visual design itself. This course provides an overview of American cultural landscapes and their alteration, through readings, visual art, site visits and field surveys. Symbolic, utilitarian, architectural, scenographic or personal meanings will be explored alongside site histories. Throughout

the semester, the course will interrogate the concept of vernacular landscapes, more broadly defined as landscapes of everyday life. From roadsides to homesteads to tourist attractions to landfills to urban neighborhoods, vernacular landscapes define the image of America to large extent. Readings will unpack the contingencies between design, economics, cultural politics, agriculture, consumption and technology that inscribe culture across the land. Course work will be informed by the work of geographers, historians, writers, preservationists, filmmakers and visual artists. J.B. Jackson and Lucy Lippard's theories about the cultural uses of land will be anchors. Along the way, course readings and experiences (including fieldwork) will make stops along the way to examine local landscapes including a radioactive landfill, the neighborhoods of Detroit, the "wild" west, Appalachian terrain, the Mississippi River, the Sunset Strip, the Buffalo Bayou in Houston and more. The course will pose a taxonomy of the types of cultural landscapes while presenting various methods for decoding, recording, interpreting, preserving and altering these places.

Same as A48 LAND 524G
Credit 3 units. Arch: GARW, RW

A46 ARCH 524J Berlin Thinks: Laboratory of Ideas in Pre-War Berlin and Beyond (Berlin)

The course investigates principle phenomena about architecture and will put them in comparison to questions of art. The study will focus on philosophical ideas of architecture that have been invented in pre-war Berlin and beyond. The development of modern Architecture Theory was accompanied by a vivid discussion of why styles change, how we perceive physical objects, what is the idea of space, what movies have to do with architecture. We will learn about the invention of psychology, of film theory, of conceptualizing architecture and about how the construction of our brain relates to architecture. The course will acquire knowledge by experiencing phenomena (movies), by lectures of relevant texts and authors, by reading texts and extracting a thesis, by analyzing and working on a conceptual diagram, by transfer of ideas to different media.

Credit 3 units. Arch: GACS

**A46 ARCH 525K LAND ARCH URB:
LandscapeArchitectureUrbanism**

New Disciplinary Dynamics: Blurs and Exchanges. Over the past decade, the various professions engaged in the construction of the built environment have been investigating (both in theory and practice) a specific and deliberate blurring, hybridization and expansion of the traditional semantic and historical categories of landscape, architecture and urbanism in an attempt to confront changing situations, environments and cultures. Across geographical and cultural boundaries, the proliferation of projects (speculative and built) and essays appearing in recent years makes this phenomenon more than a passing trend or the product of individual reflection. Architecture, for example, as a conventional discipline with its own tasks, internal logic, and modus operandi has become so heterogeneous that it can no longer adequately authenticate its products from within the limits of its historical category. The same holds true of the allied fields of landscape and urbanism. Strict disciplinary boundaries are no longer capable of attending to the complexity of contemporary demands produced by mobility, density, de-urbanization, hybrid programs, changing uses, and ecological concerns. The contemporary world forcibly imposes the need for greater flexibility and indeterminacy and for new techniques of practice that are anticipatory, receptive to change, and capable

of opening an aperture to the future. This course will explore these disciplinary slippages and hybrid contacts between until-now distinct categories through essays and built or speculative works. Fulfills History/Theory elective. Fulfills Urban Issues elective.

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI, UI

A46 ARCH 525L The Architecture of Le Corbusier

A seminar course examining the works of Le Corbusier (1889-1965), one of the most important architects of the modern era whose works continue to exercise enormous influence on contemporary architecture. The seminar will explore Le Corbusier's entire career, including both built works, such as the Monastery of La Tourette, and unbuilt projects, such as the Venice Hospital. Students will analyze and present 20 selected architectural works dating from 1920 to 1965. Introductory lectures by the professor, followed by two student presentations in each class, and each team of two students will be required to present two buildings (one earlier work and one later work). Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, and students will employ the graphic analysis standards developed by the professor. Individual research papers, as well as hard copies and CDs of the two in-class presentations will be due at the end of the semester. Students will be credited in the professor's book, *Le Corbusier*. Fulfills Master of Architecture History and Theory elective distribution requirement. Enrollment limited to 20 students.

Credit 3 units.

A46 ARCH 526U Frank Lloyd Wright and Contemporary Architecture

This graduate seminar employs comparative critical analyses to explore 10 works of the American architect Frank Lloyd Wright (1867-1959) and works by 10 contemporary architects that share disciplinary ordering principles with the works of Wright, selected from a list including John and Patricia Patkau, Tod Williams and Billie Tsien, Glenn Murcutt, Brian Healy, Wendell Burnette, Tom Kundig, Peter Stutchbury, Jose Luis Mateu, BAK, and Matthias Klotz. Wright's work was the inspiration for the first generation of Modern architects, including Mies van der Rohe, Jan Duiker, and others, and this course will explore the architectural ordering principles structuring his work and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Wright's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use as well as by the poetics of construction (the way in which a building is built), of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent 10 class meetings will consist of the presentation of a selected pairing of buildings -- two by Wright (house and public building) and one to three by a contemporary architect -- to be presented by a team of two students. Students will be evaluated on both the quality of their individual presentations and on the quality of their participation in the class discussions. Summary papers and CDs of the PowerPoint presentations will be due at the end of the semester.

Credit 3 units. Arch: CAST, GACS

A46 ARCH 527M Louis L. Kahn and Contemporary**Architecture: Comparative Critical Analyses of Built Works**

A graduate seminar employing comparative critical analyses to explore 10 works of the American architect Louis Kahn (1901-1974) and works by 10 contemporary architects who have been influenced in some way by the works of Kahn, selected from a list including Steven Holl, Tod Williams and Billie Tsien, Peter Zumthor, Herman Hertzberger, Grafton Architects, Brad Cloepfil/Allied Works, Wiel Arets, Stanley Saitowitz, Thomas Phifer and Nieto Sobejano. Kahn was one of the most influential of the "second generation" of Modern architects, and this course will explore the architectural ordering principles structuring his work, how these were often derived from Kahn's perceptions regarding the works of his predecessors, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover that full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Kahn's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent 10 class meetings will consist of a presentation of a selected pair of buildings, one by Kahn and one by a contemporary architect, to be presented by teams of two students. Each student team will present two buildings, one by Kahn and one by a contemporary architect; one presentation in the first half of the semester, and one presentation in the second half of the semester. Students will be evaluated on both the quality of their team presentations, and on the quality of their participation in the class discussions accompanying each presentation. Summary papers and CDs of the PowerPoint presentations will be due at the end of the semester. Maximum enrollment: 20 students. Fulfills History and Theory elective distribution requirement.

Credit 3 units. Arch: CAST, GACS

A46 ARCH 527N Design at an Impasse: The Experience of Lina Bo Bardi

This seminar will address timely conceptual and practical issues about architecture by studying the design and theoretical works of Italian-born Brazilian architect, Lina Bo Bardi (1914-1992). As one of the very few prominent women architects in the 20th century, she articulated many important questions that remain open in contemporary architecture. Her work ranged from editorial to curatorial projects, from furniture to urban design, and from new buildings to restoration and adaptive reuse projects. The title of this course refers to a posthumous book she organized in the later years of her life, in which she addressed the dilemmas of designing in a world in which basic human needs and shared social values are often at odds with the pervasiveness of individualism, images and commodities in a globalized Western culture. The seminar will be divided in three modes: lectures, individual research, and an exhibition project. Lectures will focus on a comprehensive approach to her life, work and ideas. Individual research will focus on analyzing specific works organized by categories with access to both secondary and primary sources. The results of the research will be incorporated into a curatorial project for a pilot exhibition investigating the significance of her legacy to contemporary architects and designers. Fulfills History/Theory elective requirement.

Credit 3 units.

A46 ARCH 527S Urbanism Since 1850

Since the beginning of the industrial railroad era, architects have attempted to shape the form of cities in a variety of ways. Through lectures, field trips, discussions and films, this course will examine some of the most important episodes in urbanism since the urban and technological transformations of the mid-19th century, including Haussmann's Paris and Cerda's extension of Barcelona, the Vienna Ringstrasse and the critical response to it in the work of Camillo Sitte; the American City Beautiful and English Garden City movements; early modern efforts in housing and planning, such as those of CIAM, the International Congress of Modern Architecture; urbanism and regionalism under the American New Deal; the era of massive metropolitan change after the Second World War, including postwar replanning efforts in various situations; the development of the discipline of urban design under Josep Lluís Sert at Harvard and elsewhere; visionary projects of the 1960s; the ideas and influence of Kevin Lynch, Colin Rowe, and Aldo Rossi and the work of the Congress for the New Urbanism; and more recent directions in urbanism. Fulfills History/Theory elective requirement for MArch students.

Credit 3 units. Arch: GARW, GAUI, HT, UI

A46 ARCH 527T The Architecture of Steven Holl, 1974-2014

A seminar course examining the works of Steven Holl (1947-), one of the most important architects practicing today. During his 40-year career, 1974-2014, Holl's ordering principles and designs have exercised considerable influence over contemporary developments in architecture around the world. Today Holl is rightly considered the greatest of the third generation of American modern architects, following the first generation of Louis Sullivan, and the second generation of Louis Kahn, architects whose work has served as both a source of inspiration and a standard for Holl's work. In addition to teaching continuously at Columbia University since 1981, where he developed innovative design studio projects, Holl also co-founded in 1976 the influential critical journal *Pamphlet Architecture*. The course will be structured on the five sections of the proposed book, and will examine important early works such as the Hybrid Building at Seaside, the American Library in Berlin, and the five Edge of the City proposals; mid-career works such as the Housing at Fukuoka, the Stretto House in Dallas, the Chapel of St. Ignatius in Seattle, the Kiasma Museum in Helsinki, and Higgins Hall at Pratt Institute; and later works such as the School of Art at the University of Iowa, the Nelson-Atkins Museum addition in Kansas City, the Linked Hybrid in Beijing, and the Horizontal Skyscraper at Shenzhen. Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and "the poetics of use," as well as "the poetics of construction," or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Students will employ the graphic analysis standards developed by the professor. Following introductory lectures by the professor, each of the subsequent 10 class meetings will consist of two student presentations of building analyses, and each team of two students will be required to present two buildings: one work from early in the career to be presented in the first half of the semester, and one work from later in the career to be presented in the second half of the semester. Students will be evaluated on both the quality of their team presentations and on the quality of their individual participation in the class discussions

accompanying each presentation. Individual research papers, as well as hard copies and CDs of the two in-class presentations, will be due at the end of the semester. As an integral part of the course, the professor will lead an "optional" field trip to the School of Art at the University of Iowa; this field trip will take place on a weekend. Fulfills History/Theory elective requirement. Credit 3 units.

A46 ARCH 527U Alvar Aalto and Contemporary

Architecture: Comparative Critical Analyses of Built Works

A graduate seminar employing comparative critical analyses to explore 10 works of the Finnish architect Alvar Aalto (1898-1976) and works by 10 contemporary architects that share disciplinary ordering principles with the works of Aalto, selected from a list including Alvaro Siza, Steven Holl, Tod Williams and Billie Tsien, John and Patricia Patkau, Juha Leiviska, Sverre Fehn, Sheila O'Donnell and John Tuomey, Jorn Utzon, Eduardo Souto da Moura and Fuensanta Nieto and Enrique Sobejano. Aalto was one of the most influential of the "second generation" of Modern architects, and this course will explore the architectural ordering principles structuring his work, how these were often derived both from Aalto's response to the Nordic environment and from Aalto's insights into the works of his predecessors, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Aalto's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent 10 class meetings will consist of a presentation of a selected pairing of buildings, one by Aalto and one to three by a contemporary architect, to be presented by a team of two students. Students will be evaluated on both the quality of their individual presentations, and on the quality of their participation in the class discussions. Two summary research papers (one on each presentation) and CDs of PowerPoint presentations will be due at the end of the semester. Fulfills History & Theory Case Study elective distribution requirement. Credit 3 units. Arch: GACS

A46 ARCH 527V Carlo Scarpa and Contemporary

Architecture: Comparative Critical Analyses of Built Form

A seminar course examining the works of Carlo Scarpa (1906-1978), one of the most important second-generation modern architects, whose works, though designed for the unique context of the Veneto region of Italy, nevertheless continue to exercise considerable influence on contemporary architecture around the world. Student teams will present analyses of a total of 10 of Carlo Scarpa's built works, as well as analyzing the relation to Scarpa's works that can be found in the works of 10 contemporary practices: Tod Williams + Billie Tsien, Steven Holl, Richard Murphy, Bridget Shim + Howard Sutcliffe, John Tuomey + Sheila O'Donnell, Shin Takamatsu, John and Patricia Patkau, Kathryn Dean/Dean-Wolf, Sverre Fehn and Tom Kundig/Olson-Kundig. Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is

made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the professor, and introduction of the analytical methods and graphic standards, each of the subsequent 10 class meetings will consist of two student-team presentations of architectural analyses, one building by Carlo Scarpa and selected buildings from a contemporary practice. Each team of two students will make two presentations, one in the first half of the semester, and one in the second half of the semester. Readings from the textbook and other sources will be assigned, to be discussed during each class. Individual research papers, as well as hardcopy and CDs of the two in-class presentations will be due at the end of the semester. Fulfills Master of Architecture History and Theory Case Study elective distribution requirement. Credit 3 units. Arch: CAST, GACS

A46 ARCH 528M Architectural Association, 1971-1990:

Texts, Buildings and Drawings

This seminar will examine the convergence of curatorial, publishing and professional practices at the Architectural Association (AA) in London under the chairmanship of Alvin Boyarsky. Through a focused study of the international network of AA notables in the 1970s and 80s — Zaha Hadid, OMA/ Rem Koolhaas, Bernard Tschumi, Daniel Libeskind, Peter Eisenman, John Hajduk, Peter Cook, Robin Evans and others — the seminar will establish a broader relationship between architectural theory and practice. The course will integrate a set of primary theoretical texts with a selection of AA publications, illuminating the relationship between architecture and theories of image production, collection and dissemination. Course requirements include weekly reading summaries, discussions, in-class presentations and a research paper. Open to graduate and upper-level undergraduate students. Fulfills History/Theory elective requirement. Credit 3 units.

A46 ARCH 528S Everyday Urbanism: Global and Local Practices

This course explores how qualities of urbanism are shaped through the aggregation of consistent, repetitive building typologies which subsequently gain difference and character over time through occupation by varied cultures, rituals and behaviors. Among the relevant methodologies to study the relationship between built form and urban quality are those developed by John Stilgoe, who reads the history and culture of a place in terms of repeated features of development, and Tsukamoto Yoshiharu, founder of Atelier Bow-Wow, who notes how changes in the building typologies of Tokyo have had significant impacts on the public realm of the city. Observations derived from this form of research have a direct impact on how we understand the temporal and experiential qualities of the city and, subsequently, design. The maximum enrollment for this course will be 12. MUD students have priority. Same as A49 MUD 528S. Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 529E Cellular Transformations

Throughout history, design has always played an important role in technological development; however, within the context of modernity, contemporary design has seen its limits since the urgency of environmental and sustainable issues has inflicted a great impact in our lives. There is a shift in design process, not only to invent new materials, but to reorganize and transform the materials that currently exist in our world. The Cellular

Transformations research is a project that hybrids organic and synthetic interfaces by developing a cohesive materialism where both biological and artificial enhancements are produced. The Cellular Transformations research explores the process of cells attaching to substrates and scaffolds by promoting organic tissue growth. The infrastructural scaffolds and manipulation of the structural experiments impact the surface heterogeneity that could be articulated for maximum control within a design process. Our goal is to invent new formations of substrates and scaffolding techniques that allow cells to fabricate their own natural matrix and structural integrity by holding their own mechanical loads. This course will enroll students from architecture, biology, and mechanical engineering to develop a collaborative research laboratory for experimenting with cellular growth techniques. The course will be working from the Architecture School's Digital Fabrication Lab and Biology's Cellular Incubator Lab. There will be visits and lectures from the faculty of Washington University's Medical and Engineering Schools throughout the semester.
Credit 3 units.

A46 ARCH 529F New Vision: Designing for New Tools

This course is a research project between the School of Architecture and the Computer Science Department at Washington University in St. Louis. The course starts with lectures on fundamentals of architectural perception with spatial context and Computer-Vision-based 3D modeling methods. We will introduce state-of-the-art imaging applications on tablets and PCs, and explain the underlying technologies. The final project/research is to develop digital models and translations of an un-built architectural project through experimental visual tools that will alter 3D modeling with Computer Vision as aids. This interdisciplinary course offering will have a potential to significantly broaden the interests and knowledge of our students in both departments, and create new research and education opportunities at an interesting intersection of two different fields.
Credit 3 units.

A46 ARCH 529G The Unruly City

The history of the American city is the history of conquering the "unruly": real estate parcels, neighborhoods, buildings, and even people that represent decay, obstacles to capital, unlawfulness or disorder. Designers denigrated unruliness in the pursuit of modernization in the 20th century, but today seem more conflicted on the constitution and remedies for disorder. Is disorder in the eye of the beholder? What disrupts urban life more, the broken windows of vacant houses or the arrival of Whole Foods in a poor neighborhood? Neighborhoods that have lost most of their population and buildings, or new football stadiums offered as economic and architectural solutions to blight? Programs of "right-sizing," urban agriculture, tactical urbanism, infrastructure planning, police reform, upzoning (or unzoning), historic preservation and mass transportation have operative impacts that can either squelch or protect the "unruly." This course examines the divergent definitions of order and disorder that are shaping contemporary approaches to urban planning, governance and cultural production. Readings will include examination of the framing ideological debate between Robert Moses and Jane Jacobs. There will be several field trips to connect course readings to physical conditions around St. Louis.

Same as A48 LAND 529G

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A46 ARCH 530D Special Topics: Sustainability Dialogue in Studio Design Project

Sustainable architecture is a complex system. The seminar is developed to facilitate Studio Project in "thinking in problem nets" for sustainability, which will challenge the student in connecting the vertical (the instrumental, in-depth, knowledge) and the horizontal (the practical, in-width, knowledge cross from multiple disciplines). This highly customized seminar will create an open dialogue for architectural design and sustainability practice. The students will learn how to integrate creativity in studio design project with sustainable practice, and learn how to evaluate the sustainability of their studio project throughout the design process. The seminar includes public lecture by a dozen famous professionals in sustainable practice. The seminar will develop Special Topics on Sustainability based on DP student's projects. The students in seminar will schedule individual meetings with instructor and the experts on their studio design project. Priority will be given to students who will be simultaneously enrolled in Degree Project.
Credit 3 units.

A46 ARCH 530E Special Topics

Credit 3 units.

A46 ARCH 530F Special Topics: Introduction to Designing Healthcare Environments

Healthcare environments -- and hospitals in particular -- are one of the most complex and challenging building types to design, construct and maintain. We want to create spaces that are calming and comforting for patients and families who are dealing with some of the most troubling times in their lives as well as spaces that truly support the healing process and positively affect outcomes. At the same time, many demands are placed on the physical environment: supporting efficient workflows for staff and physicians, providing a safe environment for all, being durable and maintainable, taking into account the rising cost of healthcare, adhering to the many guidelines and codes enforced by multiple authorities having jurisdiction, dealing with strict infrastructure requirements, and the list goes on and on. Through lectures, readings, and site visits, this course will provide an introduction to the fundamentals of designing healthcare environments, including what types of spaces can be found in healthcare environments; processes for balancing the complex and sometimes conflicting requirements of those spaces; and a variety of theories and trends shaping healthcare environments today and in the future.

Credit 1.5 units.

A46 ARCH 530H Special Topics in Professional Practice

Credit 3 units.

A46 ARCH 530J Special Topics in History & Theory

Credit 3 units. Arch: CAST, GACS

A46 ARCH 530M Special Topics in History & Theory: Open City

Urban populations are characterized by flux and diversity that contribute to conditions of implicit and explicit inclusion and exclusion. Alongside architecture and urban design, cultural, economic, and political processes play an important role in determining whether urban change and diversity operate as assets or threats. The central question of this research and

writing seminar will be whether and how design (at a variety of scales and degrees of formality) generates and accommodates communities and places of agency, connection, collaboration, and affirmation of public life. With the use of a diachronic approach, the themes of geography, trade, conflict, migration, technology, and networks will organize our studies. Lectures and seminar discussions will focus on Amsterdam, New York City, Tokyo, and Venice; student research will engage other cities, with a goal of achieving geographic and cultural diversity among topics. Fundamental texts will include but are not limited to works by Debord, De Certeau, Foucault, Harvey, Lefebvre, Sassen, Soja, and Varnelis. Students will deploy historical resources and methods to analyze built conditions and urban experiences using written and graphic means to present their conclusions.
Credit 3 units. Arch: GARW, RW

A46 ARCH 530N Special Topics in History & Theory: Eye and Mind: Perception in the Folds

Perception is more than seeing; it involves an awareness of both internal and external contexts. Painters like Paul Cezanne and Francis Bacon capture the world as they perceive it, which in turn gives pause to our own understanding of it. How we perceive the mediums of painting, photography, and film speaks to our knowledge of the world, the limits of that knowledge, and our sense of being itself. According to Maurice Merleau-Ponty in "The Visible and the Invisible," "he who sees cannot possess the visible unless he is possessed by it, unless he is of it." This seminar will focus on the aesthetic theories of three French philosophers: Maurice Merleau-Ponty, Gilles Deleuze, and Jacques Derrida. We will use primary source material in small doses to facilitate close reading and rigorous thinking.
Credit 3 units. Arch: GARW, RW

A46 ARCH 531B Cite Conditions

A seminar exploring multiple venues to understand and inspire pre-design strategies based on: A critical observation of the context: The formulation of hypothesis of understanding based on the circumstantial, the factual, the interpreted, the imagined, and the edited, through a series of "case studies," such as Sites with histories, unexpected Sights and philosophical, cinematographic and literary Cites. The course will include lectures and 3 exercises where each of these case studies will be presented, discussed and given as tests of analytical and poetic comprehension. Each exercise will be based on a specific location within the larger St. Louis region. The deliverables will be shown as power point presentations to test the student's ability to communicate effectively through verbal, graphic and written information. Each of the three exercises will be printed at the end of the course as the final deliverable. There will be readings (limited) in Philosophy and/or Art criticism to support the class discussions. Students enrolled in Design Thinking are encouraged to register for this seminar since it will provide important support to Design Thinking requirements.
Credit 1.5 units.

A46 ARCH 531C Programmatic Choreographies

A seminar exploring multiple venues to understand the program of a building as a strategy for design which operates in support of place, context, circumstance, environment, and form, etc. The formulation of programmatic strategies will be based by critically using conventional "programs," but understood not as a list of room names, but rather as scenarios of human action based on protocols of use, choreographies of movement, alternatives for gathering, and their subsequent required area of occupation.

Each of these scenarios will be explored as opportunities to expand the possibilities of the inhabitation of space in order to enhance the experience of architecture. As such, Program is understood as a powerful instrument of inquiry and pre-design which can make effective transitions into calibrated design operations. The course will include lectures and exercises where each of these scenarios will be presented, discussed and given as tests of analytical and strategic propositions. The deliverables will be shown as power point presentations to test the student's ability to communicate effectively through verbal, graphic and written information. Each of the exercises will be printed at the end of the course as the final deliverable. There will be readings (limited) in support the class discussions. Students enrolled in Design Thinking are encouraged to register for this seminar since it will provide important support to Design Thinking requirements.
Credit 1.5 units.

Credit 1.5 units.

A46 ARCH 538A Technology Transfer

The course will explore design, manufacturing, and production strategies employed for the development of technology in industries typically outside of the architectural domain. The performance characteristics of these technologies will be considered as they relate to desired impact, technical theory and process. The course will investigate the role of computation in design and production through an analysis of industry techniques related to computer modeling, performance analysis, CAD/CAM, rapid prototyping and robotics. The class will explore recent developments in the automotive, aerospace and shipbuilding industries among others for this research. In addition to analysis, students will be asked to develop and critique postulations related to the appropriate engagement of these technologies, design methodologies and production techniques in the "making" of architecture. Students will be asked to participate in discussions regarding their findings, write a report and make a formal presentation of their work.
Credit 3 units.

A46 ARCH 538C Advanced Building Systems

The capstone course in the technology sequence. The course is comprised of a series of lectures related to technical theory, an analysis of technical precedent and an integration exercise. The lectures focus on structure and enclosure systems, active and passive climate control systems, natural and artificial lighting systems, mechanical and electrical services for buildings. During the first half of the course, students conduct the analysis of technical precedent in architecture exercise. Technical precedents will be analyzed relative to their performance characteristics and their relationship to other technologies in the building. During the second half of the semester, students conduct an integration exercise. Students will identify with the help of the instructor, a schematic design suitable for development. Technical systems will be selected based on architectural issues, performance characteristics and systems integration. Prerequisites: Students should complete Structures I & II, Environmental Systems I & II, and Building Systems before enrolling in Advanced Building Systems. Students who do not meet the prerequisites must receive the permission of the graduate chair in order to enroll.
Credit 3 units.

A46 ARCH 540B Advanced Building Systems (Buenos Aires)

The capstone course in the technology sequence. The course is comprised of a series of lectures related to technical theory, an analysis of technical precedent and an integration exercise. The lectures focus on structure and enclosure systems, active and passive climate control systems, natural and artificial lighting systems, mechanical and electrical services for buildings. During the first half of the course, students conduct the analysis of technical precedent in architecture exercise. Technical precedents will be analyzed relative to their performance characteristics and their relationship to other technologies in the building. During the second half of the semester, students conduct an integration exercise. Students will identify with the help of the instructor, a schematic design suitable for development. Technical systems will be selected based on architectural issues, performance characteristics and systems integration. Prerequisites: Students should complete Structures I & II, Environmental Systems I & II, and Building Systems before enrolling in Advanced Building Systems. Students who do not meet the prerequisites must receive the permission of the graduate chair in order to enroll.
Credit 3 units.

A46 ARCH 546D #pyrocene

In California, Australia, the Amazon, and beyond, fire has become the "new normal." With wildfires burning hotter, faster, larger, and longer, the scholar Steven Pyne has declared a new "age of fire": the Pyrocene. This course investigates the Pyrocene at the intersection of landscape and urbanism as a phenomenon that demands new ways of understanding, practicing, and connecting architecture, urban design, and landscape architecture. Students will situate recent burn events -- from California's Wine Country and Camp fires to the 2019 Amazon fires to Australia's recent "Black Summer" -- in long cycles of time, attending to processes of transformation in the long tail of disaster as ecosystems reassert themselves and real estate speculation recolonizes land. Students will interpret burn events in the historical context of imbricated social and ecological crises: a crisis of growth, pushing development into wildland-urban interfaces; a crisis of climate change, accelerating burn seasons; and a crisis of colonization, suppressing indigenous land stewardship traditions. Where the media fixates on "morning after" devastation and gazes "in" at burn zone spectacle, students will endeavor to look "out" from sites of intensive destruction and regeneration, interrogating contemporary urbanism, landscape, economy, and ecology through a critical Pyrocene lens. Drawing on scholars such as T.J. Demos, Donna Haraway, and Jason W. Moore as well as the speculative fiction of Octavia Butler, Ursula K. Le Guin, and Kim Stanley Robinson, students will think about design practice within larger webs of life and politics, considering political coalitions and cultural forms that point out of the Pyrocene.
Same as A48 LAND 546D
Credit 3 units. Arch: GAUI, UI

A46 ARCH 552D Contested Edge: River-City Couplings

This seminar will investigate the contested edge between the Mississippi River and the adjacent occupied land — between development and commerce based on our human needs and desires, and a river indifferent to our presence. Over 100 years ago, Twain warned us about the futility of our attempts to control the volatile Mississippi River: "Ten thousand River Commissions cannot tame that lawless stream, cannot curb or confine it, cannot say to it, Go here or Go there, and make it obey." For reasons of river navigation, irrigation, hydropower

and flood protection, the river has been dammed, straightened, deepened and segregated from its natural floodplain. These massive engineering feats have caused severe and perhaps irreparable ecological damage by upsetting natural flooding cycles, disrupting flows, draining wetlands and inundating habitats. The results, while temporarily beneficial to some communities, are the progressive intensification of floods and the destruction of riparian zones. Traditional static infrastructures will continue to play a necessary role but cannot adequately handle increased floods and droughts resulting from global warming and our own intransigence. Rather than continually building harder and higher to protect communities from high waters, knowing from experience that the wild Mississippi will continually topple our efforts, this seminar will explore gentler, smoother transitions between land and water, city and river. Looking toward a more resilient condition, we will explore this ecological crisis as an opportunity for constructing a more livable, coupled, edge as a continuum between river and settlement — one requiring us to bend, accommodate, refrain, and think more creatively and strategically. The work of the seminar will be to create both a River Manual and to initiate an interactive web repository of data, strategies, maps, history, river city coupling examples, focused on the Mississippi River at the St. Louis region. Students will contribute with research, mapping, graphic design and web construction.
Credit 3 units. Arch: GACS, HT

A46 ARCH 553A Seeds

Seeds are life; they are "time capsules" of genetic code in waiting. For millions of years, seeds have been evolving into giants like the Coco de Mer (66 pounds) as well as into the smallest orchid seeds in the world (10 billionths of an ounce). However, there is no more powerful force in the evolution of seeds than human intervention. Through selective breeding, seeds and plants have been bred to produce desired characteristics since the dawn of humanity. This has been so successful that the codependency between seeds and humans has grown and never been more evident than in agribusiness today. Seeds feed us; we need them for our survival. The "wizards" argue that biotech and science will help engineer seeds that will save humanity in the age of climate change. The "prophets" argue that conservation and biodiversity are what are needed to preserve what we have left of local ecologies. It is a debate worth having in the Sam Fox School. Seeds have much to teach us as metaphor and material to explore ecologies, landscapes, biodiversity, biomimicry, technology, engineering, climate change and food systems. This seminar will offer students multiple entry points for engagement, from autumn seed saving and seed planting to debate, community engagement, conversations with biologists and engineers, a visit to the Danforth Plant Science Center, a biomimicry exercise, and other potential ideas for collaboration.
Same as A48 LAND 553A
Credit 3 units. Arch: ECOL

A46 ARCH 554B The Space Within: Interior Experience as the Origin of Architecture

This graduate seminar is structured around the book "The Space Within: Interior Experience as the Origin of Architecture" by Robert McCarter. Throughout human history -- and particularly in the modern period -- interior space and its experience have served as both the beginning (the initial inspiration for the design of architecture) as well as the end (the final purpose of architecture as it is evaluated through inhabitation). Since the beginning of the modern period and still today, pivotal

discoveries in architectural design may be traced back to a generative ideal of intimate interior experience, and the quality of the interior spatial experience of the inhabitants may be shown to be both the primary determinant of the architectural design process as well as the means of appropriately evaluating a work of architecture after it is built. This seminar explores how interior space has been integral to the development of modern architecture from 1900 to today, and it looks at how generations of modern architects have engaged interior space and its experience in their design processes, which has enabled them to fundamentally transform the traditional methods and goals of architectural composition. For many of the most recognized and respected architects practicing today, the conception of the interior spatial experience continues to be the necessary starting point for design, and the inhabitation of interior space remains the primary reason to construct works of architecture. The course is structured around the chapters of the textbook "The Space Within," and, in parallel with the textbook themes, involves analyses and presentations of the work of Frank Lloyd Wright, Adolf Loos, Le Corbusier, Alvar Aalto, Eileen Gray, Louis Kahn, Aldo van Eyck, Carlo Scarpa, and six selected contemporary architects. Analytical methods employed in the course cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use as well as the poetics of construction: the way in which a building is built, of what materials it is made, and how all of these combine to construct the experience of those who inhabit it. After introductory lectures by the professor, each of the 10 subsequent class meetings will consist of a presentation of one of the textbook chapters and selected buildings by one of the focus architects, each of which will be presented by a team of two students. Optimal enrollment: 20 students. Fulfills History and Theory Case Study Elective requirement.
Credit 3 units. Arch: CAST, GACS

A46 ARCH 554C Vacant/Wild/Ruined: Feral Urbanism

What urban design practices are needed in areas that have declined, that are in decline, or that simply are not growing? What if we let the city decline or go wild? What if we look at decay, ruin, wilderness and depopulation as something other than a crisis? This seminar examines experimental urban land management and preservation practices that embrace systems of emergent, wild and unexpected urbanism but that also raise questions of austerity and democratic rights to the land. With foundational readings as a guide, students will explore topics of state landbanking and autonomous land trusts, managed depletion (including St. Louis' infamous "Team Four" memorandum), wilderness conservation and "greenway" creation, agricultural land reclamation, homesteading in and deconstruction of vacant buildings, tactics for fighting absentee owners, and experimental preservation practices. Starting with grounding readings in principles of the American orientation to wilderness, ecological vitality and urbanism, the seminar explores the modern history of efforts to harness decline, vacancy, depletion and no-growth as productive forces. The seminar will root itself in Old North St. Louis, a neighborhood in St. Louis that has lost more than 60% of its peak population but that has continued to thrive. Students will work on projects serving Old North's ongoing efforts to harness urban conditions for a sustainable, just and vibrant future.

Same as A48 LAND 554C

Credit 3 units. Arch: ECOL, GACS, GAUI

A46 ARCH 555C The Observer & The Observed

This seminar is intended to put students in contact with the urban and architectural culture or cultures in South America. The discovery and observation of the many local ways of doing and thinking will take place through observation of the urban landscape and the appreciation of concrete works by local architects. Activities will be focused on critical observation of the urban context and architecture, including the development of graphic exploration instruments and techniques. The relation between the observer and the observed will be intensified through graphic exploration. In this way, the seminar will purposefully avoid published written criticism as a way to approach the cases and bodies of work to be studied. This will be in order to construct a vision more closely attached to the practice of design and the confrontation with concrete design issues and less "contaminated" by pre-established historical or theoretical interpretation. The choice of case studies coincides with the array of buildings to be visited in field trips in Buenos Aires, Brazil and Uruguay. Buildings and practices to be "observed" will represent different scales, different degrees of intervention and the construction of different landscapes. The seminar is based in three class settings: site visits, professor and guest lectures, and in-class presentations and discussion. Rather than a cold, systematized, technical instruction on graphics, the development of personal observation/drawing tools and techniques is stressed. This includes sketching on the site and redrawing assignments based on personal sketches.
Credit 1 unit.

A46 ARCH 560A Trees, Soils, & Systems: Introduction to Arboriculture

Trees play a significant role in the overall ecosystem of our planet. They function both globally as well as microscopically. There are finite, quantifiable aspects to how a tree develops, yet there are also environmental and human factors that can disturb or interrupt normal functions and patterns. It is the charge of the designer to delve into the science of trees in order to better inform our design solutions and make appropriate sustainable choices. The course objectives are to make the student familiar with the anatomy of trees, to understand soils and their effects on trees and vice versa, to increase their abilities to identify trees, especially during the winter months, to understand the business of how trees are managed, whether it be growing, maintenance or specification of appropriate local nursery stock and to gather knowledge of trees and their relationship in our sustainable environment. Each class will have an informal lecture component that will present the latest in technologies of arboriculture practices. The class readings and assignments will correspond with the lecture topics and a subsequent discussion will follow or be intertwined into the lecture presentation itself. The application of the information will be in clear, concise weekly exercises. There will be several field trips to the Missouri Botanical Garden, a trip to Forest Park to look at the varied tree habitats and what worked and what is not working, as well as a trip to a local tree nursery.

Same as A48 LAND 560A

Credit 3 units. Arch: ECOL

A46 ARCH 561D Contemporary Urbanity and Urban Public Spaces

The seminar will review and discuss how the construction of the contemporary public urban space has developed from late 20th century to the present and considers possible future developments. The reinterpretation of the use of the public space and its dynamics will be the focus point of the seminar

which will incorporate a wide variety of perspectives while following the international debate and discourse of public space and using St. Louis as a case study of how low-density urban configurations figure into the global conversation. The seminar will proceed in a multilayered approach including the following fields: historical emerging concepts of public space, the shifting and diffused boundaries between urban and non-urban environments; physical and geometrical magnitudes and accountable parameters (scale, density, economic, social and political statistics); other non-apparent/non-physical conditions. Relevant case studies will be introduced as examples of possible strategies able to produce celebrated qualified and diverse public spaces, along with a review of examples taken from other cities. A comparison of mutual effects with contemporary American cities using St. Louis as reference. A close look to the particular performance of the city of St. Louis and its pulses of contemporary urbanity and its shared spaces will introduce the debate into the local circumstances. The case study work will use graphic (mapping) and written techniques but also through the detection of the local agent's debates about urban activities. The educational objectives of the course are to provide tools and basic knowledge to understand, analyze and propose contemporary public spaces as well as to develop the capacities to distill the various elements that compose urbanity, and to recognize the interactions between them.

Credit 3 units.

A46 ARCH 562D Community Development I

Not-for-profit organizations are a major force in the development of urban areas. These groups range from neighborhood-based Community Development Corporations (CDC) to the St. Louis Alliance of Community Organizations (SLACO) and other governmental and private funding agencies and foundations. Housing, small business opportunities, job centers, transitional housing, neighborhood development, homeless shelters, and other types of projects are generally the concern of these corporations. It is the intent of this course to examine the role of not-for-profit corporations and the other players in the development of projects where not-for-profits played a significant role as either organizer, owner or developer. Representatives of various organizations, governmental agencies and foundations describing their institutional, legal and ethical roles in the projects make presentations throughout the semester. The case studies of specific projects are presented by teams at the end of the semester and a report is filed as part of an archive on urban and community development. The question that we ask is: How does community development occur using not-for-profit corporations? Open to juniors, seniors and graduate students; however, Master of Urban Design students are given preference. Fulfills Urban Issues elective requirement.

Credit 3 units.

A46 ARCH 563D Reconsidering the Margin: Places of Meeting, Spaces of Transformation

The financial crisis of 2008 and subsequent recession exposed the frailty of conventional modes of practice. The freezing of credit markets set off a contraction of increasingly bureaucratized creative fields such as architecture and fine arts and led to massive layoffs and underemployment. This extreme disruption coincides with an ongoing governmental disengagement from social assistance. The combination of the surplus of talent left by immobilized corporate practice and the vacuum created by a retreating government presents an opportunity to reconsider practice for a new generation in a way that engages a broader set of issues and problems.

The seminar builds upon existing relationships and a body of previous engagement in the Pagedale community while laying the groundwork for new action. This seminar challenges traditional modes and focuses of creative effort to arrive at a radical new form for creative practice. By challenging common assumptions and using creative production to confront the challenges facing residents and decision-makers, the course seeks to break down physical and disciplinary boundaries to achieve a radical new production. The seminar will include the following: examination of entrenched assumptions by students and community members through reading and discussion; involvement in the community, including volunteer work and civic participation; research into pressing issues that will culminate in a creative project; and dissemination of information to both classmates and the community as a whole. This course is open to disciplines outside of architecture. Students in Art and Social Work are encouraged to register. The course will meet periodically in the community. This course fulfills the Urban Issues or MUD Track elective requirement.

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A46 ARCH 563E Urban Theory & Cities in Latin America

This course proposes to explore the relationship between urban theories and the spatial construction of the city by using a number of Latin American cities as case studies. Some of the theories that will be examined here have been proposed as a way of reading and explaining the form, structure and functioning of existing cities. Others have been put forward as models for the planning of new ones. In one way or another, all of these urban theories have influenced and shaped the form and structure of our current cities and our ability to conceptualize them. The urban theories and cases reviewed will span from the colonial city to the contemporary metropolis and urban region. The disciplines from which this course will draw upon will include urban planning, architecture, geography, urban sociology and anthropology. The scope of this course is intentionally broad and diverse as it aims to reflect the multitude of factors that are involved in urban phenomena. Some of the themes that will be examined include the Spanish and Portuguese Colonial City; planned cities in the 19th century (the case of La Plata); modernization in Latin America; modernism and planned cities in the 20th century (the case of Brasilia); the "favelas" in Brasil and "villas miseria" in Argentina; postmodernism and globalization in urban studies; urban fragmentation in the contemporary metropolis (using the cases of São Paulo and Buenos Aires), and the debate on the sustainable urban form. The aim of this course is to provide a forum in which to discuss general theories and issues in urban thought, using primarily the cases of the cities that students will visit and experience first-hand over the course of the program. This course fulfills the Urban Issues elective requirement.

Credit 3 units. Arch: GAUI

A46 ARCH 563L Design as a Social Practice: Community Practice in Pagedale

This course will strive to understand our community through examining the inequities, divisions and tension within the St. Louis Metropolitan region and harness design as an agent for change and empowerment. The social and economic upheaval experienced in inner city neighborhoods and underserved communities over the last half century are the result of government and social services having withered in a period marked by dramatic social, demographic and technological changes effectively restructuring the U.S. economy. These issues may seem unrelated to the practice of architecture and

urban design, however they are fundamental to how design shapes community. At this moment, we are challenged as design professionals with the opportunity to engage and serve communities that have been marginalized by conventional modes of thinking and creative practice. The seminar builds upon existing relationships and a body work and engagement in the Pagedale community while laying the groundwork for new action. This seminar questions traditional modes of practice and common assumptions through focusing creative production to confront the challenges facing residents and decision-makers. The course seeks to break down physical and disciplinary boundaries to achieve a radical new production. The seminar will include the following: examination of entrenched assumptions by students and community members through reading and discussion; involvement in the community, including volunteer work, community engagement and civic participation; research into pressing issues that will culminate in a creative project; and dissemination of information to both classmates and the community as a whole. This course is open to disciplines outside of architecture. Students in Art and Social Work are encouraged to register. The course will meet periodically in the community. CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.
Credit 3 units.

A46 ARCH 564A Urban Development Seminar

Project-based research and discussions focus on the legal policy, social and architectural issues affecting the redevelopment of St. Louis and suburban areas such as Darst Webbe, Westminster Place, Clayton, and prototypical redevelopment of public housing projects of Carr Square, Darst Webbe and Vaughn into tenant ownership and market-rate housing neighborhoods. Topics include public policy issues affecting development, the availability and types of housing, transportation linkages, business, zoning issues, social and historical precursors. Through interaction with community leaders, teams of students from each discipline prepare a design proposal for an actual problem in the St. Louis area. This seminar is an interdisciplinary effort taught by faculty members of Washington University School of Architecture and the St. Louis University School of Law, Social Work and Department of Public Policy Studies. Prerequisite: 400 level and above. Limit 8 students. Fulfills Urban Issues elective for MArch degree.
Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A46 ARCH 564K European/Contemporary/Urban Public Spaces

The aim of this seminar is to describe and understand contemporary urban public space in Europe from the late 20th century to the present, as well as to anticipate possible future developments. The seminar will examine this complex subject by investigating the following complementary topics: historical considerations of elements of public space generation; the continually evolving definition of public space; possible boundaries between urban, non-urban and landscape; scale and other parameters (density, urban fabric); physical and geometrical magnitudes of urban public space; social and political parameters; and other non-apparent/non-physical conditions. Barcelona, Amsterdam and Berlin will be used as examples of cities able to produce celebrated qualified and diverse public spaces. In addition, a series of 12 relevant case studies will be examined. The possibility of mutual interactions with American cities will be considered, using St. Louis as a reference. The educational objectives of the course are to provide some tools and basic knowledge to understand, analyze

and propose a contemporary public space. We will learn how to distill the various elements that compose "urbanity," and to recognize the interactions between them. Fulfills Urban Issues elective requirement.

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 564L Borders, Boundaries, Nations

Lines on the land can determine our political rights, our ethnic identities, and our inhabitation abilities. Landscapes become the records of the powers of statecraft, the instruments of territorial division, the customs of inhabitants, the contests of politics, and the symbols of society. This course examines the development of landscape as the record of the political subject against the nation state and the ways in which ordinary inhabitation of land entangles each of us with large political structures. This entanglement is productive; cultural agency can change, topple or expand nations. The course will track borders and boundaries from the "Delmar Divide" to the Iron Curtain to the U.S./Mexico border. Students will review interpretive practices, including cultural geography, historic preservation, political economy, critical landscape study, and artistic production. Field outings will draw out the power structures that create, sustain, erase, and alter landscapes with national identities. Student work will include response writing, visual analysis, and a final project illustrating the state power play occurring in what could look like a very ordinary landscape.

Same as A48 LAND 564L

Credit 3 units.

A46 ARCH 565D Advanced Seminar in Urban Sustainability I

This seminar will investigate contemporary theories and methods of sustainable urbanism. Cities are increasingly the means through which a sustainable future for the anthropocene era is constructed. Within the sustainable urbanism paradigm, cities are understood as complex self-organizing open systems responding to socially constructed processes, conflicting values, natural resource limitations, extreme natural phenomena, man-made hazards, climate change and competing economic interests that inform urban change, design and development. Consideration will be given to the history, definition and reasoning for the urban sustainability paradigm; the theoretical constructs of sustainability, resiliency, adaptation and regeneration for post-carbon cities; the methods of analysis and measurement for urban sustainability; and the design of cities for livability, social inclusion, environmental performance, cultural diversity and economic equity. The course fulfills an Urban Design and Urban Issues elective for MUD, MArch & MLA degrees.

Same as A49 MUD 765D

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 566A Informal Cities: The Future of Global Urbanism

This seminar will research the morphology & the morphogenesis of the Informal City as it evolves to be an integral phenomenon of global urbanism, and the corresponding economic, social, architectural and urban theory. Today, one billion people live in informal cities (36 percent of the world's population) and this is expected to grow another one billion over the next 30 years. As it is currently evolving, the informal city is an urban phenomenon set up within the planned city's territory and increasingly an integral part of it — often comprising up to 75 percent of the city and one of the elements of urban morphology that shapes city design. Thus, it is no longer possible to accept a concept of the

informal city that centered on negative parameters (ghettos/slums/poverty/crime, etc.), but there is a need to find sustainable spatial solutions to integrate these settlements into the "formal" urban/architectural tissue leading to the dissolution of urban and symbolic boundaries between the "informal" areas and "formal" districts. To this end, the course will review various architecture and urban strategies and projects of informal urbanism in Asia, Africa and South America supported with an optional field trip to South America favelas/barrios in order to define a place of action for architects and urbanists in the informal city. The course fulfills the Urban Issue elective requirement for the MArch degree. Undergraduate enrollment is allowed by arrangement with the instructor.

Same as A49 MUD 566A

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 566D Advanced Seminar in Urban Sustainability II

Same as A49 MUD 766D

Credit 3 units. Arch: GAMUD, GAUI

A46 ARCH 568F House and Home: Habits and Habitation

House and Home are broad categories of thought that have multiple meanings. The words encompass not only terms of building, belonging and place, but also terms of order, action and affection. The house has also been the site of conception and invention for the architectural projects of many significant modern master architects. In many contemporary practices, house and home have retained many ideas of these masters. However, many practices have simultaneously probed new meanings that investigate the relationship between habits and habitation with investigations of gender, sexuality and political order. This course fulfills the History/Theory elective requirement.

Credit 3 units. Arch: CAST, GACS

A46 ARCH 571A Landscape History II: Prehistory to 1850

Current work in landscape architecture draws from a wider range of references than conventional landscape gardening, engaging the deeper roots of urban design, planning and infrastructure in order to create spaces that fully integrate with and inform the surrounding context. Accordingly, this course broadens the field of historical inquiry, taking in topics ranging from cultural understandings of space to the design of sacred sites, military installations and water systems. The survey begins with prehistoric settlements and ends with the dawn of professionalized landscape design in the 19th century. Students will work through class discussion and writing projects to trace the cultural currents linking the first endeavors in land-making to today's practice.

Same as A48 LAND 571

Credit 3 units. Arch: HT

A46 ARCH 573B Alternative Modes of Professional Practice

This course endeavors to reconsider the approach, means and delivery methods — the modes if you will — of architecture and its construction. Beginning with an overview of traditional project delivery, the course will serve as a foundation for future research by investigating, interviewing and compiling known methods of emerging practice trends and critical speculation of unproven types. The second stage will include reaching-out and bringing-forth a cross-section of experts and individuals spearheading similar strategies around the United States.

Credit 3 units.

A46 ARCH 573C Material / Practice

The seminar will provide each student a heightened understanding of material translation and detailing strategies that amplify conceptual design intent and that is sympathetic to the needs of professional practice. Content will endeavor to examine, at an advanced level, the intersections of design strategies with modes of professional practice. The semester will begin with an investigation of emerging practice trends, researching impacts on collaboration models, design approach, delivery methods and construction. The course will then shift to analysis and translation of conceptual design thought through to material, performative and experiential realization. Critical speculation of the underlying modes of practice and project delivery will parallel the analysis. The semester will conclude with material and detailing discourse in support of each student's studio work. Seminar dialogue will examine the overlap of practice and project delivery through the lens of design-thinking in lieu of the traditional lens of risk management. Where possible the course will bring forth experts from leading practices around the United States.

Credit 3 units.

A46 ARCH 573D Eye and Mind: Perception in the Folds

Perception is more than seeing; it involves an awareness of both internal and external contexts. Painters like Paul Cezanne and Francis Bacon captured the world as they perceived it, which in turn gives pause to our own understanding of it. The ways that we perceive through the mediums of painting, photography, and film speaks to our knowledge of the world, the limits of that knowledge, and our sense of being itself. "...[H]e who sees cannot possess the visible unless he is possessed by it, unless he is of it" (Maurice Merleau-Ponty, *The Visible and the Invisible*). This seminar will focus on the aesthetic theories of three French philosophers: Maurice Merleau-Ponty, Gilles Deleuze, and Jacques Derrida. We will use primary source material in small doses to facilitate close reading and rigorous thinking.

Credit 3 units. Arch: GARW, RW

A46 ARCH 574B Principles of the Virtual Design and Construction (VDC) Process

Virtual Design and Construction (VDC) is the use of multidisciplinary performance assessing models of the design/construct/own-operate process to support a variety of objectives. Intended for students who wish to explore the optimization potential of the VDC process, this course investigates VDC as managers/leaders in the Built Environment. The course focuses on developing models of integrating all perspectives: Design (architects/engineers/consultants), Construction (managers, contractors, subcontractors), Business (develop, own, operate) to overcome the technological and institutional changes and challenges of implementing VDC. Students will develop and implement fair-minded critical-thinking problem-solving techniques to advance contemporary decisions to improve virtual collaboration while reducing fragmentation and interoperability.

Credit 3 units.

A46 ARCH 579 Ecological Economics

This course is designed to give students an appropriate graduate-level understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics, and to explore the role this new paradigm is playing in the

movement toward a sustainable society. Standard economics — the neoclassical model — sees the economy as the whole that contains all other values; nature has value because some people will pay to experience it or to enjoy its services. Ecological economics reverses that relationship by acknowledging the environment, not the economy, as the containing whole. This it does through its grounding in the laws of energy — the laws that model the behavior of both natural and built systems. (While matter can be recycled, energy can't. No machine can take its own exhaust outputs as fresh inputs; no animal can survive by eating its own excrement.) Fulfills Urban Issues elective requirement. Fulfills MUD Track elective requirement. Credit 3 units.

A46 ARCH 579A Ecological Economics for Sustainable Cities and Landscapes

This course is designed to provide students with an understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics as it applies to cities and landscapes, and to explore the role this new paradigm is playing in the movement to convert our society from a high-throughput, unsustainable society to a lower-throughput, sustainable system. Standard economics (including the subfield of environmental economics) sees the economy as the whole that contains all other values. In this view, nature has value because some people will pay to experience it or to enjoy its services. Ecological Economics reverses that relationship by acknowledging that the environment, not the economy, is the containing whole. This approach comprises a revolutionary challenge to the foundational premises of contemporary economics. Economics has never undergone the thermodynamic revolution that swept through the physical, life, and social sciences in the late 19th and early 20th century. The course will look briefly at this intellectual history in order to place our studies into their broader social, historical, political, and disciplinary context — and to give students the conceptual background and tools they need to engage the old paradigm in ways that will promote its adaptation to physical reality. Same as A49 MUD 579A
Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 580 Design Thinking: Research and Design Methods

Covers the fundamentals of project planning, proposal writing and alternative research and design methods. This course is a prerequisite for Design Project (Arch 616). Grade of B- or better required in preceding two studios.
Credit 3 units.

A46 ARCH 600C Comprehensive Studio

A46 ARCH 601 Theories & Methods of Historical Research

What is architectural history? This is an advanced reading, writing and discussion seminar intended to better prepare students for research in the history and theory of architecture and urbanism. It is based on the premise that since contemporary design practices are not only data-driven, neutral and ahistorical, the ways that designers' conceptualize their work can benefit from a historically-informed understanding of how various approaches to architectural history have emerged over time. It seeks to consider how architecture and architectural history have been understood in the past, and

how the development of the discipline informs contemporary research in architectural history by examining how recent and contemporary historians of the built environment do their work. This course fulfills the History/Theory elective requirement.
Credit 3 units. Arch: GARW, RW

A46 ARCH 611 Architectural Design VII

Prerequisite: satisfactory completion of Arch 512. Twelve hours of studio work a week.
Credit 6 units.

A46 ARCH 611B Architectural Design VII (Buenos Aires)

Prerequisite: satisfactory completion of Arch 512. Twelve hours of studio work a week.
Credit 6 units.

A46 ARCH 611H Architectural Design VII (Mumbai)

Prerequisite: satisfactory completion of Arch 512. Twelve hours of studio work a week.
Credit 6 units.

A46 ARCH 616 Degree Project

Independently initiated design and research projects based on Design Thinking (Arch 580) Proposal to fulfill final requirements for degree award. Prerequisite: Design Thinking (Arch 580).
Credit 6 units.

A46 ARCH 623B History of Urban Design

Examines the history of urban design, with an emphasis on the period 1890 to the present. Major topics include the urbanism of the Spanish Laws of the Indies; the development of the row house and the urban square; the park, parkway and suburban planning of Frederick Law Olmsted and others; the urban planning ideas of Camillo Sitte, Ebenezer Howard, Otto Wagner, Antonio Sant'Elia, Eric Mendelsohn, Tony Garnier, Le Corbusier, the Soviet urbanists and disurbanists, CIAM (Congrès Internationaux d'Architecture Moderne), Team 10, Aldo Rossi, Venturi and Scott-Brown, the Situationists and New Urbanism; and various other approaches to be determined.
Credit 3 units.

A46 ARCH 646 Professional Practice I

Develops awareness and understanding of architectural practice including the relation of the profession to society as well as the organization, management and documentation of the process of providing professional services. Covers the areas of (1) project process and economics, (2) business practice and management, and (3) laws and regulations. Prerequisite: 500-level studio placement or above.
Credit 3 units.

A46 ARCH 648F Project Design Realization: From Concept to Construction

Advanced study of professional practice topics focusing particularly on project management, construction documents production, and construction phase services and responsibilities of the architect. Students will select a project which they have produced previously in design studio and will create construction documents for this project. Likewise, the individual projects will be used to discuss project management processes and construction administration. This is not a technology course,

but rather focuses on concepts and systems used by the architectural profession to describe architectural designs for the purpose of bidding the project and creating a legally binding document on behalf of architectural clients.

Credit 3 units.

A46 ARCH 652H Metropolitan Development: What's in a Plan?

This course explores pluralist, pragmatic and progressive planning strategies for American urbanism. It provides students with an introduction to the design and planning of American cities in the context of this country's democratic tradition, its multicultural society and the particular morphology of its urban areas. Contemporary American cities have urbanized in unprecedented and distinctive ways that suggest the creation of a unique urban culture, despite the seeming globalization of urban trends or the apparent universalization of urban forms. Identifying the role design can play in this culture requires a lucid appraisal of the context in which metropolitan development takes place. Four study modules introduce basic issues in planning law, real estate finance, urban economics and environmental planning through lectures and research projects, as well as the presentation of Metropolitan St. Louis development case studies by professional and political leaders.

Same as A49 MUD 652H

Credit 3 units. Arch: GAUI, UI

A46 ARCH 656 Metropolitan Urbanism

The seminar course investigates the morphology and morphogenesis of the contemporary America metropolitan urban landscape. The investigation attempts to define and understand the changing pattern, form and use of the metropolitan transect from the central city to the rural fringe. The objective of the course is to understand the indeterminate complexity and richness of morphological layering and traces in the urban landscape as a basis for critical practice. Required for MUD students. Fulfills Urban Issues elective requirement.

Same as A49 MUD 656

Credit 3 units. Arch: GAUI, UI

A46 ARCH 664 Historic Preservation/Urban Design

This class will explore the history and current practice of historic preservation in the United States and will relate them to local issues of contextual architecture, sustainable development, cultural tourism and urban design. Emphasis will be placed on the practical knowledge needed to participate professionally in historic preservation: how to evaluate the associative and architectural significance of a property or district, how to provide legal protection and redevelopment incentives for historic resources, how to appropriately restore, rehabilitate, adapt and add to historic buildings and how to incorporate historic preservation into the sometimes-contentious framework of community planning. The course will focus on readings, student discussion and case studies that draw extensively on real preservation situations in the region including trips to the innovative Cupples Warehouse and Bohemian Hill projects, the endangered Old North St. Louis neighborhood and a charrette in the Central West End.

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI, UI

A46 ARCH 711 Elements of Urban Design

The first of a three-semester sequence of design studios for students in the Master of Urban Design program.

Credit 6 units.

A46 ARCH 714 Metropolitan Urban Design

The third in a three-semester sequence of design studios for students in the Master of Urban Design program. This is a summer studio held in an urban location away from St. Louis.

Credit 6 units.

A46 ARCH 760 Thesis Research

Credit 3 units.

Landscape Architecture

Visit online course listings to view semester offerings for A48 LAND (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A48&crslvl=5:8>).

A48 LAND 501 Landscape Architecture Design Studio III

This studio investigates the planning and design of a post-industrial site in Saint Louis city, through reclamation strategies and an understanding of the site's ecological, historical and cultural underpinnings. Students will propose a design that addresses both the specificity of site and the larger environment through conceptual and analytical research. Examination of program, infrastructure, natural processes and reclamation will lead to a generative process to shape the landscape at multiple scales — from urban context to site concepts to personal experience.

Credit 6 units.

A48 LAND 520 Landscape Representation II: Digital Tools

In the second course of the MLA representation series, students will be introduced to digital landscape illustration with a focus on representation of the phenomenological. This course will explore hybrid representation combining hand-drawing and digital techniques, diagramming as dynamic process (using tools such as Adobe After Effects), landscape entourage techniques, and their implementation within traditional architectural drawings, such as plan, section, elevation and perspective. Focus will be placed on exquisite craft, intelligent methods of creation and clarity of conveyance. Open to all graduate and undergraduate students interested in representing site and landscape, with the permission of the instructor.

Credit 3 units.

A48 LAND 521A Visualizing Ecological Processes

This course focuses on building skills in 3D modeling, animation and simulation to add 4D (time) processes into analysis, experimentation and presentation. Following the introduction and basic skills preparation, the course will focus on aspects important to creating animations and illustrations that depict landscape environments and dynamic processes. Projects will explore graphics techniques from various visual arts industries in order to expand the repertoire of skills. Techniques incorporating 3ds Max, After Effects, ArcGIS, Photoshop and/or Illustrator will be examined to illustrate chronological, phenomenological, experiential and conceptual ideas in design. Course projects will focus on development of narrative and emphasize the art of storytelling as they pertain to representation and illustration of design intent. Fulfills Digital elective requirement. Prerequisite: A48 520 or equivalent course(s) approved by instructor.

Credit 3 units.

A48 LAND 524E Ordinance: Territorial Rules & Urban Administration

What is the link between rules and form? What is the relationship between form and politics? This course will essay an administrative history of the built environment, taking as its starting point the rules, codes, ordinances, laws and guidelines that shape the landscape. We will turn a critical yet curious eye toward historic and contemporary case studies that shape or are shaped by a robust regulatory framework — from the French Forest Ordinance of 1669 to the work of MVRDV and contemporaries. We will examine both the built results and the theories and philosophies of design by which they are animated. In the arc of our readings, we will seek to link our territorial, urban and architectural understanding with broader historical and economic moments. In addition to carrying out readings, discussions and analyses, students will work toward *Ordonnance*, a collective publication that will historicize and diagram this administrative impulse.

Same as A46 ARCH 524E
Credit 3 units.

A48 LAND 524F Critical Spatial Practice: Art / Architecture / Landscape / Urbanism

Critical Spatial Practice reads the history of art, architecture, landscape and urbanism across the grain in an effort to tease out latent affinities and to heighten meaningful antagonisms. In particular, this class takes a critical look at the ways in which creative practice has situated itself in relation to politics, power, society and space, while maintaining a certain autonomy from each of these registers. Themes such as historic and collective memory; empire and war; publics and counterpublics; city and countryside; institutions and the everyday; will all be central tropes as we ask questions of what, exactly, provokes one to make. Each of these disciplines shares a certain projective and critical orientation to the world — but what is it that makes their methods so distinct? What might we learn from knowledge of these differences? Where do shared passions break down? As critical practitioners, we look to make sense of the world — while our search for meaning may take radically different forms. Throughout the term, we will be focusing on a range of projects, movements, artists/practitioners and groups that take seriously the situatedness of their work. We will cover practices that might fall under more recognized categories, such as: performance, land art, ecology, social practice, everyday urbanism, pedagogy, curation and installation. We will interrogate the modes of production as well as modes of distribution that creative practitioners work within and against. We will look at the history of artists and designers engaging the built and natural worlds in ways that exceed the disciplinary frameworks of their time. From the Dada excursions to the Situationist Derives, from the urban representation of the CIAM grille to the urban choreography of Daniel Buren, and from the Romantic geography of Humboldt to the displaced geography of the Atlas Group. Throughout, we will be reading foundational texts — theoretical, historical and methodological — that help situate these projects and movements within their contemporary milieu. By focusing on the context of these practices, this course has its eye on the many conceptual elisions and canonical lacunas that emerge in disciplinary-specific histories from the early 20th century to the present — while also operating as a retroactive genealogy of the aspirations of the Sam Fox School. Weekly meetings will be structured around an organizing theme with related readings, screenings and viewings. Each class will consist of a short lecture by the instructor framing the topic, a student

presentation weaving a network of thought around a single specific work/project, and subsequent discussion. Final projects will critically engage the themes of the course as students produce a publication, installation, video or performance that takes a position.

Same as A46 ARCH 524F
Credit 3 units.

A48 LAND 524G American Cultural Landscapes

Whether we are designing buildings, landscapes or neighborhoods, we are working on a cultural landscape — a place built from customs, memories, histories and associations as much as visual design itself. This course provides an overview of American cultural landscapes and their alteration, through readings, visual art, site visits and field surveys. Symbolic, utilitarian, architectural, scenographic or personal meanings will be explored alongside site histories. Throughout the semester, the course will interrogate the concept of vernacular landscapes, more broadly defined as landscapes of everyday life. From roadsides to homesteads to tourist attractions to landfills to urban neighborhoods, vernacular landscapes define the image of America to large extent. Readings will unpack the contingencies between design, economics, cultural politics, agriculture, consumption and technology that inscribe culture across the land. Course work will be informed by the work of geographers, historians, writers, preservationists, filmmakers and visual artists. J.B. Jackson and Lucy Lippard's theories about the cultural uses of land will be anchors. Along the way, course readings and experiences (including fieldwork) will make stops along the way to examine local landscapes including a radioactive landfill, the neighborhoods of Detroit, the "wild" west, Appalachian terrain, the Mississippi River, the Sunset Strip, the Buffalo Bayou in Houston and more. The course will pose a taxonomy of the types of cultural landscapes while presenting various methods for decoding, recording, interpreting, preserving and altering these places.

Credit 3 units. Arch: GARW, RW

A48 LAND 529G The Unruly City

The history of the American city is the history of conquering the "unruly": real estate parcels, neighborhoods, buildings, and even people that represent decay, obstacles to capital, unlawfulness or disorder. Designers denigrated unruliness in the pursuit of modernization in the 20th century, but today seem more conflicted on the constitution and remedies for disorder. Is disorder in the eye of the beholder? What disrupts urban life more, the broken windows of vacant houses or the arrival of Whole Foods in a poor neighborhood? Neighborhoods that have lost most of their population and buildings, or new football stadiums offered as economic and architectural solutions to blight? Programs of "right-sizing," urban agriculture, tactical urbanism, infrastructure planning, police reform, upzoning (or unzoning), historic preservation and mass transportation have operative impacts that can either squelch or protect the "unruly." This course examines the divergent definitions of order and disorder that are shaping contemporary approaches to urban planning, governance and cultural production. Readings will include examination of the framing ideological debate between Robert Moses and Jane Jacobs. There will be several field trips to connect course readings to physical conditions around St. Louis.

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A48 LAND 530A Special Topics: Public Space and Ecological Knowledge

Public space is shaped by design but also by political, social, and environmental dynamics. Ecological design, especially on public land, requires alignment of various values, desires, and systems. One factor that limits the cultivation of a more ecological urbanism is the knowledge gap about urban ecological systems. Urban ecology research is on the rise, but experiments sometimes come into tension with the public. This course will locate excellent examples of ecological design from history to the present, discuss the role of the advocacy and public awareness, and speculate about how design could further collaborate with ecology. The first half of the semester will be spent touring-in person or virtually-conversing with experts, and researching as a group. The second half of the semester will be spent studying a single public space to understand how ecological ideas are studied there and how ecological values are cultivated through design and operations. This course will ask the following questions. Should ecological agendas be a matter of science and governance, or does ecological urbanism require democratic participation? Can design communicate ecological ideas for a larger public? Could design even be instrumental in the discovery of new ecological ideas? Toward the end of the semester, the work will be speculative design and 1:1 intervention. Markers, signs, or some other system of interpretation will be staged in an attempt to draw urban residents into ecological ideas.

Credit 3 units. Art: CPSC

A48 LAND 530B Special Topics: American Cultural Landscapes: St. Louis

No definition of landscape is free from challenge, nor is any claim on what constitutes culture. This seminar will work as a concurrent critical workshop to The Cultural Landscape Foundation (TCLF) project of developing its guide to the cultural landscapes of St. Louis, which will be part of its What's Out There City and Regional Guide series. Critical inquiry will focus on the different foundational concepts of the "cultural landscape" advanced by TCLF and disciplines including anthropology, historic preservation and landscape architecture. The categories of evidence, documentation, authenticity, integrity and association will be examined as they are used to define what constitutes human heritage. Students will expand the scope of the TCLF project by developing alternate ways of representing and defining landscapes as well as by proposing additional landscapes for inclusion. Work will entail readings in cultural landscape and heritage theory as well as primary source archival research on sites in metropolitan St. Louis.

Credit 3 units. Art: CPSC

A48 LAND 530F Special Topics in Landscape Architecture
Credit 3 units. Art: CPSC

A48 LAND 541A Plants & Environment

Students will learn to identify plants found in the natural communities and built environments of Missouri and the Midwest, both exotic and native, in order to form a base palette of landscape plants for the region. In addition to learning the plants' spatial characteristics, students will gain a basic understanding of the biological factors and horticultural practices influencing plant growth. While addressing the roles of individual

species and selections, plants are also examined as parts of an interdependent community. The final goal will be to assess, and begin to practice, the appropriate use of plants in landscape design.

Credit 1.5 units.

A48 LAND 541B Grading + Landform

This introductory course in earthwork and grading combines the study of historical and contemporary landforms in designed landscapes and artworks with the technical aspects of surveying, contours, formulas, drainage and graphic representation. Students will gain a basic understanding of three-dimensional form, contour manipulation, the concept of drainage, and the relationship between planting and landform. The observation, measuring and experience of landform in case studies will demonstrate how topography shapes our perception and use of space.

Credit 1.5 units.

A48 LAND 542A GIS for Site Design

This course module will introduce GIS mapping software and its application to methods used in site planning and design. The focus of this half-semester course is to understand the potential of GIS to visualize, analyze and utilize complex data. Students will learn techniques and tools in ArcGIS software, and explore how these can be applied to projects specific to individual sites. This course will introduce new skills and analytical complexity while building upon previously learned representation techniques. MLA students have priority.

Credit 1.5 units.

A48 LAND 542B Planting Design

The Planting Design module builds upon the Plants and Environment class, applying and expanding the vocabulary of plant material to understand the definition and construction of landscapes. Students will gain an awareness of planting typologies and strategies through function (micro-climate control, water consumption, hardiness) and perception (shade, color, density, texture). A series of design exercises will inform strategic plants specification in order to suit, define or reinvent landscape typologies — from parks and gardens to green roofs and restorative landscapes. Conceptual thinking and an understanding of management and sustainability are emphasized. The maximum enrollment for this course will be 12. MLA students have priority.

Credit 1.5 units.

A48 LAND 546D #pyrocene

In California, Australia, the Amazon, and beyond, fire has become the "new normal." With wildfires burning hotter, faster, larger, and longer, the scholar Steven Pyne has declared a new "age of fire": the Pyrocene. This course investigates the Pyrocene at the intersection of landscape and urbanism as a phenomenon that demands new ways of understanding, practicing, and connecting architecture, urban design, and landscape architecture. Students will situate recent burn events -- from California's Wine Country and Camp fires to the 2019 Amazon fires to Australia's recent "Black Summer" -- in long cycles of time, attending to processes of transformation in the long tail of disaster as ecosystems reassert themselves and real estate speculation recolonizes land. Students will interpret burn events in the historical context of imbricated social and ecological crises: a crisis of growth, pushing development into wildland-urban interfaces; a crisis of climate

change, accelerating burn seasons; and a crisis of colonization, suppressing indigenous land stewardship traditions. Where the media fixates on "morning after" devastation and gazes "in" at burn zone spectacle, students will endeavor to look "out" from sites of intensive destruction and regeneration, interrogating contemporary urbanism, landscape, economy, and ecology through a critical Pyrocene lens. Drawing on scholars such as T.J. Demos, Donna Haraway, and Jason W. Moore as well as the speculative fiction of Octavia Butler, Ursula K. Le Guin, and Kim Stanley Robinson, students will think about design practice within larger webs of life and politics, considering political coalitions and cultural forms that point out of the Pyrocene. Credit 3 units. Arch: GAUI, UI

A48 LAND 551A Landscape Ecology

Effective and sustainable design requires knowledge of the unique combination of systems, processes and organisms that define specific regions, as well as the basic principles governing ecosystems. Applied ecology and design must also consider the role of human cultural interactions in shaping these systems. This course provides a broad understanding of ecological concepts focused through the genesis, character and cultural relationships of contemporary ecosystems. Students will learn to use concepts of ecology, conservation biology, evolutionary theory, and natural and cultural history to determine the factors and system constraints influencing the design of landscapes. The course focuses on local ecosystems: their origins, composition, process regimes, and historic and contemporary cultural interactions. Through this immersion in local landscapes and habitats, students will gain an understanding of biological systems and ecological concepts, and acquire the tools to inform ecologically relevant and sustainable design anywhere in the world. The class incorporates lectures, guest presentations, field trips, and extensive readings and class discussions, along with assignments combining research and analysis in a design context. The maximum enrollment for this course will be 12. MLA students have priority. Credit 3 units.

A48 LAND 553 Integrated Planting Design

This course focuses on both the cultural, environmental, scientific and the technical aspects of planting design. The course will be taught in three modular sessions: horticulture and the science of plants; typologies and design such as bosque, grove, glade, alley, meadow, wetlands, hedgerow, etc., and their origins in productive landscapes, and application to contemporary landscape architecture; and the practical hands-on experience in the field with both design documentation to installation techniques. The course will offer several field trips to experience urban revitalization, various design typologies, sustainable land use, reclamation and restoration. Credit 3 units. Arch: ECOL

A48 LAND 553A Seeds

Seeds are life; they are "time capsules" of genetic code in waiting. For millions of years, seeds have been evolving into giants like the Coco de Mer (66 pounds) as well as into the smallest orchid seeds in the world (10 billionths of an ounce). However, there is no more powerful force in the evolution of seeds than human intervention. Through selective breeding, seeds and plants have been bred to produce desired characteristics since the dawn of humanity. This has been so successful that the codependency between seeds and humans has grown and never been more evident than in agribusiness today. Seeds feed us; we need them for our survival. The

"wizards" argue that biotech and science will help engineer seeds that will save humanity in the age of climate change. The "prophets" argue that conservation and biodiversity are what are needed to preserve what we have left of local ecologies. It is a debate worth having in the Sam Fox School. Seeds have much to teach us as metaphor and material to explore ecologies, landscapes, biodiversity, biomimicry, technology, engineering, climate change and food systems. This seminar will offer students multiple entry points for engagement, from autumn seed saving and seed planting to debate, community engagement, conversations with biologists and engineers, a visit to the Danforth Plant Science Center, a biomimicry exercise, and other potential ideas for collaboration. Credit 3 units. Arch: ECOL

A48 LAND 554C Vacant/Wild/Ruined: Feral Urbanism

What urban design practices are needed in areas that have declined, that are in decline, or that simply are not growing? What if we let the city decline or go wild? What if we look at decay, ruin, wilderness and depopulation as something other than a crisis? This seminar examines experimental urban land management and preservation practices that embrace systems of emergent, wild and unexpected urbanism but that also raise questions of austerity and democratic rights to the land. With foundational readings as a guide, students will explore topics of state landbanking and autonomous land trusts, managed depletion (including St. Louis' infamous "Team Four" memorandum), wilderness conservation and "greenway" creation, agricultural land reclamation, homesteading in and deconstruction of vacant buildings, tactics for fighting absentee owners, and experimental preservation practices. Starting with grounding readings in principles of the American orientation to wilderness, ecological vitality and urbanism, the seminar explores the modern history of efforts to harness decline, vacancy, depletion and no-growth as productive forces. The seminar will root itself in Old North St. Louis, a neighborhood in St. Louis that has lost more than 60% of its peak population but that has continued to thrive. Students will work on projects serving Old North's ongoing efforts to harness urban conditions for a sustainable, just and vibrant future. Credit 3 units. Arch: ECOL, GACS, GAUI

A48 LAND 560 Introduction to Arboriculture

Trees play a significant role in the overall ecosystem of our planet. They function both globally as well as microscopically. By better understanding the anatomy, physiology, growth habits and needs of trees, we can make more informed decisions as designers. There are finite, quantifiable aspects to how a tree develops, yet there are also environmental and human factors that can disturb or interrupt normal functions and patterns. It is the charge of the designer to delve into the science of trees in order to better inform our design solutions and make appropriate sustainable choices. Credit 3 units.

A48 LAND 560A Trees, Soils, & Systems: Introduction to Arboriculture

Trees play a significant role in the overall ecosystem of our planet. They function both globally as well as microscopically. There are finite, quantifiable aspects to how a tree develops, yet there are also environmental and human factors that can disturb or interrupt normal functions and patterns. It is the charge of the designer to delve into the science of trees in order to better inform our design solutions and make appropriate sustainable

choices. The course objectives are to make the student familiar with the anatomy of trees, to understand soils and their effects on trees and vice versa, to increase their abilities to identify trees, especially during the winter months, to understand the business of how trees are managed, whether it be growing, maintenance or specification of appropriate local nursery stock and to gather knowledge of trees and their relationship in our sustainable environment. Each class will have an informal lecture component that will present the latest in technologies of arboriculture practices. The class readings and assignments will correspond with the lecture topics, and a subsequent discussion will follow or be intertwined into the lecture presentation itself. The application of the information will be in clear, concise weekly exercises. There will be several field trips to the Missouri Botanical Garden, a trip to Forest Park to look at the varied tree habitats and what worked and what is not working, as well as a trip to a local tree nursery.

Credit 3 units. Arch: ECOL

A48 LAND 564L Borders, Boundaries, Nations

Lines on the land can determine our political rights, our ethnic identities, and our inhabitation abilities. Landscapes become the records of the powers of statecraft, the instruments of territorial division, the customs of inhabitants, the contests of politics, and the symbols of society. This course examines the development of landscape as the record of the political subject against the nation state and the ways in which ordinary inhabitation of land entangles each of us with large political structures. This entanglement is productive; cultural agency can change, topple or expand nations. The course will track borders and boundaries from the "Delmar Divide" to the Iron Curtain to the U.S./Mexico border. Students will review interpretive practices, including cultural geography, historic preservation, political economy, critical landscape study, and artistic production. Field outings will draw out the power structures that create, sustain, erase, and alter landscapes with national identities. Student work will include response writing, visual analysis, and a final project illustrating the state power play occurring in what could look like a very ordinary landscape.

Credit 3 units.

A48 LAND 565 Landscape Technology

Throughout the world of spatial design, there has been a strong resurgence of interest in landscape methods as a comprehensive and innovative approach toward defining and engineering sites. Techniques of working the land engage dynamic processes, molding conditions and creating forms in order to control erosion, conserve water, and minimize human impacts. As such, landscape methods have created new standards of performance for sites of all sizes and circumstances. Accordingly, this course, intended for students across disciplines, presents an integrated approach to site planning through the intensive study of applied landscape systems. The material covers the spatial and functional systems of designed landscapes and their associated computational and technical aspects: micro- and macrograding, path alignment, and drainage calculation. Through studying these techniques, students will learn to implement and quantify water management, microclimate manipulation, and low-impact circulation, parking and servicing. The principles and methods are presented through short lectures and supported by case studies, class workshops and design exercises, tying theory to practical applications. The maximum enrollment for this course will be 12. MLA students have priority.

Credit 3 units.

A48 LAND 571 Landscape History II: Prehistory to 1850

Current work in landscape architecture draws from a wider range of references than conventional landscape gardening, engaging the deeper roots of urban design, planning and infrastructure in order to create spaces that fully integrate with and inform the surrounding context. Accordingly, this course broadens the field of historical inquiry, taking in topics ranging from cultural understandings of space to the design of sacred sites, military installations and water systems. The survey begins with prehistoric settlements and ends with the dawn of professionalized landscape design in the 19th century. Students will work through class discussion and writing projects to trace the cultural currents linking the first endeavors in land-making to today's practice.

Credit 3 units. Arch: HT

A48 LAND 571A Landscape Architecture History & Theory

Current work in landscape architecture draws from a wider range of references than conventional landscape gardening, engaging the deeper roots of urban design, planning, and infrastructure in order to create spaces that fully integrate with and inform the surrounding context. Accordingly, this course broadens the field of historical inquiry, taking in topics ranging from cultural understandings of space to the design of sacred sites, military installations, and water systems. The survey begins with prehistoric settlements and ends with the dawn of professionalized landscape design in the 19th century. Students will work through class discussion and writing projects to trace the cultural currents linking the first endeavors in land-making to today's practice.

Credit 3 units. Arch: CAST, GACS, HT

A48 LAND 574A Modern and Contemporary Landscape Architecture

This course examines significant theories and discourses in modern landscape architecture that have informed contemporary modes of practice. Organized around specific topics and lenses (such as site, ecology, art and sustainability), the course aims to provide a number of critical perspectives on the relevance of landscape architecture as a cultural practice. Readings and discussions will supplement lectures to trace back contemporary ideas to the late 19th and early 20th centuries. We will look at how broader transformations in social, environmental, economic and technological realms have affected discourse in landscape. To this end, students will be introduced to definitions that distinguish between landscape as a medium, landscape as an ideology, and landscape as a profession. Through weekly reviews of seminal projects and built works, we will examine significant styles, movements and design principles in landscape architecture. The course incorporates field trips and presentations by visitors, as well as applied research. It is open to both undergraduate and graduate students in the disciplines of landscape architecture, urban design and architecture. Priority is given to MLA students and undergraduate landscape architecture minors. Can count as a History/Theory elective.

Credit 3 units. Arch: GACS, HT

A48 LAND 575 Research in the Landscape: Methods and Practices

This course is intended to cultivate the research methods essential to practice and study in the landscape today. As the culmination of the landscape history/theory sequence, we will build on prior curricular study and experience in research

to create coherent frameworks for the theory and practice of research. In such a way, we will form an overview of the varied ways by which useful information can be derived from existing sources in order to advance the design and study of landscapes. Students will engage and practice a variety of research activities including archival research, textual and visual interpretation, on-site environmental analysis, and social survey. Working with a high degree of independence and initiative, students will engage scholarly works both as objects of critical reflection and as potential models for their own explorations. Though open to all design students, this course will optimize prior experience with ecology, GIS, and the discipline of landscape architecture. Credit 3 units.

A48 LAND 582 Independent Study

Credit variable, maximum 3 units.

A48 LAND 601 Landscape Architecture Design Studio V

Credit 6 units.

A48 LAND 602 Landscape Architecture Design Studio VI

The second comprehensive studio investigates a specific design problem to a high level of articulation and resolution. The problem is identified by the studio instructor, and students are empowered to develop generative processes based on a conceptual framework of their own devising. Emphasis is on the inculcation of novel, energetic, and rigorous design inquiries that defy pragmatic constraints at the same time as establishing new forms of landscape architectural practice. Credit 6 units.

A48 LAND 645 Professional Practice for Landscape Architecture: Business, Practice and Management

Advanced study of professional practice topics focusing on firm management and project management for landscape architecture projects. Firm-related topics include starting a practice, financial management, legal structures, marketing, staffing, professional ethics and risk management. Project-related topics include fee negotiation, project structures and participants, scheduling, use of contracts and management documents, and construction document systems. Course activities include project site visits and visits to local firms with landscape architecture design services. Credit 3 units.

A48 LAND 6451 Professional Practice for Landscape Architecture Workshop

Students receiving dual degrees in the Master of Landscape Architecture and the Master of Architecture programs will be required to complete A46 646 Professional Practice in the Architecture curriculum. Additionally, dual-degree students will be required to complete A48 6451 Professional Practice for Landscape Architecture Workshop. This six-part workshop includes several of the sessions presented in A48 645 Professional Practice for Landscape Architecture, in particular, visits and sessions held at local Landscape Architecture firm offices. Study of professional practice topics focuses on firm management and project management for landscape architecture projects. Firm-related topics will include starting a practice, marketing, staffing, professional ethics and risk

management. Project-related topics will include fee negotiation, project structures and participants, scheduling, use of contracts and management documents, and construction document systems.

Credit 1 unit.

A48 LAND 681 Independent Study

A48 LAND 682 Independent Study

Credit variable, maximum 3 units.

Urban Design

Visit online course listings to view semester offerings for A49 MUD (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A49&crslvl=4:8>).

A49 MUD 4102 Lively City: Behavioral Studies & Public Space Design

During this three-day masterclass in Berlin, Germany, 20 students will have the opportunity to learn about behavioral studies and the design of public spaces. Working alone and in small groups, students will acquire new perspectives and skills that put people and their needs at the heart of the creative process of re-imagining and transforming cities. Livability, lively cities, public life and other concepts describing inviting, vibrant and stimulating urban environments are frequently communicated in new visions for the future of cities today. This focus on "urban life" is a direct reaction to the urban realities created in the 20th century, where increases in our standards of living and the associated city building processes have created areas in which large and increasing numbers of people have become isolated from each other, socially and geographically. Despite our new awareness for the need to plan for a shared and intensified urban life in sustainable cities, we continue to have difficulties in understanding exactly what this "urban life" is, how much of it we truly want and need, and how we can reconcile the often conflicting and simultaneous needs of people for privacy and social stimulation. Employing the examples of University City and the Gateway Arch/Archgrounds the class will study behavior in accessing and using defined sections of both urban areas as a way of dealing with complex urban design challenges in St. Louis. Through field studies and observations, each student will explore cost-effective and culturally sensitive solutions that can improve the integration of these important urban assets in the City of St. Louis. Open to all graduate students, with priority given to MUD studio and seminar students. Visas are required to travel to England, depending on the passport country of the student. Preparation for visa applications begins on the first day of classes during the spring semester. There is a minimum enrollment of eight by February 1. Credit 2 units.

A49 MUD 421W Designing the Modern City

This course, which is based on the textbook *Designing the Modern City: Urbanism Since 1850*, is a lecture course that examines designers' efforts to shape modern cities. Topics covered include the technical and social changes in mid-19th century industrial cities, notably London, Paris, and Barcelona, as well as varied efforts to shape urban extensions and central new interventions elsewhere. These include reform housing efforts for the working class in 19th-century London

and New York, Städtebau (city building) in German-speaking environments, the Garden City Movement, the American City Beautiful movement, "town planning" in Britain, and "urbanisme" in France (the source of the contemporary term "urbanism"). Less well-known topics that will also be addressed are urban modernization in East Asia before 1940 and suburban planning in the United States, including Frank Lloyd Wright's Broadacre City. The book also addresses social change and modern urbanism in Europe in the 1920s, including the emergence of CIAM (International Congresses for Modern Architecture), which met from 1928 to 1956; the political, technological and urban transformations of World War II; the expansion of racially segregated decentralization in the United States; and some European and Latin American postwar urbanism. It also addresses urbanistic aspects of postwar architectural culture, including critiques of modernist planning by Jane Jacobs and others and more recent responses to the ongoing challenges posed by efforts to create organized self-build settlements and to make more ecologically sustainable cities.

Same as A46 ARCH 421W

Credit 3 units. Arch: GAMUD, GARW, GAUI, RW

A49 MUD 422J Confronting Urbanization: The Interactive Tissue of Urban Life

This course invites architecture and urban design students to explore the urban condition through the lenses of its interactive tissue -- a tissue that includes smartphones, the World Wide Web, credit cards, highway systems, airports, sidewalks, and indoor plumbing. Within this frame of reference, students are encouraged to investigate, unearth, and document with surgical precision the emergent interrelationships between actors, the agency through which actors engage with the interactive tissue, and the ways in which these actors and relationships shape and influence one another. With the understanding that ideas are generated through speculation, projection, and experimentation, we will use the third dimension as a point of departure toward the fourth dimension of time, and we will aspire to the fifth dimension of lived experience. It is most welcomed that students bring their curiosity to the course, that they are interested in being investigative, and that they are open to various mediums ranging from reading theories of urbanization, drawing, and experimenting with physical/interactive objects to using projection as a tool to document their research in both analog and digital formats. The final product of this course will be a presentation during which students will present their research through multiple media outlets, which may include drawings, installation work, or moving images.

Credit 3 units.

A49 MUD 430A Special Topics in Urban Design: Confronting Urbanization

This course invites architecture and urban design students to explore the urban condition through the lenses of its interactive tissue -- a tissue that includes smartphones, the World Wide Web, credit cards, highway systems, airports, sidewalks, and indoor plumbing. Within this frame of reference, students are encouraged to investigate, unearth, and document with surgical precision emergent interrelationships between actors, the agency through which these actors engage with the interactive tissue, and how these forces shape and influence one another. With the understanding that ideas are generated through speculation, projection and experimentation, we will use the third dimension as a point of departure leading toward the fourth dimension of time, and we will aspire to the fifth dimension of lived experience. It is most welcomed that students bring

curiosity to the course; they should be interested in being investigative and open to various mediums, including reading theories of urbanization, drawing, experimenting with physical/interactive objects, and using projection as a tool to document their research in both analog and digital formats. The final product of this course will be a presentation in which students will present their research through multiple media outlets, which may include drawings, installation work, or moving images.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 463B Emergent Urbanisms

This course surveys emergent models of urbanization in globalizing cities that thus far defy categorization or exist peripherally in studies of urban form. The goal of the course is to equip students with the theoretical and historical background, the analytical tactics, and the critical awareness necessary to reposition themselves as designers in these increasingly challenging contexts. Through case study examples and supporting readings, the course will decipher the formal, social, and environmental effects of particular processes defining new urban spatial configurations in city-regions around the globe. Most of these processes are driven by discourses of "efficiency," such that urban forms are increasingly inflected by economic operating systems, as they are subsequently detached from traditional concerns of livability and public interest.

Emerging urban assemblages include: massive manufacturing warehouse landscapes or logistical distribution centers and "aerotropolis" transit hubs as well as those spaces left behind by regional restructuring: de-urbanizing (or deliberately erased) environments which contradictorily "enable growth" in other areas (or over the same areas); and the informal settlements that emerge more spontaneously on the margins of mainstream urban policy. Students will use their understanding of these spatial and logistical configurations to project creative models for redirection or engagement. Sources and analytical tactics will be drawn from across fields including design, sociology, geography and history. Fulfills Urban Issues elective requirement, MUD Track elective requirement.

Credit 3 units.

A49 MUD 463C Invisible Cities

This graduate and advanced undergraduate seminar takes as a point of departure the famous 1972 Italo Calvino text that reframes a single city (Venice) as multiple cities, told through a sequence of discrete narratives and descriptions. Each of Calvino's invisible "cities" reflect different emotional and physical environments and possibilities — or impossibilities — for their inhabitants, yet are all still connected through an overarching narrative. Invisible Cities, the course, builds on this premise that a city is not a one-size-fits-all experience (nor a monolithic construct with a uniform constituency), but instead is composed of radically different environments all selectively accessed, depending on one's positionality or relationship to urban redevelopment processes. In places like St. Louis — but in fact in all American cities — residents live out different urban realities or imaginaries, with unequal access to the same services, provisions and processes. A highly visible instance of this occurs along Delmar Blvd in St. Louis where two contrasting lived experiences play out in neighborhoods across from each other on the north-south divide. However, this class posits that much less visible instances of the duplicitous city also exist, in spaces not geographically divided, but (more insidiously) overlaid. The course will focus on this conceptualization of inequality where both privileged and underserved populations co-exist in much more intertwined ways. Within any given block,

neighbors live according to different opportunities, for education, health access, police services, or routes to property acquisition and financing. These are the invisible, spatially simultaneous cities; the urban realities that are much harder to see — at least to those who do not live those realities on a day-to-day basis. Like in Calvino's world, urban and lived space is endlessly continuous and accessible for some; for others it is fragmented, even disorienting or opaque. This course will examine, frame, collect and document the various manifestations of invisibility together with the political instruments and policies that produce — and reproduce — it. We will use the St. Louis region as our primary focus, with comparisons to other sites. Our studies will involve a close re/reading of many of the mechanisms of daily governance and urban design such as policies, planning tools, legal, financial and real estate protocols and of course design decisions and processes; i.e., the apparatuses of urban redevelopment that exist right before our eyes. The seminar welcomes both graduate students and advanced undergraduate students from across disciplines. Support for Invisible Cities is provided by the Washington University in St. Louis Ferguson Academic Seed Grant Program granted through the Offices of the Chancellor and Provost and the Olin Business School. Fulfills Urban Issues and MUD Track elective requirement. Same as A46 ARCH 463C
Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 5078 Developing Sustainable Urban Communities

Across the country, there is a drive to develop high-quality, economically and racially diverse, vibrant and sustainable urban communities. St. Louis is no exception to this trend. For reasons of sustainability, poverty alleviation and city building, community leaders and public officials in St. Louis are working to develop neighborhoods and communities that incorporate these factors. Developing Sustainable Urban Communities is a project-based course for graduate students and advanced undergraduates which asks interdisciplinary groups of students to contribute solutions to substantively and politically challenging place-based urban redevelopment challenges in St. Louis. Students will work in small teams to develop their projects over the course of the semester through research, dialogue with a team of interdisciplinary faculty, examination of relevant case studies, and engagement with client organizations in the community. Course participants will choose one of three semester-long projects, the subject of which will be developed by course instructors and client organizations in advance of the semester. The course will meet both on-campus and at various community sites. For MSW Program SED Concentration students, this course fulfills the SED concentration Practice Methods requirement. Enrollment is limited to 24 students with prior course work in community development, urban design or related fields. Preference is given to graduate architecture and social work students; other students will be admitted by permission of the instructors. Upon registering in the course, please send a brief statement (1-2 paragraphs) about your interest in the course and previous course work or experience that has prepared you for participation. Statements should be emailed (ljenks@wustl.edu). CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course. Same as S60 SWCD 5078
Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

A49 MUD 5079 Community Development & American Cities

The world is becoming increasingly urban. Recently for the first time more than half of the world's population lived in cities. While urbanization has brought great opportunities it also comes with significant challenges. The goal of this course is to introduce and analyze interventions that improve the quality of life of Americans by improving their neighborhoods, and that strengthen neighborhoods as essential components of competitive regional economies. We will focus both on strategies to alleviate urban poverty and on strategies to make urban neighborhoods attractive to large numbers of potential residents of all races and classes. The course will include a rigorous introduction to community development strategies with specific attention to the role of community organizations, the need for strengthening key service areas such as schools and safety, and the importance of density and place-making. While the focus of the course will be on St. Louis and other older industrial cities, the lessons learned are applicable to all cities throughout the world. In addition to St. Louis, we will also spend concentrated time on New York City as an example of a fast-growth, strong market city. Course pedagogy will emphasize intense interaction between students and between the students and instructor, using lectures, small group discussions and active debates. Class assignments will include the requirement to write five short (3-4 page) papers over the course of the semester. All papers will be based on class reading. For MSW Program SED Concentration students, this course fulfills the SED Theories, Problems, and Issues requirement. For MSW Policy Specialization students, this course fulfills the elective requirement. For Master of Architecture students, this course fulfills the Urban Issues elective requirement. For Master of Urban Design students, this course fulfills the MUD Track elective requirement. MSW Pre/corequisite: S15-5012. CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course. Same as S20 SWHS 5079
Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A49 MUD 525K LAND ARCH URB:

LandscapeArchitectureUrbanism

New Disciplinary Dynamics: Blurs and Exchanges. Over the past decade, the various professions engaged in the construction of the built environment have been investigating (both in theory and practice) a specific and deliberate blurring, hybridization and expansion of the traditional semantic and historical categories of landscape, architecture and urbanism in an attempt to confront changing situations, environments and cultures. Across geographical and cultural boundaries, the proliferation of projects (speculative and built) and essays appearing in recent years makes this phenomenon more than a passing trend or the product of individual reflection. Architecture, for example, as a conventional discipline with its own tasks, internal logic, and modus operandi has become so heterogeneous that it can no longer adequately authenticate its products from within the limits of its historical category. The same holds true of the allied fields of landscape and urbanism. Strict disciplinary boundaries are no longer capable of attending to the complexity of contemporary demands produced by mobility, density, de-urbanization, hybrid programs, changing uses, and ecological concerns. The contemporary world forcibly imposes the need for greater flexibility and indeterminacy and for new techniques of practice that are anticipatory, receptive to change, and capable of opening an aperture to the future. This course will explore

these disciplinary slippages and hybrid contacts between until now distinct categories through essays and built or speculative works. Fulfills History/Theory elective. Fulfills Urban Issues elective.

Same as A46 ARCH 525K

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI, UI

A49 MUD 528S Everyday Urbanism: Global and Local Practices

This course explores how qualities of urbanism are shaped through the aggregation of consistent, repetitive building typologies which subsequently gain difference and character over time through occupation by varied cultures, rituals and behaviors. Among the relevant methodologies to study the relationship between built form and urban quality are those developed by John Stilgoe, who reads the history and culture of a place in terms of repeated features of development, and Tsukamoto Yoshiharu, founder of Atelier Bow-Wow, who notes how changes in the building typologies of Tokyo have had significant impacts on the public realm of the city. Observations derived from this form of research have a direct impact on how we understand the temporal and experiential qualities of the city and, subsequently, design. The maximum enrollment for this course will be 12. MUD students have priority.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 529G The Unruly City

The history of the American city is the history of conquering the "unruly": real estate parcels, neighborhoods, buildings, and even people that represent decay, obstacles to capital, unlawfulness or disorder. Designers denigrated unruliness in the pursuit of modernization in the 20th century, but today seem more conflicted on the constitution and remedies for disorder. Is disorder in the eye of the beholder? What disrupts urban life more, the broken windows of vacant houses or the arrival of Whole Foods in a poor neighborhood? Neighborhoods that have lost most of their population and buildings, or new football stadiums offered as economic and architectural solutions to blight? Programs of "right-sizing," urban agriculture, tactical urbanism, infrastructure planning, police reform, upzoning (or unzoning), historic preservation and mass transportation have operative impacts that can either squelch or protect the "unruly." This course examines the divergent definitions of order and disorder that are shaping contemporary approaches to urban planning, governance and cultural production. Readings will include examination of the framing ideological debate between Robert Moses and Jane Jacobs. There will be several field trips to connect course readings to physical conditions around St. Louis.

Same as A48 LAND 529G

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A49 MUD 530A Special Topics In Urban Design: Social Ecological Systems for Spatial Designers

Climate change and the rapid destruction of biodiversity pose existential threats to the functioning of human society in the 21st century. Our current linear economy and resource use exceed the earth's carrying capacity and are fundamentally unsustainable. The Paris Agreement is an historic global effort to keep the increase in global average temperature below 2 degrees Celsius above preindustrial levels. This goal requires rapid transcalar coordination to shift our energy and infrastructure systems off of fossil fuels. Spatial designers play a crucial role in this project. In this context, this seminar introduces

social ecological systems theory and ecological economics. Social ecological systems theory is increasingly being used to investigate the complex dynamics that drive change across temporal and spatial scales. Ecological economics challenges prevailing neoclassical economic paradigms that assume an infinite planet and unlimited economic growth. The goal of this course is to empower spatial designers to implement sustainable relationships with the earth's biosphere and the social systems it supports.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 530D Special Topics In Urban Design

Credit 3 units.

A49 MUD 562H Informal Cities Workshop: Designing Urbanity: Collective Housing in Emergent Cities

This seminar will research the morphology & the morphogenesis of the Informal City as it evolves to be an integral phenomenon of global urbanism, and the corresponding economic, social, architectural and urban theory. Today, one billion people live in informal cities (36 percent of the world's population), and this is expected to grow another one billion over the next 30 years. As it is currently evolving, the informal city is an urban phenomenon set up within the planned city's territory and increasingly an integral part of it — often comprising up to 75 percent of the city and one of the elements of urban morphology that shapes city design. Thus, it is no longer possible to accept a concept of the informal city that centered on negative parameters (ghettos/slums/poverty/crime, etc.), but there is a need to find sustainable spatial solutions to integrate these settlements into the "formal" urban/architectural tissue leading to the dissolution of urban and symbolic boundaries between the "informal" areas and "formal" districts. To this end, the course will review various architecture and urban strategies and projects of informal urbanism in Asia, Africa and South America supported with a field trip to help further understand and define a place of action for architects and urbanists in the informal city. The completion of both the Informal Cities (fall semester, 1 unit) and the Lively City (spring semester, 2 units) masterclasses may fulfill the Urban Issues elective requirement for the MArch degree.

Credit 1 unit. Arch: GAUI

A49 MUD 563D Reconsidering the Margin: Places of Meeting, Spaces of Transformation

The financial crisis of 2008 and subsequent recession exposed the frailty of conventional modes of practice. The freezing of credit markets set off a contraction of increasingly bureaucratized creative fields such as architecture and fine arts and led to massive layoffs and underemployment. This extreme disruption coincides with an ongoing governmental disengagement from social assistance. The combination of the surplus of talent left by immobilized corporate practice and the vacuum created by a retreating government presents an opportunity to reconsider practice for a new generation in a way that engages a broader set of issues and problems. The seminar builds upon existing relationships and a body of previous engagement in the Pagedale community while laying the groundwork for new action. This seminar challenges traditional modes and focuses of creative effort to arrive at a radical new form for creative practice. By challenging common assumptions and using creative production to confront the challenges facing residents and decision-makers, the course seeks to break down physical and disciplinary boundaries to achieve a radical new production. The seminar will include the

following: examination of entrenched assumptions by students and community members through reading and discussion; involvement in the community, including volunteer work and civic participation; research into pressing issues that will culminate in a creative project; and dissemination of information to both classmates and the community as a whole. This course is open to disciplines outside of architecture. Students in Art and Social Work are encouraged to register. The course will meet periodically in the community. This course fulfills the Urban Issues or MUD Track elective requirement.

Same as A46 ARCH 563D

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A49 MUD 564A Urban Development Seminar

Project-based research and discussions focus on the legal policy, social and architectural issues affecting the redevelopment of St. Louis and suburban areas such as Darst Webbe, Clayton, Westminster Place and prototypical redevelopment of public housing projects of Carr Square, Darst Webbe and Vaughn into tenant ownership and market rate housing neighborhoods. Topics include public policy issues affecting development, the availability and types of housing, transportation linkages, business, zoning issues, social and historical precursors. Through interaction with community leaders, teams of students from each discipline prepare a design proposal for an actual problem in the St. Louis area. This seminar is an interdisciplinary effort taught by faculty members of Washington University School of Architecture and the St. Louis University School of Law, Social Work and Department of Public Policy Studies. Prerequisite: 400 level and above. Limit 8 students. Fulfills Urban Issues elective for MArch degree. CET (<https://gephardtinststitute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.

Same as A46 ARCH 564A

Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A49 MUD 564K European/Contemporary/Urban Public Spaces

The aim of this seminar is to describe and understand contemporary urban public space in Europe from the late 20th century to the present, as well as to anticipate possible future developments. The seminar will examine this complex subject by investigating the following complementary topics: historical considerations of elements of public space generation; the continually evolving definition of public space; possible boundaries between urban, non-urban, and landscape; scale and other parameters (density, urban fabric); physical and geometrical magnitudes of urban public space; social and political parameters; and other non-apparent/non-physical conditions. Barcelona, Amsterdam and Berlin will be used as examples of cities able to produce celebrated qualified and diverse public spaces. In addition, a series of 12 relevant case studies will be examined. The possibility of mutual interactions with American cities will be considered, using St. Louis as a reference. The educational objectives of the course are to provide some tools and basic knowledge to understand, analyze and propose a contemporary public space. We will learn how to distill the various elements that compose "urbanity," and to recognize the interactions between them. Fulfills Urban Issues elective requirement.

Same as A46 ARCH 564K

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 565D Advanced Seminar in Urban Sustainability I

This seminar will investigate contemporary theories and methods of sustainable urbanism. Cities are increasingly the means through which a sustainable future for the anthropocene era is constructed. Within the sustainable urbanism paradigm cities are understood as complex self-organizing open systems responding to socially constructed processes, conflicting values, natural resource limitations, extreme natural phenomena, man-made hazards, climate change and competing economic interests that inform urban change, design and development. Consideration will be given to the history, definition and reasoning for the urban sustainability paradigm; the theoretical constructs of sustainability, resiliency, adaptation and regeneration for post-carbon cities; the methods of analysis and measurement for urban sustainability; and the design of cities for livability, social inclusion, environmental performance, cultural diversity and economic equity. The course fulfills an Urban Design and Urban Issues elective for MUD, MArch & MLA degrees.

Same as A49 MUD 765D

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 566A Informal Cities: The Future of Global Urbanism

This seminar will research the morphology & the morphogenesis of the Informal City as it evolves to be an integral phenomenon of global urbanism, and the corresponding economic, social, architectural and urban theory. Today, one billion people live in informal cities (36 percent of the world's population) and this is expected to grow another one billion over the next 30 years. As it is currently evolving, the informal city is an urban phenomenon set up within the planned city's territory and increasingly an integral part of it — often comprising up to 75 percent of the city and one of the elements of urban morphology that shapes city design. Thus, it is no longer possible to accept a concept of the informal city that centered on negative parameters (ghettos/slums/poverty/crime, etc.), but there is a need to find sustainable spatial solutions to integrate these settlements into the "formal" urban/architectural tissue leading to the dissolution of urban and symbolic boundaries between the "informal" areas and "formal" districts. To this end, the course will review various architecture and urban strategies and projects of informal urbanism in Asia, Africa and South America supported with an optional field trip to South America favelas/barrios in order to define a place of action for architects and urbanists in the informal city. The course fulfills the Urban Issue elective requirement for the MArch degree. Undergraduate enrollment is allowed by arrangement with the instructor.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 566D Advanced Seminar in Urban Sustainability II

Same as A49 MUD 766D

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 568 Theories & Methods of Architecture, Landscape and Urbanism Research

This seminar focuses on the fundamentals of transdisciplinary empirical research in architecture, landscape and urbanism design, and urbanism. Through studying research examples, it examines the entire research process from conducting literature review and precedent studies, generating research question and hypothesis, creating study design, collecting and analyzing data with valid and reliable research tools, to communicating findings. A survey of quantitative and qualitative research methods used in disciplines such as social sciences, public policy, and public

health that are relevant to environmental issues is provided to address the application of research methods on a wide range of problems in architecture, landscape and urbanism. The seminar enables students to effectively engage in empirical research (including research assistantships) as well as the practice of evidence-based design. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an Urban Issues and MUD elective requirement. Permission from the instructor required for undergraduates.

Same as A49 MUD 768

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 569 Theories & Methods of Sustainable Urbanism

This seminar focuses on the fundamentals of transdisciplinary research in sustainability as it applies to the design, development and management of cities. The objective is to introduce students to fundamental research methods of urban sustainability including methods to: analyze the impact of urbanization on natural systems; understand the physical organization of cities; analyze the effect of socioeconomic trends on cities; apply analytical systems to understand the performance of urban elements; and how various scales of the city contribute to sustainability. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an urban design and urban elective requirement. Permission from the instructor required for undergraduates.

Same as A49 MUD 769

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 570 Urban Morphology & Metabolism

This research seminar investigates the art and science of the city as a complex self-organized system using the urban morphology and metabolism methodology to create design conditions for the sustainable, resilient and regenerative city. Urban morphology focuses on the physical form and use of the built environment, the processes and actors shaping cities, as well as the experiential, social, economic and human health consequences of urban form. Urban metabolism investigates the networked levels and flows of resource and material consumption and use within the urban environment and the impacts on finite global resources. This seminar will discuss the history, conceptual framework and current standards of practice within each of the methods, and the key interrelationships to reveal the fundamental links between urban form and flow and the social, economic and environmental performance of cities. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an Urban Issues and MUD elective requirement. Permission from the instructor required for undergraduates.

Same as A49 MUD 770

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 571A Ideas in Urbanism

Although the form of cities has reflected the planned and unplanned patterns of human habitation for thousands of years, the origin of the Western urban design discourse officially starts with the 1956 conference intended to discuss the fate of architects in the formation of cities. That fate is still negotiated across the disciplines of architecture, landscape architecture, urban design and planning, as is the very role and definition of what urban design is and what urban designers do. This course explores the critical ideas and seminal texts that define this urban design discourse with a particular emphasis on the

proliferation of numerous "urbanisms" grappling with 21st-century visions of technology, temporality, environmentalism and justice. Grounded in big ideas and critical readings, Ideas in Urbanism explores the world views and intellectual lineages of authors and their seminal texts in an effort to understand how the production, reproduction, contestation, and creation of urban ideas and the cities they produce has led to urbanism now, and to speculate on where urbanism might be tomorrow. This course is open to all MArch, MLA and MUD students.

Undergraduates may enroll with permission. MUD students have priority. Students will be enrolled from the waitlist.

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 574A Modern and Contemporary Landscape Architecture

This course examines significant theories and discourses in modern landscape architecture that have informed contemporary modes of practice. Organized around specific topics and lenses (such as site, ecology, art, and sustainability), the course aims to provide a number of critical perspectives on the relevance of landscape architecture as a cultural practice. Readings and discussions will supplement lectures to trace back contemporary ideas to the late 19th and early 20th centuries. We will look at how broader transformations in social, environmental, economic and technological realms have affected discourse in landscape. To this end, students will be introduced to definitions that distinguish between landscape as a medium, landscape as an ideology, and landscape as a profession. Through weekly reviews of seminal projects and built works, we will examine significant styles, movements and design principles in landscape architecture. The course incorporates field trips and presentations by visitors, as well as applied research. It is open to both undergraduate and graduate students in the disciplines of landscape architecture, urban design and architecture. Priority is given to MLA students and undergraduate landscape architecture minors. Can count as a History/Theory elective.

Same as A48 LAND 574A

Credit 3 units. Arch: GACS, HT

A49 MUD 579 Ecological Economics

This course is designed to give students an appropriate graduate-level understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics, and to explore the role this new paradigm is playing in the movement toward a sustainable society. Standard economics — the neoclassical model — sees the economy as the whole that contains all other values; nature has value because some people will pay to experience it or to enjoy its services. Ecological economics reverses that relationship by acknowledging the environment, not the economy, as the containing whole. This it does through its grounding in the laws of energy — the laws that model the behavior of both natural and built systems. (While matter can be recycled, energy can't. No machine can take its own exhaust outputs as fresh inputs; no animal can survive by eating its own excrement.) Fulfills Urban Issues elective requirement. Fulfills MUD Track elective requirement.

Same as A46 ARCH 579

Credit 3 units.

A49 MUD 579A Ecological Economics for Sustainable Cities and Landscapes

This course is designed to provide students with an understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics as it applies to cities and landscapes, and to explore the role this new paradigm is playing in the movement to convert our society from a high-throughput, unsustainable society to a lower-throughput, sustainable system. Standard economics (including the subfield of environmental economics) sees the economy as the whole that contains all other values. In this view, nature has value because some people will pay to experience it or to enjoy its services. Ecological Economics reverses that relationship by acknowledging that the environment, not the economy, is the containing whole. This approach comprises a revolutionary challenge to the foundational premises of contemporary economics. Economics has never undergone the thermodynamic revolution that swept through the physical, life, and social sciences in the late 19th and early 20th century. The course will look briefly at this intellectual history in order to place our studies into their broader social, historical, political, and disciplinary context — and to give students the conceptual background and tools they need to engage the old paradigm in ways that will promote its adaptation to physical reality.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 582 Directed Readings in Sustainable Urbanism II

This is a special topics course intended for graduate students to read, research and critique key contemporary texts that examine the relationship between sustainability, cities and the design disciplines. The course content is personalized to the individual student's background and interest, and is intended to broaden the student's disciplinary knowledge base in sustainable urbanism. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an urban design and urban elective requirement.

Same as A49 MUD 782

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 652H Metropolitan Development: What's in a Plan?

This course explores pluralist, pragmatic and progressive planning strategies for American urbanism. It will provide students with an introduction to the design and planning of American cities in the context of this country's democratic tradition, its multicultural society, and the particular morphology of its urban areas. Contemporary American cities have urbanized in unprecedented and distinctive ways that suggest the creation of a unique urban culture, despite the seeming globalization of urban trends, or the apparent universalization of urban forms. Identifying the role design can play in this culture requires a lucid appraisal of the context in which metropolitan development takes place. Four study modules will introduce basic issues in planning law, real estate finance, urban economics and environmental planning through lectures and research projects, as well the presentation of Metropolitan St. Louis development case studies by professional and political leaders.

Credit 3 units. Arch: GAUI, UI

A49 MUD 656 Metropolitan Urbanism

The seminar course will investigate the morphology and morphogenesis of the contemporary America metropolitan urban landscape. The investigation will attempt to define and understand the changing pattern, form and use of the metropolitan transect from the central city to the rural fringe. The objective of the course is to understand the indeterminate complexity and richness of morphological layering and traces in the urban landscape as a basis for critical practice. Required for MUD students. Fulfills Urban Issues elective requirement.

Credit 3 units. Arch: GAUI, UI

A49 MUD 658 Metropolitan Sustainability

This seminar will investigate contemporary theory and practice of the design and development of sustainable regions, cities, communities, infrastructures and landscapes. By 2050, three-quarters of the world's population will be living in cities and with cities being the world's largest consumer of resources and a focus of climate change impact, it will be the design of cities that frame the essential theory and practice of sustainability. Consideration will be given to the definition and reasons for the sustainability paradigm; conceptual frameworks for urban sustainability; indicators & measures of sustainability; different sustainability functional categories (water, air, food, energy, transportation, social capital, equity, development patterns & density, etc.); and various approaches to urban sustainability including Regenerative Urbanism, Healthy Cities, Ecological Urbanism, Eco-Urbanity, Resilient Cities, Smart Cities, LEED ND, the Natural Step, ICLEI and ZED Cities. The maximum enrollment for this course will be 12. MUD students and urban design minors have priority.

Credit 3 units.

A49 MUD 664 Historic Preservation/Urban Design

This class will explore the history and current practice of historic preservation in the United States and will relate them to local issues of contextual architecture, sustainable development, cultural tourism and urban design. Emphasis will be placed on the practical knowledge needed to participate professionally in historic preservation: how to evaluate the associative and architectural significance of a property or district, how to provide legal protection and redevelopment incentives for historic resources, how to appropriately restore, rehabilitate, adapt and add to historic buildings and how to incorporate historic preservation into the sometimes-contentious framework of community planning. The course will focus on readings, student discussion and case studies that draw extensively on real preservation situations in the region including trips to the innovative Cupples Warehouse and Bohemian Hill projects, the endangered Old North St. Louis neighborhood and a charrette in the Central West End.

Same as A46 ARCH 664

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI, UI

A49 MUD 701 Theories & Methods of Historical Research

What is architectural history? This is an advanced reading, writing and discussion seminar intended to better prepare students for research in the history and theory of architecture and urbanism. It is based on the premise that since contemporary design practices are not only data-driven, neutral and ahistorical, the ways that designers' conceptualize their work can benefit from a historically-informed understanding of how various approaches to architectural history have emerged over time. It seeks to consider how architecture and

architectural history have been understood in the past, and how the development of the discipline informs contemporary research in architectural history by examining how recent and contemporary historians of the built environment do their work. This course fulfills the History/Theory elective requirement. Same as A46 ARCH 601
Credit 3 units. Arch: GARW, RW

A49 MUD 711 Elements of Urban Design

The first in a three-semester sequence of design studios for students in the Master of Urban Design program.
Credit 6 units.

A49 MUD 713 Metropolitan Design Elements

The second in a three-semester sequence of design studios for students in the Master of Urban Design program.
Credit 6 units.

A49 MUD 765D Advanced Seminar in Urban Sustainability I

This seminar will investigate contemporary theories and methods of sustainable urbanism. Cities are increasingly the means through which a sustainable future for the anthropocene era is constructed. Within the sustainable urbanism paradigm cities are understood as complex self-organizing open systems responding to socially constructed processes, conflicting values, natural resource limitations, extreme natural phenomena, man-made hazards, climate change and competing economic interests that inform urban change, design and development. Consideration will be given to the history, definition and reasoning for the urban sustainability paradigm; the theoretical constructs of sustainability, resiliency, adaptation and regeneration for post-carbon cities; the methods of analysis and measurement for urban sustainability; and the design of cities for livability, social inclusion, environmental performance, cultural diversity and economic equity. The course fulfills an Urban Design and Urban Issues elective for MUD, MArch & MLA degrees.
Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 766D Advanced Seminar in Urban Sustainability II

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 768 Theories & Methods of Architecture, Landscape and Urbanism Research

This seminar focuses on the fundamentals of transdisciplinary empirical research in architecture, landscape and urbanism design, and urbanism. Through studying research examples, it examines the entire research process from conducting literature review and precedent studies, generating research question and hypothesis, creating study design, collecting and analyzing data with valid and reliable research tools, to communicating findings. A survey of quantitative and qualitative research methods used in disciplines such as social sciences, public policy, and public health that are relevant to environmental issues is provided to address the application of research methods on a wide range of problems in architecture, landscape and urbanism. The seminar enables students to effectively engage in empirical research (including research assistantships) as well as the practice of evidence-based design. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an Urban Issues and MUD elective requirement. Permission from the instructor required for undergraduates.
Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 769 Theories & Methods of Sustainable Urbanism

This seminar focuses on the fundamentals of transdisciplinary research in sustainability as it applies to the design, development and management of cities. The objective is to introduce students to fundamental research methods of urban sustainability including methods to: analyze the impact of urbanization on natural systems; understand the physical organization of cities; analyze the effect of socio-economic trends on cities; apply analytical systems to understand the performance of urban elements; and how various scales of the city contribute to sustainability. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an urban design and urban elective requirement. Permission from the instructor required for undergraduates.
Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 770 Urban Morphology & Metabolism

This research seminar investigates the art and science of the city as a complex self-organized system using the urban morphology and metabolism methodology to create design conditions for the sustainable, resilient and regenerative city. Urban morphology focuses on the physical form and use of the built environment, the processes and actors shaping cities, as well as the experiential, social, economic and human health consequences of urban form. Urban metabolism investigates the networked levels and flows of resource and material consumption and use within the urban environment and the impacts on finite global resources. This seminar will discuss the history, conceptual framework and current standards of practice within each of the methods, and the key interrelationships to reveal the fundamental links between urban form and flow and the social, economic and environmental performance of cities. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an Urban Issues and MUD elective requirement. Permission from the instructor required for undergraduates.
Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 781 Directed Readings in Sustainable Urbanism I

This is a special topics course intended for graduate students to read, research and critique key contemporary texts that examine the relationship between sustainability, cities and the design disciplines. The course content is personalized to the individual student's background and interest, and is intended to broaden the student's disciplinary knowledge base in sustainable urbanism. This is a required course for students in the Doctor of Sustainable Urbanism program. Students in the Master of Urban Design, Master of Science in Architectural Studies, and Master of Science in Architectural Design degree programs may enroll with the permission of the instructor.
Credit 3 units. Arch: GAUI

A49 MUD 782 Directed Readings in Sustainable Urbanism II

This is a special topics course intended for graduate students to read, research and critique key contemporary texts that examine the relationship between sustainability, cities and the design disciplines. The course content is personalized to the individual student's background and interest, and is intended to broaden the student's disciplinary knowledge base

in sustainable urbanism. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an urban design and urban elective requirement.

Credit 3 units. Arch: GAMUD, GAUI

A49 MUD 791 Directed Research in Sustainable Urbanism I

This is a special topics course intended for doctorate students to work individually with a designated faculty member and to earn credit for individually designed course content in the discipline of sustainable urbanism. The course content is personalized to the individual student's background and research interest, and is intended to broaden the student's disciplinary knowledge base in sustainable urbanism and the development of a publishable academic paper that results in a significant scholarly contribution in the discipline. The student will prepare and submit a course proposal, schedule and work product prospectus for approval by the chair of Urban Design. Registration permitted for students in the Doctor of Sustainable Urbanism (required).

Credit 3 units.

A49 MUD 792 Directed Research in Sustainable Urbanism II

This is a special topics course intended for doctorate students to work individually with a designated faculty member and to earn credit for individually designed course content in the discipline of sustainable urbanism. The course content is personalized to the individual student's background and research interest, and is intended to broaden the student's disciplinary knowledge base in sustainable urbanism and the development of a publishable academic paper that results in a significant scholarly contribution in the discipline. The student will prepare and submit a course proposal, schedule and work product prospectus for approval by the chair of Urban Design. Registration permitted for students in the Doctor of Sustainable Urbanism (required).

Credit 3 units.

A49 MUD 798 Dissertation Research & Writing

Credit 12 units.

A49 MUD 800 Doctoral Continuing Student Status

Sam Fox School of Design & Visual Arts

The Sam Fox School of Design & Visual Arts (<http://samfoxschool.wustl.edu>) is a unique collaboration in architecture, art and design education, linking professional studio programs with one of the country's finest university art museums in the context of an internationally recognized research university.

The Sam Fox School is composed of the College of Architecture, the Graduate School of Architecture & Urban Design, the College of Art, the Graduate School of Art, and the Mildred Lane Kemper Art Museum (<http://www.kemperartmuseum.wustl.edu/>).

Website: <http://samfoxschool.wustl.edu>

Master's Degrees

The Graduate School of Architecture & Urban Design's degree programs include a range of curricula for students with a variety of educational backgrounds, professional degree needs and career ambitions.

Most states require that an individual intending to become an architect hold an accredited professional degree. The National Architectural Accrediting Board (NAAB) accredits two types of degrees: (1) the Bachelor of Architecture (not offered by this College of Architecture), which requires a minimum of five years of study; and (2) the Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years of study following a related pre-professional bachelor's degree. These professional degrees are structured to educate those who aspire to registration/licensure as architects.

The graduate school's Master of Architecture degree (MArch 3 and MArch 2 programs) is an NAAB-accredited professional degree. The school's NAAB accreditation status was evaluated and confirmed in the spring of 2018.

Master's Degrees

Students holding bachelor's degrees in fields other than architecture are invited to apply to the graduate school's accredited professional MArch 3 degree program. Calculus and physics are required as prerequisites for enrollment. This full six-semester professional curriculum begins with a series of core studios and courses before students progress into the advanced studio sequence.

Students with the Bachelor of Arts degree with a major in architecture, including studios at both the 300 and 400 levels (or the equivalent), are placed within the MArch 3 curriculum on the basis of their previous design studio experience and overall academic record.

The Graduate School of Architecture & Urban Design welcomes graduates of other schools with an undergraduate degree in architecture (Bachelor of Science in Architecture) or the equivalent as candidates for the accredited professional Master of Architecture degree program (MArch 2). This curriculum typically spans four semesters. The MArch 2 sequence begins with the final comprehensive core studio (A46 419) and concludes with the Degree Project.

We offer the following programs:

- Master of Architecture: MArch 3 (p. 43) (six semesters; 105 units)
- Master of Architecture: MArch 2 (p. 44) (four semesters + one summer; 75 units)
- Master of Landscape Architecture: MLA 3 (p. 45) (six semesters; 90 units)

- Master of Landscape Architecture: MLA 2 (p. 45) (four semesters; 60 units)
- Master of Urban Design (p. 46) (three semesters; 42 units)
- MS in Advanced Architectural Design (p. 48) (three semesters; 36 units)
- MS in Architectural Studies (p. 48) (30 units)

Fundamental to the graduate curriculum is the architectural design studio sequence. Each semester, students select from a range of vertical studio options organized around projects and topics offered by different design instructors. These studios emphasize the development of strong conceptual abilities, thoughtful integration of technical information, and convincing representations of architectural ideas in two- and three-dimensional forms and through a variety of media. The ultimate goal is for each student to develop clear design principles, strong technical resources, and an independent critical position on the making of architecture in the world. The independent character of a student's abilities is demonstrated and tested during the final semester through the Degree Project.

Informing and enriching the studio experience for students in the MArch program are courses in architectural history and theory, building technology and structural principles, urban design, professional practice, landscape design, and representational and digital media studies. Great emphasis is placed on a student's ability to integrate and synthesize the information in these courses into appropriate architectural forms in the design studio. Although these topics have consistently been a part of the graduate curriculum, their specific content, sequence and method of instruction are under constant review and development.

Dual Degrees

For graduate students who want to broaden their education at the graduate and post-professional levels, the Graduate School of Architecture & Urban Design offers several dual-degree programs in conjunction with other divisions of Washington University in St. Louis. To apply for a dual-degree program, students must submit separate applications to both programs. Each program makes admission decisions independently. The dual-degree programs currently available are as follows:

- Master of Business Administration/Master of Architecture (p. 48) (MBA/MArch)
- Master of Business Administration/Master of Urban Design (p. 48) (MBA/MUD)
- Master of Construction Management/Master of Architecture (p. 48) (MCM/MArch)
- Master of Landscape Architecture/Master of Architecture (p. 49) (MLA/MArch)
- Master of Landscape Architecture/Master of Urban Design (p. 49) (MLA/MUD)
- Master of Social Work/Master of Architecture (p. 49) (MSW/MArch)
- Master of Social Work/Master of Urban Design (p. 49) (MSW/MUD)
- Master of Urban Design/Master of Architecture (p. 50) (MUD/MArch)

Master of Architecture: MArch 3

This full six-semester professional curriculum is for students holding baccalaureate degrees with majors in architecture and with majors other than architecture. The program begins with a series of core studios and courses before students progress into the advanced studio sequence. This 105-credit program leads to a professionally accredited Master of Architecture degree.

Waiver Requirements

Students admitted to the MArch 3 program have the opportunity to waive the following courses:

- Building Systems (ARCH 445)
- Structures I (ARCH 447A)
- Structures II (ARCH 448A)
- Architectural History I: Antiquity to Baroque (ARCH 4280)
- Architectural History II: Architecture Since 1880 (ARCH 4284)
- Environmental Systems I (ARCH 438)
- Environmental Systems II (ARCH 439)

Six waived units count toward the degree; all other units must be replaced with general electives.

Website: <http://www.samfoxschool.wustl.edu/node/5722> (<http://www.samfoxschool.wustl.edu/node/5722/>)

Faculty

For a list of faculty members, please refer to the Architecture faculty page (p. 14).

Degree Requirements

Master of Architecture: MArch 3

Note: The requirements for this program may be revised. Please visit the MArch 3 Curriculum website (<http://www.samfoxschool.wustl.edu/node/5722/>) for the most up-to-date requirements.

Requirements: 105 units

Code	Title	Units
Year 1, Fall Semester:		
ARCH 317	Architectural Design I (MArch 3)	6
ARCH 323A	Architectural Representation I (MArch 3)	3
ARCH 339	Concepts and Principles of Architecture I	3
ARCH 4284	Architectural History II: Architecture Since 1880 ²	3
Year 1, Spring Semester:		
ARCH 318	Architectural Design II (MArch 3)	6
ARCH 323B	Architectural Representation II (MArch 3)	3
ARCH 4280	Architectural History I: Antiquity to Baroque ²	3
ARCH 438	Environmental Systems I ²	3
Year 2, Fall Semester:		
ARCH 419	Architectural Design III (MArch 3)	6
ARCH 445	Building Systems ²	3
ARCH 447A	Structures I ²	3
History + Theory & Writing Elective		3
Year 2, Spring Semester:		
ARCH 511	Architectural Design V ¹	6
ARCH 439	Environmental Systems II ²	3
ARCH 448A	Structures II ²	3
General Elective		3
Year 3, Fall Semester:		
ARCH 512	Architectural Design VI ¹	6
ARCH 538C	Advanced Building Systems	3
History + Theory Elective		3
General Elective		3
Year 3, Spring Semester:		
ARCH 611	Architectural Design VII	6
ARCH 580	Design Thinking: Research and Design Methods	3
Urban Issues Elective		3
General Elective		3
Year 4, Fall Semester:		
ARCH 616	Degree Project	6
ARCH 646	Professional Practice I	3
General Elective		3
General Elective		3
Total Units		105

¹ One studio must be comprehensive.

² This course may be waived. The credits for any courses that are waived must be replaced with electives.

Courses

For a list of available courses, please refer to the Courses (p. 16) section of the Graduate School of Architecture & Urban Design in this *Bulletin*.

Master of Architecture: MArch 2

This four-semester program is for strong architectural design students beginning their studies who hold baccalaureate degrees in architecture (a BS in Architecture, typically, or a professional degree from outside of the United States). Students are considered for placement in the MArch 2 curriculum on the basis of design portfolio evaluation and the extent of their undergraduate architectural studies. **Placement in this curriculum is highly selective.** The MArch 2 program begins with the final comprehensive core studio (ARCH 419) and concludes with the Degree Project. This 75-credit program leads to a professionally accredited Master of Architecture degree.

Waiver Requirements

Students admitted to the MArch 2 program have the opportunity to waive the following courses:

- Building Systems (ARCH 445)
- Structures I (ARCH 447A)
- Structures II (ARCH 448A)
- Architectural History I: Antiquity to Baroque (ARCH 4280)
- Architectural History II: Architecture Since 1880 (ARCH 4284)
- Environmental Systems I (ARCH 438)
- Environmental Systems II (ARCH 439)

Six waived units count toward the degree; all other units must be replaced with general electives.

Students will be required to take both Structures I and Structures II during their first semester in the program if they are not waived from at least one of the following courses: Building Systems, Structures I, Architectural History II or Environmental Systems I.

Faculty

For a list of faculty members, please refer to the Architecture faculty page (p. 14).

Degree Requirements

Master of Architecture: MArch 2

Note: The requirements for this program may be revised. Please visit the MArch 2 Curriculum website (<http://www.samfoxschool.wustl.edu/node/5724/>) for the most up-to-date requirements.

Requirements: 75 units

Courses

For a list of available courses, please refer to the Courses (p. 16) section of the Graduate School of Architecture & Urban Design in this *Bulletin*.

Master of Landscape Architecture

The graduate program in landscape architecture leads to a professional Master of Landscape Architecture (MLA) degree. Two- and three-year degree options accommodate students with design and other undergraduate degrees. The landscape program further develops cross-disciplinary connections among architecture, urban design and visual arts in the Sam Fox School.

The program in landscape architecture focuses on the three subjects of design, ecology and urbanism. The transformative process of design — linking cultural, historical and technological investigations — forms the pedagogical basis for research. Ecology informs design practice to address a multiplicity of scales and natural systems within the environment. Urbanism serves as a terrain of contemporary landscape practice. As heirs to design, ecological and urban traditions, landscape architects are uniquely suited to articulate a spatial vision for today's environment. This three-pronged approach is geared to develop the students' critical and conceptual abilities and to prepare them to become leaders within professional and academic spheres.

The curriculum is centered on studio teaching supported by instruction in technology, history and theory. Following the core sequence of design studios and classes, students are encouraged to develop their own research interests through advanced design studios and electives. Interdisciplinary and international option studios foster a multiplicity of perspectives leading to a research-based degree project (thesis or independent study). In addition, students have opportunities to further their investigations within and beyond the school through teaching and research assistantships and scholarships.

The landscape architecture program draws on a unique set of institutional, regional and international resources available at the Sam Fox School. St. Louis functions as a laboratory for understanding and testing ecological and urban theories at the local scale, from brownfield reclamation to urban agriculture systems. Washington University's outstanding programs in Environmental Studies, Environmental Engineering, and American Culture Studies expand curricular offerings in ecology, technology and landscape studies, and the internationally renowned Missouri Botanical Garden serves as an exceptional tool of research and teaching. Finally, through the extensive international offerings of the school, students experience different landscapes, cultures and cultures of practice.

Website:

<http://samfoxschool.wustl.edu/programs/mla> (<http://samfoxschool.wustl.edu/programs/mla/>)

Faculty

Chair

Derek Hoeflerlin (<http://samfoxschool.wustl.edu/directory/61/>)
 MArch, Tulane University

For a list of faculty members, please refer to the Architecture faculty page (p. 14).

Degree Requirements

Master of Landscape Architecture Degree - MLA 3

The following is the curriculum sequence for the three-year MLA program:

- Pre-Semester Course: Landscape Architecture/Architecture Orientation + Workshop

Semester	Units
First Semester	
Landscape Architecture Studio I	6
Landscape Representation	3
Plants and Environment	1.5
Grading and Landform	1.5
Modern & Contemporary History	3
Second Semester	
Landscape Architecture Studio II	6
Digital Tools	3
Planting Design	1.5
GIS for Site Design	1.5
Landscape Ecology	3
Third Semester	
Landscape Architecture Studio III	6
Visualizing Ecological Processes	3
Landscape History and Theory	3
Electives*	3
Fourth Semester	
Landscape Architecture Studio IV	6
Research in the Landscape	3
Landscape Technology	3
Electives*	3
Fifth Semester	
Landscape Architecture Studio V	6
Electives*	9
Sixth Semester	

Landscape Architecture Studio VI	6
Professional Practice	3
Electives*	6
Total Units	90

* The elective sequence changes from year to year, depending on offerings from the MLA, MArch and MUD programs. The program office determines which courses fulfill this requirement.

Please refer to the sections below for the comprehensive studio and thesis studio (p. 46) requirements.

Master of Landscape Architecture Degree - MLA 2

The following is the curriculum sequence for the two-year MLA program; placement is determined by the Admission Committee.

Semester	Units
First Semester	
Landscape Architecture Studio III	6
Visualizing Ecological Processes	3
Plants and Environment	1.5
Grading and Landform	1.5
Modern & Contemporary History	3
Second Semester	
Landscape Architecture Studio IV	6
Landscape Technology	3
Planting Design	1.5
GIS for Site Design	1.5
Landscape Ecology	3
Third Semester	
Landscape Architecture Studio V	6
Electives*	9
Fourth Semester	
Landscape Architecture Studio VI	6
Research in the Landscape	3
Professional Practice	3
Electives*	3
Total Units	60

* The elective sequence changes from year to year, depending on offerings from the MLA, MArch and MUD programs. The program office determines which courses fulfill this requirement. Students are required to complete a minimum of two ecological systems electives.

Studio Requirements

All Master of Landscape Architecture students (including dual-degree students) must take one landscape architecture comprehensive studio.

Master of Landscape Architecture Comprehensive Studio Requirement

Students must achieve a minimum average of B- in the core sequence in order to enter the comprehensive studio sequence. Students who do not fulfill this requirement may be permitted to repeat Landscape Architecture Studio I or II. If a student still fails to meet the B- average after taking an additional 500-level studio, the student's status will be determined by a faculty committee.

Master of Landscape Architecture Thesis Studio Requirement

Students who wish to take the Landscape Architecture Thesis Studio must have earned a grade of B or better in two of the preceding three studios, with at least a grade of C in the third.

Courses

For a list of available courses, please refer to the Courses (p. 16) section of the Graduate School of Architecture & Urban Design in this *Bulletin*.

Master of Urban Design

Students with a professional degree or the equivalent in architecture, urban planning or landscape architecture may apply for admission to this program, which leads to the Master of Urban Design (MUD) degree. This degree is awarded upon completion of a three-term graduate curriculum devoted to urban design.

The Master of Urban Design degree can be combined with study in other divisions at Washington University, including architecture, landscape architecture, public health and social work as well as with the Doctor of Sustainable Urbanism (<http://samfoxschool.wustl.edu/programs/drsu/>). To learn more, visit the Dual + Joint Degrees webpage (<http://samfoxschool.wustl.edu/node/4114/>).

These combined programs are of particular value to those who want to pursue an interdisciplinary approach to architecture and urban design and to prepare for a wide array of diverse career opportunities.

Website: <http://samfoxschool.wustl.edu/programs/mud> (<http://samfoxschool.wustl.edu/programs/mud/>)

Faculty

Chair

Derek Hoeflerlin

MArch, Tulane University

For a list of faculty members, please refer to the Architecture faculty page (p. 14).

Degree Requirements

Master of Urban Design

Candidates for a Master of Urban Design (MUD) degree are required to complete a total of 42 units of credit. Course work covers the history and theory of urban form, urban sustainability, morphology and metabolism of urban form, real estate development, landscape urbanism, infrastructural urbanism, regulating controls and zoning, and community development; they are spread over the fall and spring semesters. In addition to the course work, three urban design studios (inclusive of a 1- to 2-week field trip in the spring semester and an immersion international traveling summer studio) are required. Students are also encouraged to participate in two workshops: one in St. Louis and one taken as an international workshop over spring break.

Semester	Units
Fall	
Metropolitan Urbanism	3
Metropolitan Development	3
Elements of Urban Design Studio	6
Informal Cities Workshop	1
Urban Design Elective	3
Spring	
Metropolitan Design Elements Studio	6
Lively Cities Masterclass	2
Metropolitan Sustainability	3
Urban Design Elective	3
Urban Design Elective	3
Summer	
Global Urbanism Action-Research Studio	6
Urban Design Research Theories & Methods	3
Total Units	42

The studio sequence culminates in the required degree project, Global Urbanism Action-Research Studio (<http://samfoxschool.wustl.edu/node/6157/>): an immersive, 14-week experience in multiple global cities. Each year, the studio selects a fast-growing city in Asia, Africa, or South America to compare and contrast with other relevant global cities. These selected global cities are marked by an active culture and lively arts and design scene; their urban fabric is challenged by rapid growth, environmental stress, social complexity, and the need

for a new approach to urbanism. Recent studios have been located in Mexico City, Hong Kong, Shanghai, Singapore, Tokyo, Johannesburg, and Dubai. This studio begins with three weeks of research and study, followed by six to eight weeks immersed in the selected cities — living, researching, observing, and working on the urban design project.

The summer Global Urbanism studio also builds upon the required fall break masterclass, which is focused on the study of informal cities. This sequence is intended to prepare students for a rapidly urbanizing world in which they will be developing projects with different relevant strategies and design approaches for cities that have hybrid conditions of formal and informal urbanism. This studio is further supported by lectures on the history, theory, and methods of global urbanism as well as a robust visiting international guest lecturer program that provides valuable local insight into the cultural, artistic, and social conditions of the city. The studio culminates in the publication of a studio research and design report that is focused on studying a series of global cities in comparative perspective, with each student creating a particular and site-specific proposition within one of the cities studied.

Master of Urban Design Studio Grade Requirement

A MUD student wishing to take the summer urban design studio (ARCH 714) must have earned a minimum average grade of B- or better in the first two urban design studios (ARCH 711 and ARCH 713). Students who do not fulfill this minimum requirement must repeat ARCH 711 and/or ARCH 713. If a student has not fulfilled this minimum requirement after repeating ARCH 711 and/or ARCH 713, the student's status in the program will be determined by a committee of faculty.

Master of Urban Design Combined Degree Programs

The MUD program offers a series of combined degree programs, including the following:

- MUD/Master of Architecture (p. 50)
- MUD/Master of Business Administration (p. 48)
- MUD/Master of Landscape Architecture (p. 49)
- MUD/Master of Social Work (p. 49)

These combined degree programs are of particular value to those who want to pursue an interdisciplinary approach to architecture and urban design. They prepare the student for a wide array of diverse career opportunities.

Courses

For a list of available courses, please refer to the Courses (p. 16) section of the Graduate School of Architecture & Urban Design in this *Bulletin*.

MS in Advanced Architectural Design

This 36-credit, three-semester program allows individuals already holding NAAB-accredited professional degrees in architecture to pursue advanced design studies, research and teaching preparation. Schedules for students in this program are varied and highly individual but will include an advanced design studio in each semester. This program leads to a post-professional Master of Science in Advanced Architectural Design (MSAAD).

Code	Title	Units
ARCH 511	Architectural Design V	6
ARCH 512	Architectural Design VI	6
ARCH 611	Architectural Design VII	6
General electives		18
Total Units		36

Website: <http://www.samfoxschool.wustl.edu/node/5369> (<http://www.samfoxschool.wustl.edu/node/5369/>)

MS in Architectural Studies

This post-professional degree program provides the opportunity to engage in research specialization or focus beyond that possible within the professional degree programs. Two concentrations are currently available: Architectural Pedagogy and the History and Culture of Architecture.

The Master of Science in Architectural Studies (MSAS) program is open to students who already hold an NAAB-accredited professional degree in architecture as well as to students who are already enrolled in another degree program in the Graduate School of Architecture & Urban Design. Prospective students who do not already have an NAAB-accredited degree **must** enroll in another one of our graduate programs (typically the MArch program) in order to pursue the MSAS degree.

Admission requires an application that includes a portfolio, transcripts, a statement of purpose with a specific research focus for the proposed program of study, and three letters of recommendation. Admission to this MSAS program requires a faculty member to accept responsibility as the academic adviser who supervises the proposed course work and thesis.

Requirements	Units
Mandatory thesis or project	6
Research preparation	3
Seminars, directed research, and independent study	21
Total Units	30

Note: A maximum of 15 credits can be "double-counted" for both the MArch, MLA, or MUD program and the Master of Science program. Decisions regarding course credit to be "double-counted" will be made by the academic adviser.

Website: <http://www.samfoxschool.wustl.edu/node/5370> (<http://www.samfoxschool.wustl.edu/node/5370/>)

Dual Degree: MBA/MArch or MBA/MUD

Offered in conjunction with Washington University's Olin Business School, this dual-degree program prepares architects and urban designers to be both thoughtful designers and effective managers and developers. Both the **Master of Architecture** (MArch) and **Master of Urban Design** (MUD) degrees may be combined with a **Master of Business Administration** (MBA) degree. Career opportunities that stem from these dual-degree arrangements can be found in the architecture, business and development professions as well as in community development and planning, housing development and public policy. Students may start their initial year in either school.

Students entering the MArch 2 program who have also been admitted to the MBA program will need three to four years of graduate work to complete the MArch/MBA dual-degree program. The requirements and duration of study for students admitted to other MArch programs are determined on a case-by-case basis.

For more information, contact Olin Business School:

Director of Admissions
 Olin Business School
 Washington University in St. Louis
 CB 1133
 One Brookings Drive
 St. Louis, MO 63130
 Phone: 314-935-7301 or 1-888-622-5115 (in the continental U.S.)

Email the Olin MBA program (mba@olin.wustl.edu)
 Olin Business School website (<http://www.olin.wustl.edu>)

Website: <http://samfoxschool.wustl.edu/node/4117> (<http://samfoxschool.wustl.edu/node/4117/>)

Dual Degree: MCM/MArch

The **Master of Construction Management/Master of Architecture** (MCM/MArch) dual-degree program prepares architectural students for the diverse roles within today's multidisciplinary design/construction process. The MCM degree focuses on enhancing the student's technical, management and

leadership capabilities through specialized courses featuring comprehensive and authentic case studies and projects. The course of study is designed to provide a focused, intensive examination of critical issues within construction management.

In addition to the normal regular MCM curriculum, the MCM/MArch dual-degree program includes a unique course: the MCM/MArch Capstone Project. In this course, students apply constructability principles — cost, time, value, methods and systems — to their final MCM degree project.

The MCM program requires 30 units of study, in addition to any prerequisite work that may be required. Some of the 30-unit requirement or prerequisite course work may be met through courses taken in the MArch program.

Enrollment in the MCM program to obtain a dual degree is possible for students who have achieved advanced standing (500 level/MArch2 or above) in the MArch program. To enroll in the dual-degree program, students already enrolled in the MArch program must complete a dual-degree declaration form (available from Aaron Akins (<http://samfoxschool.wustl.edu/directory/5968/>), associate registrar) in addition to completing the necessary MCM application procedures and meeting with Steve Bannes, Director of Graduate Studies in Construction Management.

Regardless of whether a student pursues the dual degree or just decides to take courses in the MCM program, enrollment in construction management courses is limited to one course per semester for all students who have not yet completed their architecture degree. Students who do not intend to pursue the dual degree but who take courses in the construction management program may be charged additional tuition for those courses.

Questions concerning the **MArch portion** of this program should be addressed to Chandler Ahrens, Student Adviser, MCM/MArch program, at cahrens@samfox.wustl.edu.

Questions concerning the **MCM portion** of this program should be addressed to Steve W. Bannes, Program Director, Graduate Studies in Construction Management (<http://sever.wustl.edu>), at sbannes@wustl.edu or by phone at 314-935-5484.

Website: <http://samfoxschool.wustl.edu/node/4118> (<http://samfoxschool.wustl.edu/node/4118/>)

Dual Degree: MLA/MArch

This dual-degree program fulfills the requirements of two professional degrees: the **Master of Architecture** (MArch) and the **Master of Landscape Architecture** (MLA). Students engaged in the dual curriculum will significantly expand their general design culture by interweaving courses in landscape

and architecture. They will understand design as a systemic enterprise, and they will acquire the skills needed to operate across disciplines and scales. Students must be admitted to both programs in order to pursue a dual MLA/MArch degree.

The length of study is dependent upon the MArch and MLA programs in which the student is enrolled.

Website: <http://samfoxschool.wustl.edu/node/6113> (<http://samfoxschool.wustl.edu/node/6113/>)

Dual Degree: MLA/MUD

This dual-degree program fulfills the requirements of the **Master of Landscape Architecture** (MLA) and the **Master of Urban Design** (MUD). Students must be admitted to both the three-year MLA program and the MUD program in order to pursue this dual degree.

The length of study is dependent upon the MUD and MLA programs in which the student is enrolled. Typically, students with no prior design degree will need 3.5 years to complete the dual MLA/MUD degree. Students in the MLA 2 program will need 3 years to complete the dual MLA/MUD degree.

Website: <http://samfoxschool.wustl.edu/node/9009> (<http://samfoxschool.wustl.edu/node/9009/>)

Dual Degree: MSW/MArch or MSW/MUD

This unique dual-degree program, which has a long tradition at Washington University, links the concerns of physical design with those of social welfare and practice. The Sam Fox School's Graduate School of Architecture & Urban Design and the Brown School offer dual degrees for students who already have an undergraduate degree in architecture (although those with other degrees/majors who are willing to pursue a longer program of study may do so) as well as for social work students who want to increase their awareness of the role of physical environs in the welfare of their clientele.

The intent of the program is to educate and prepare architects and urban designers to understand the built and urban environments through the lens of social work values and to be responsive to the emotional, social, and physical needs of individuals, families and communities. The dual degree opens career opportunities in community development and planning, housing rehabilitation and residential design for populations at risk, such as people who are developmentally disabled, elderly or economically disadvantaged.

Students entering the **Master of Architecture** (MArch 2) program who also have been admitted to the **Master of Social Work** (MSW) program will need three and a half to four academic years of study split between the Graduate School of

Architecture & Urban Design and the Brown School. Students admitted into the **Master of Urban Design** (MUD) and **Master of Social Work** (MSW) program spend a minimum of two semesters in the Graduate School of Architecture & Urban Design completing the MUD requirements and four semesters in the Brown School completing the MSW requirements. For both the MArch/MSW and MUD/MSW dual-degree programs, students may start their initial year in either school.

For more information, contact the Brown School:

Office of Admissions & Recruitment
The Brown School (<https://msw.wustl.edu/>)
Washington University in St. Louis
CB 1196
One Brookings Drive
St. Louis, MO 63130
Phone: 314-935-6676
Email Brown School admissions (brownadmissions@wustl.edu)

Website: <http://samfoxschool.wustl.edu/node/4119> (<http://samfoxschool.wustl.edu/node/4119/>)

Dual Degree: MUD/MArch

This dual-degree program prepares architects to be cognizant of the larger urban context of architectural practice and to extend their expertise into another discipline. Students entering the MUD/MArch program complete a substantial portion of the design studios for the **Master of Architecture** (MArch) prior to completing the **Master of Urban Design** (MUD) studios, which are then followed by the MArch Degree Project. Other course requirements in urban design theory are typically spread out over the entire study period. The length of study is dependent upon the MArch program (MArch 3 or MArch 2) in which the student is enrolled, but participation in the MUD/MArch program typically adds an additional semester and summer to the student's curriculum.

Website: <http://samfoxschool.wustl.edu/node/4115> (<http://samfoxschool.wustl.edu/node/4115/>)

Doctor of Sustainable Urbanism

The Doctor of Sustainable Urbanism (DrSU) is a post-professional applied research degree intended to prepare professionals and advanced urban design students for careers in multidisciplinary, evidence-based sustainable urban design and planning practice and teaching. The program is based on a close working relationship between doctoral students and their faculty advisers, who work together to develop a detailed course of study that takes full advantage of the resources available at Washington University and through our collaborative partners from around the country and the world. The DrSU program is STEM-designated.

This individualized program allows each doctoral student to pursue their particular research interest while ensuring the development of the necessary research competencies and broadening of the student's knowledge in sustainable urbanism. Much of the program's course work and independent reading and study is focused on preparing students for their two-part general examination. The nature of this preparation varies widely depending upon the candidate's background and research interests. Overall, the exam is a platform for the student to demonstrate a broad knowledge of evidence-based research methods, the multidisciplinary frameworks of sustainable urbanism, the best practices for sustainable urbanism, and the technical knowledge base and skills necessary for implementing sustainability at a multi-scalar level in the city.

Website: <http://samfoxschool.wustl.edu/programs/drsu> (<http://samfoxschool.wustl.edu/programs/drsu/>)

Faculty

The core faculty for the Doctor of Sustainable Urbanism program draws from an accomplished set of educators throughout Washington University.

Program Chair

John Hoal
Professor and Chair of Urban Design
PhD, Washington University

Program Standing Committee

John Hoal (http://samfoxschool.wustl.edu/portfolios/faculty/john_hoal/)
Professor and Chair of Urban Design
PhD, Washington University

Eric Mumford (http://samfoxschool.wustl.edu/portfolios/faculty/eric_mumford/)

Rebecca and John Voyles Professor of Architecture
PhD, Princeton University

Linda C. Samuels (http://www.samfoxschool.wustl.edu/portfolios/linda_samuels/)

Associate Professor
PhD, University of California, Los Angeles

Hongxi Yin (<http://samfoxschool.wustl.edu/directory/10636/>)
InCEES Associate Professor
PhD, Carnegie Mellon University

Ex Officio

Heather Woofter

Director, College of Architecture and Graduate School of Architecture & Urban Design
Sam and Marilyn Fox Professor
MArch, Harvard University

Faculty for required and elective courses are drawn from all departments within the university, representing the interdisciplinary nature of the program.

Degree Requirements

Doctor of Sustainable Urbanism

To earn the Doctor of Sustainable Urbanism degree from the Sam Fox School, students must complete 72 credit units of graduate work over at least three years. Students will typically complete the program in four years, but they may complete the program in as few as three years or as many as five years.

Of the total 72 units, 48 units represent course work to be completed in residence at Washington University, including required seminars and courses and approved elective seminars and courses. Thereafter, 24 units of thesis research and writing may be completed at Washington University or offsite if approved by the chair of urban design.

In order to graduate, students must do the following:

- Maintain satisfactory academic progress and standing
- Pass Parts One and Two of the General Examination
- Fulfill residence and enrollment requirements
- Demonstrate competency in teaching at both the basic level and the advanced level
- Write and submit an acceptable dissertation in sustainable urbanism and defend it before a designated dissertation committee

Courses

For a list of available courses, please refer to the Courses (p. 16) section of the Graduate School of Architecture & Urban Design in this *Bulletin*.

Degrees Offered

Master's Degrees

- Master of Architecture: MArch 3 (p. 43) (six semesters)
- Master of Architecture: MArch 2 (p. 44) (four semesters)
- Master of Landscape Architecture (p. 45)
- Master of Urban Design (p. 46)
- MS in Advanced Architectural Design (p. 48) (three semesters)
- MS in Architectural Studies (p. 48) (30 credits)

Dual Degrees

- Master of Business Administration/Master of Architecture (p. 48) (MBA/MArch)
- Master of Business Administration/Master of Urban Design (p. 48) (MBA/MUD)
- Master of Construction Management/Master of Architecture (p. 48) (MCM/MArch)
- Master of Landscape Architecture/Master of Architecture (p. 49) (MLA/MArch)
- Master of Landscape Architecture/Master of Urban Design (p. 49) (MLA/MUD)
- Master of Social Work/Master of Architecture (p. 49) (MSW/MArch)
- Master of Social Work/Master of Urban Design (p. 49) (MSW/MUD)
- Master of Urban Design/Master of Architecture (p. 50) (MUD/MArch)

Doctoral Degree

- Doctor of Sustainable Urbanism (p. 50)

Administration

Heather Woofter (https://samfoxschool.wustl.edu/portfolios/faculty/heather_woofter/)

Director, College of Architecture and Graduate School of Architecture & Urban Design
Sam and Marilyn Fox Professor
MArch, Harvard University

Derek Hoeflerlin (https://samfoxschool.wustl.edu/portfolios/faculty/derek_hoeflerlin/)

Chair, Landscape Architecture & Urban Design
Associate Professor
MArch, Tulane University

Mónica Rivera (https://samfoxschool.wustl.edu/portfolios/monica_rivera/)

Chair, Graduate Architecture
Professor of Practice
MArch, Harvard University

Admission Procedures

Eligibility

Washington University encourages and gives full consideration to all applicants for admission, financial aid and employment. The university does not discriminate in access to, treatment in, or employment in its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.

Information and Applications

From October until January 15, application forms and instructions for all graduate degree programs are available on our Graduate Admissions (<http://www.samfoxschool.wustl.edu/admissions/graduate/>) website.

An application to the graduate programs should include a portfolio of student work in the visual arts (i.e., drawing, painting, sculpture) or in architectural design work if the applicant has completed architectural design studio courses, along with transcripts or records from the institutions attended, a statement of objectives, a résumé or curriculum vitae, and three letters of recommendation. The Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) is required of international applicants, along with verification of availability of funds.

For more information about graduate degree programs and requirements, contact the Graduate Admissions Counselor, Graduate School of Architecture & Urban Design, Sam Fox School of Design & Visual Arts, Washington University in St. Louis, CB 1079, One Brookings Drive, St. Louis, MO 63130-4899.

Phone: 314-935-6227 or 800-295-6227
(within the continental United States)

Email: wuarch@wustl.edu

Website: <http://samfoxschool.wustl.edu/admissions/graduate/> (<http://samfoxschool.wustl.edu/admissions/graduate/>)

Policies

The dynamic and creative studio culture at the heart of the Sam Fox School strives to be safe and inclusive for all members of our community. Our faculty, staff, and students join together in their commitment to creating learning environments of mutuality and respect. When concerns or disagreements arise about conduct, grading, or other matters in the Colleges of Art and Architecture, policies exist for pursuing proper resolution.

Grade Dispute Policy

The Sam Fox School aims to provide each student with a fair assessment of their academic work and studio. Students have the right to dispute their overall course grade (not individual assignments) if they believe that grade does not accurately reflect the quality of their work. A grade dispute must be submitted to the faculty member who assigned the grade within 30 days of receipt of the grade. The Sam Fox School stresses that every effort to resolve such a dispute be made by the faculty and student involved. A student's eligibility for advancement in sequential course work requires timely resolution of the grade dispute. If the student is a graduation candidate, the dispute

process must comply with the Intent to Graduate submission deadlines set forth by the Office of the University Registrar or else the degree conferral will be delayed by one semester or until resolved.

In general, the dispute process will occur and be resolved as follows:

1. The student presents their question about the grade in writing to the faculty member and clearly states the reasons for questioning the grade.
2. The faculty member and the student review the grading procedures as stated in syllabus and discuss the determining factors of the student's grade.
3. If the case is not resolved between the student and the faculty member, the student may put forth their complaint in writing with supporting evidence to the chair* of the academic program, with a copy given to the faculty member involved with the dispute. The student should provide all of the course syllabus and materials relevant to the assigned grade within two weeks of the complaint. If a conflict of interest exists between the student and the chair (e.g., the chair is teaching the course), the case will be referred to another chair in the Sam Fox School or to the director of the college.
4. The chair of the academic program will review the materials. The chair will resolve the dispute by working with the faculty member and the student to arrive at a determination.

Integrity and Ethical Conduct

Washington University and Sam Fox School of Design and Visual Arts are committed to the highest ethical and professional standards of conduct and consider these to be integral to their mission of the promotion of learning. To maintain these standards, the university relies on each community member's ethical behavior, honesty, integrity, and good judgment. Each community member should demonstrate respect for the rights of others, and each community member is accountable for their own actions. Washington University policies state that members of the university community can expect to be free from discrimination and harassment. Students, faculty, staff, and outside organizations working on campus are required to abide by specific policies prohibiting harassment, which are posted on the Compliance and Policies (<https://wustl.edu/about/compliance-policies/>) page of the university's website. Should a situation arise in which a member of our community believes they have cause to file a grievance, there are two categories of grievance to consider: academic and non-academic. Academic grievances can either be when a student challenges a course grade or when a fellow student or faculty member feels a matter of academic integrity is at issue. Student grievances filed to challenge a grade that the student feels has been given incorrectly must follow the procedures outlined in the Grade Dispute Policy above. Academic integrity grievances are made when a faculty member or fellow student feels a student has

compromised the environment of honesty and ethics in the school. Academic integrity infractions follow the procedures laid out in the Sam Fox School and University policies (<https://samfoxschool.wustl.edu/node/5766/>) and are managed in the Sam Fox School by the Academic Integrity Officer, Assistant Dean Cris Baldwin. Please refer to Washington University's Academic Integrity Statement (<https://studentconduct.wustl.edu/academic-integrity/>) for additional information.

Non-Academic Concerns

If a member of our academic community feels that the ethical and safe environment of the classroom has been compromised, for whatever reason, they may seek guidance through the school's Faculty-Student Mediator, Professor Jeff Pike. Students may also consult Washington University's Grievance Policy and Procedures for Allegations by Undergraduate Students Against Faculty (<https://wustl.edu/about/compliance-policies/governance/grievance-policy-allegations-undergraduate-students-against-faculty/>). In addition, University Resources available for support include the following:

- Title IX (<https://titleix.wustl.edu/>) (for issues related to discrimination, sexual harassment, and sexual violence)
- Mental health concerns (<https://shs.wustl.edu/MentalHealth/Pages/default.aspx>) (Habif Health and Wellness Center)
- Drug and alcohol concerns (<https://shs.wustl.edu/HealthAndWellness/HealthTopics/Pages/Substance-Abuse.aspx>) (Habif Health and Wellness Center)
- Immediate physical/mental health concerns (<https://police.wustl.edu/Pages/Home.aspx>) (Washington University Police Department)
- Center for Diversity & Inclusion (<https://diversityinclusion.wustl.edu/brss/>) (for issues related to bias, prejudice, or discrimination)

Academic Integrity

Students and members of the faculty of the university have an obligation to uphold the highest standards of scholarship. Plagiarism and other forms of cheating will not be tolerated. When the student has violated the integrity of the academic community, an instructor may recommend that the student be brought before the Committee on Academic Integrity (https://www.samfoxschool.wustl.edu/files/Final_12-6_Architecture%20Graduate%20AI%20Policy-1_final2.pdf).

Student Conduct

Students are expected to comply with the rules and regulations of the University. See the University Student Conduct Code (<https://wustl.edu/about/compliance-policies/academic-policies/university-student-judicial-code/>) and the Graduate School of Architecture & Urban Design Studio Culture Policy (<https://samfoxschool.wustl.edu/files/Approved%20Studio%20Culture%20Policy.pdf>) for more information.

Units and Grades

A unit is the amount of credit given for one hour of lecture or up to three hours of studio work per week for one semester. Students in the Graduate School of Architecture & Urban Design may take one nonrequired course on a pass/fail basis each semester.

Grade Scale	Grade Points per Unit
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0

Minimum Grade Requirement

Students in the Graduate School of Architecture & Urban Design must complete all required courses with a grade of C- or better. Students who receive grades lower than a C- in a required course or studio may be required to take a leave of absence before being allowed to repeat the course or studio in the following academic year.

Minimum Grade-Point Average

Master's students in the Graduate School of Architecture & Urban Design are required to have a minimum grade-point average of 2.7 to graduate. Doctoral students are required to have a minimum grade-point average of 3.0 to graduate.

Removal of I Grades and Changes in F Grades

If, following the last day for withdrawal from courses, the student experiences medical or personal problems that make the satisfactory completion of course work unlikely, they may request a grade of I (incomplete) from one or more instructors and must take the following steps: (1) discuss the request with the instructor before the final critique or portfolio review; (2) with the instructor's consent, complete an Incomplete Grade Petition, which is signed by both the instructor and the student; and (3) return the signed petition to Sam Fox School Registrar's Office for final approval.

The instructor is under no obligation to award a grade of Incomplete. The chair of the student's program must review each request before a grade of Incomplete will be granted. Once granted, an Incomplete will become a grade of F if the deficiency is not made up within the next semester of residence or by the date agreed.

Incomplete marks in all architectural design studio courses from the 300 level to the 600 level must be removed by the first day of classes of the following semester. Failure to remove the I grade will prevent the student from continuing in another architectural design course.

In all other courses, the grade of I must be removed no later than the last day of classes of the next full semester. Upon failure to make up for an I grade within the next semester, the student will automatically receive an F in the course unless explicitly excused by the director. When an F grade is so received, it may not be changed. Students will not be allowed to continue in courses requiring prerequisites if the prerequisite has an I grade. A student who carries more than 9 units of incomplete work may be declared ineligible to re-enroll.

F grades for a semester may be changed only through the last day of classes of the following semester and then only in extraordinary circumstances. The director will approve no changes of F grades after this interval.

Retaking a Course

When a student retakes a course, both enrollments for the course will appear on the transcript. If the second grade is equivalent to or better than the first, the first grade may be changed to R, indicating the re-enrollment. If the second grade is lower, both grades will stand. Credit toward the degree will be allowed for only one of the enrollments. This policy applies to courses taken at Washington University.

In the case of a grade sanction for an academic or professional integrity violation, the normal course retake policy does not apply. If a student retakes a course, both grades will remain on the transcript; only the second grade, if passing, will count toward degree requirements.

Maximum and Minimum Course Loads

Graduate students are not permitted to enroll in more than 18 credits per semester. Increased credit waivers are granted for required English language courses.

An enrollment above 21 units will be charged at the established university rate per hour of the additional credits and must be approved by the director or graduate program chair. Required English language courses will not incur additional tuition charges.

Students must be registered for a minimum of 12 units. Partial load enrollment is possible when circumstances warrant it and requires permission of the director. Although students may be approved to enroll for fewer than 12 units during their final semester, full-time tuition will be charged.

Adjustment of Admission Placement

At the time of admission, students are placed into a program level by the Admissions Committee. In exceptional cases, this placement may be reviewed by appeal to the Executive Committee. Such an appeal can only be made after the student has completed a body of work in the school. The Executive Committee may adjust the student's placement, advancing the student within the design sequence and reducing the total number of unit requirements.

English Language Support Courses

All incoming international students will be automatically enrolled in English Language Support courses. Students will be reviewed during the first week of classes and the course waived by the instructor if deemed unnecessary. Any student who needs continued support in the spring semester will be enrolled in additional workshops. These courses are required, but they do not count toward degree requirements. These courses are free of charge to the student; however, any student who fails a needed course will be billed additional tuition.

Transfer Credit

The Graduate School of Architecture & Urban Design does not award transfer credit at the graduate level. Instead, graduate students who have already completed part of the professional curriculum at another institution are placed at the appropriate level of the professional curriculum by the Admissions Committee.

Electives

Master's Programs

In order to count as elective credit in the Graduate School of Architecture & Urban Design for master's programs, a course must be at the 300 level or above. Courses in University College do not count toward degree requirements.

Graduate students may not register for courses in the McKelvey School of Engineering unless they have been admitted to the Master of Construction Management (MCM/MArch) dual degree program (<http://samfoxschool.wustl.edu/node/4118/>). The only exception is T64 CNST 573 Fundamentals in Construction Management, which can be taken as an elective by any student in the Graduate School of Architecture & Urban Design.

Before registering for an MBA course, students must submit a "Request for Non-MBA Student to Take an MBA Course" form to the the Olin Business School.

Doctoral Program

In order to count as a required elective for the Doctor of Sustainable Urbanism program, a course must be at the 400 level or above. Required electives must be approved by the student's academic advisor.

Undergraduate courses (399 and below), University College courses, and courses taken with the pass/fail or audit grade option do not count toward the cumulative units required for the degree.

Seminars

The maximum enrollment in seminars (unless otherwise noted) is 12 unless approval is granted by either the graduate program chair or the director.

Workshops

Each semester, a changing selection of workshops in materials and graphic techniques is offered. Students are encouraged to enroll in these workshops as a supplement to their general curriculum. No more than one workshop is permitted in any given semester, and no more than 3 total units of workshop credit throughout a student's study program are allowed, unless special permission is granted by the graduate program chair.

Prerequisites

Students who want to enroll in seminars or workshops without the necessary prerequisites must seek permission from the instructor. Students from outside of Architecture seeking enrollment in furniture design courses or 1-credit workshops must have the permission of the instructor; registration without this permission does not guarantee placement in the course.

Independent Study

Graduate students who wish to enroll in an independent study must submit a petition and written proposal to their sponsoring faculty member, their adviser, and the program chair. Approved proposals are due to the Sam Fox School Registrar's Office by the course add deadline for the semester. Proposals submitted past the deadline will not be considered.

Independent studies may be completed for 1, 2 or 3 units of credit. A student may be enrolled in a maximum of 4 units of independent study per semester. Independent study courses cannot replace architectural design studios or other required courses.

Curricular Practical Training (CPT)

Students in the Graduate School of Architecture & Urban Design may only participate in CPT internships during the summer. CPT internships will not be approved during the fall and spring semesters.

Students participating in CPT must be enrolled in A46 590 Training and Development in Practice. Students who receive a failing grade are not eligible to participate in CPT during subsequent summers.

Credits earned for CPT courses will not be counted toward the total necessary for completion of the MArch, MUD, or MLA degree. Students interested in registering for CPT should contact the Office for International Students and Scholars (OISS) and the Sam Fox Registrar's Office.

Course Enrollment Minimums

Each course must have a minimum enrollment of eight students or it will be cancelled.

Absence Rule

Regular attendance at all classes and studio meetings is expected. If, in the opinion of the instructor, any student has accumulated absences to such an extent as to preclude the possibility of satisfying the course requirements, the student's registration in that course will be cancelled, subject to the approval of the director.

Satisfactory Academic Progress Toward a Degree

Master's Programs

Students are expected to proceed at a pace that enables them to finish their degree within the appropriate time limit. All students must maintain a "pace" of $66\frac{2}{3}\%$ (for the number of credits earned divided by the number of credits attempted).

Doctoral Program

Students in the Doctor of Sustainable Urbanism (DrSU) program have five calendar years to complete the degree requirements. Students are expected to proceed at a pace appropriate to enable them to finish within this time limit. Students may not carry more than 6 units of Incomplete, N or X grades at any time. Students with more than 6 unfinished units may be denied permission to register.

Progress toward the DrSU is contingent upon passing General Examinations Part One and Part Two.

After three years of study, students who cannot identify three members of the faculty who are willing to serve on their Dissertation Defense Committee will be considered not to be making satisfactory academic progress.

Academic Probation

Master's Programs

A master's student in the Graduate School of Architecture & Urban Design will be placed on academic probation under any of the following circumstances:

- The student has a cumulative GPA below 2.70.
- The student has a semester GPA below 2.50.
- The student receives a studio grade below B-.
- The student fails to make satisfactory academic progress.

This policy applies to any semester, including summer, in which a student is enrolled in either a studio or at least 9 units.

Students on academic probation must successfully complete all courses for which they are enrolled **and** earn a semester GPA of at least 2.70. Successful completion is defined as follows:

- The student must earn a B- or above in a studio course.
- The student must earn a C- or above in all non-studio courses.
- Incomplete (I) and withdrawal (W) grades after the drop deadline are **not** considered successful completion.

Additional academic expectations will be determined on an individual basis by the chair of the student's program. A student on academic probation who fails to meet the minimum established academic expectations will be reviewed by a faculty committee and may be dismissed.

A student will be removed from academic probation when all of the following criteria are met:

- The student has raised their cumulative GPA above 2.70.
- The student has no outstanding Incomplete grades.
- The student has successfully retaken and passed all courses for which non-passing grades were previously received.

Doctoral Program

A doctoral student in the Graduate School of Architecture & Urban Design will be placed on academic probation under any of the following circumstances:

- The student has a cumulative GPA below 3.00.
- The student has a semester GPA below 2.70.
- The student receives a non-passing grade.
- The student fails to make satisfactory academic progress.

Students on academic probation must successfully complete all courses for which they are enrolled **and** earn a semester GPA of at least 3.00. Successful completion is defined as follows:

- The student must earn the minimum passing grade for each course.
- Incomplete (I) and withdrawal (W) grades after the drop deadline are **not** considered successful completion.

Additional academic expectations will be determined on an individual basis by the chair of the student's program. A student on academic probation who fails to meet the minimum established academic expectations will be reviewed by a faculty committee and may be dismissed.

A student will be removed from academic probation when all of the following criteria are met:

- The student has raised their cumulative GPA above 3.00.
- The student has no outstanding Incomplete grades.
- The student has successfully retaken and passed all courses for which non-passing grades were previously received.

Graduate Honors

Graduate Honors may be awarded to students receiving the Master of Architecture, Master of Landscape Architecture, or Master of Urban Design degree as determined by academic performance. Such students will receive the degree "with honors."

Leave of Absence (LOA)

Graduate students in the Sam Fox School may request a voluntary leave of absence for up to one year (two semesters) when individual professional, medical, or personal circumstances warrant it. Petitions are reviewed and approved by the student's program chair. Any requests extending beyond one year will be reviewed on a case-by-case basis.

Students must submit a written request for a leave of absence no later than three weeks prior to the start of the upcoming semester. The deadlines for the 2020-21 academic year are August 3 for fall and December 29 for spring. There is no guarantee that requests received after the deadline will be reviewed.

In the case of a medical leave of absence, approval is required from the Habib Health and Wellness Center before a student will be permitted to take a medical leave of absence and return. International students requesting a leave of absence must contact their Office for International Students and Scholars (OISS) advisor to discuss how the leave might affect their visa status.

Students returning from a leave of absence must submit a written request stating their intention to enroll by April 15 for fall and November 15 for spring.

If a student decides to take a leave of absence without first having received approval, they will be considered withdrawn from Washington University. If a withdrawn student wishes to return within one year, they must submit an official request for readmission to the appropriate program chair. Students who are withdrawn from the university for longer than one year must submit an updated portfolio to be reconsidered for admission.

Individual Program Policies

Additional policies applicable to specific graduate programs (e.g., comprehensive studio grade requirements, degree project grade requirements, thesis studio grade requirements, study abroad requirements) can be found on the website of the Office of the University Registrar (<https://registrar.wustl.edu/student-records/registration/proceduresandinformation/>).

Financial Obligations

The University reserves the right to change the fees stated or to establish fees at any time without prior written notice. Whenever changes or additions are made, they become effective with the next payment due.

Students are responsible for fulfilling their financial obligations to the university. If a student account becomes overdue, a late payment fee will be assessed, and a hold will be placed on the account. Students with a poor payment history may be restricted from utilizing certain payment options or receiving tuition remission until course credit has been earned. Non-payment of tuition and other expenses due to the university will be cause for exclusion from class or refusal of graduation, further registration, or transfer credit. In addition, students are liable for any costs associated with the collection of their unpaid bills, including but not limited to collection agency costs, court costs, and legal fees. Past due amounts can also be reported to a credit bureau.

Withdrawals and Refunds

Students wishing to withdraw for any reason from the Graduate School of Architecture & Urban Design before the end of the semester should consult in person with the associate dean of students. No such withdrawal will be official until the request in writing has been approved and the appropriate changes have been made in the student's record.

A written request for a refund must be submitted to the Sam Fox School Registrar's Office for consideration. Tuition adjustments will be processed based on information received and according to the schedule below. Tuition refund checks will be issued only after the fourth week of classes each semester. Materials fees for Graduate School of Architecture & Urban Design courses will not be refunded after the fourth week of classes. For any student whose medical condition makes attendance for the balance of the semester impossible or medically inadvisable, the university will make a pro rata refund of tuition as of the date of withdrawal when the date occurs prior to the twelfth week of classes, provided that the condition is verified by the Habib Health and Wellness Center or a private physician. The date of withdrawal may correspond to the date of hospitalization or the date on which the medical condition was determined.

Withdrawal Date	Refund
Within 1st or 2nd week of classes	100%
Within 3rd or 4th week of classes	80%
Within 5th or 6th week of classes	60%
Within 7th or 8th week of classes	50%
Within 9th or 10th week of classes	40%
After 10th week of classes	0%

Summer Withdrawals and Refunds

The Sam Fox School reserves the right to cancel a course if it has not enrolled enough students by the first day of class. If a course is canceled, all enrolled students will be notified and dropped from the class, and they will not be charged tuition and fees.

If a course is not canceled, a student may be released from their obligation to pay full tuition and fees by canceling their registration according to the schedule below:

Withdrawal Date	Refund
Prior to the first class meeting	100% tuition + fees
Prior to 15% of published meeting dates	100%
Prior to 30% of published meeting dates	80%
Prior to 45% of published meeting dates	60%
Prior to 60% of published meeting dates	40%
After 61% of published meeting dates	0%

Requests for refunds must be made in writing to the Sam Fox School Registrar's Office.

Students may drop a summer course without penalty through the 80% tuition refund deadline, and they may withdraw from a course through the 40% tuition refund deadline.

Retention of Student Work

The Graduate School of Architecture & Urban Design reserves the right to retain any student work submitted for course credit. Normally this work will be returned to the student at the end of the semester, except that which has been retained for publications, exhibitions, or accreditation reviews. It is highly recommended that students photographically reproduce or electronically store their work in order to keep a record of their work.

Intent to Graduate

Every candidate for a degree is required to file an "Intent to Graduate" in WebSTAC in order to participate in Commencement exercises. The deadlines for filing can be found on the University Registrar's website (<http://registrar.wustl.edu/student-records/graduation/intent-to-graduate/>).

Financial Information

Financial Aid

The Sam Fox School of Design & Visual Arts strives to provide financial assistance to as many students as possible. Financial aid packages most often consist of a combination of fellowships or scholarships, teaching and/or technical assistantships, and loan assistance.

An application for financial aid will have no effect on decisions for admission to the Graduate School of Architecture & Urban Design. Financial aid awards, including merit-based scholarships, are identified through the admissions process and are based on separate considerations of academic excellence, architectural ability and financial need.

Fees

The university reserves the right to change the fees stated or to establish additional fees at any time without prior written notice. Whenever fee changes or additions are made, they become effective with the next payment due.

Financial Obligations

Students are responsible for fulfilling their financial obligations to the university. If their account becomes overdue, a late payment fee will be assessed and a hold will be placed on the account. Students with a poor payment history may be restricted from utilizing certain payment options or receiving tuition remission until course credit has been earned. Nonpayment of tuition and other expenses due the university will be cause for exclusion from class or refusal of graduation, further registration or transfer credit. In addition, students are liable for any costs associated with the collection of their unpaid bills, including but not limited to collection agency costs, court costs and legal fees. Past due amounts can also be reported to a credit bureau.

Withdrawals and Refunds

For information about withdrawals and refunds, please refer to the Graduate School of Architecture & Urban Design Policies (p. 52) page of this *Bulletin*.

Interdisciplinary Opportunities

Washington University offers courses through interdisciplinary programs that include studies in a variety of disciplines that cross traditional academic boundaries and support academic areas outside of the schools.

- A limited opportunity for some Washington University students to enroll in courses at Saint Louis University and the University of Missouri-St. Louis is available through the Inter-University Exchange Program (p. 59).
- The Skandalaris Center (p. 60) offers cocurricular programming and practical, hands-on training and funding opportunities to students and faculty in all disciplines and schools.

Inter-University Exchange Program

The Inter-University Exchange (IE) program between Washington University, Saint Louis University (SLU) and the University of Missouri-St. Louis (UMSL) began in 1976 as an exchange agreement encouraging greater inter-institutional cooperation at the graduate level. Over time, this program has evolved to include undergraduate education. The basic provisions of the original agreement are still in place today, and participation continues to be at the discretion of each academic department or unit.

At Washington University, there are several schools that **do not participate** in this program (i.e., degree-seeking students in these schools are not eligible to participate in the IE program, and courses offered in these schools are not open to SLU and UMSL students attending Washington University through the IE program). They are the School of Law, the School of Medicine, University College and the Summer School. The Washington University schools that are open to participation in the IE program may have specific limitations or requirements for participation; details are available in those offices.

The following provisions apply to all course work taken by Washington University students attending SLU or UMSL through the IE program:

- Such courses can be used for the fulfillment of degree or major requirements. (Students should consult with their dean's office for information about how IE course work will count toward their grade-point average, units and major requirements.)
- Such courses are not regularly offered at Washington University.

- Registration for such courses requires preliminary approval of the student's major/department adviser, the student's division office or dean, and the academic department of the host university.
- Students at the host institution have first claim on course enrollment (i.e., a desired course at SLU or UMSL may be fully subscribed and unable to accept Washington University students).
- Academic credit earned in such courses will be considered as resident credit, not transfer credit.
- Tuition for such courses will be paid to Washington University at the prevailing Washington University rates; there is no additional tuition cost to the student who enrolls in IE course work on another campus. However, students are responsible for any and all fees charged by the host school.
- Library privileges attendant on enrolling in a course on a host campus will be made available in the manner prescribed by the host campus.

Instructions

Washington University students must be enrolled full-time in order to participate in the IE program and have no holds, financial or otherwise, on their academic record at Washington University or at the host institution.

1. The student must complete the IE program application form. Forms are available from the Office of the University Registrar and on its website (link below).
2. The student must provide all information requested in the top portion of the form and indicate the course in which they wish to enroll.
3. The student must obtain the approval signature of the professor teaching the class or the department chair at SLU or UMSL, preferably in person.
4. The student also must obtain the approval signatures of their major adviser at Washington University and the appropriate individual in their dean's office.
5. Completed forms must be submitted to the Office of the University Registrar in the Women's Building a minimum of one week before the start of the term.

Course enrollment is handled administratively by the registrars of the home and host institutions. Washington University students registered for IE course work will see these courses on their class schedule and academic record at WebSTAC under departments I97 (SLU) and I98 (UMSL). Final grades are recorded when received from the host institution. The student does not need to obtain an official transcript from SLU or UMSL to receive academic credit for IE course work at Washington University.

Contact: Office of the University Registrar
Phone: 314-935-5959
Email: registrar@wustl.edu
Website: <http://registrar.wustl.edu/student-records/registration/the-inter-university-exchange-program> (<http://registrar.wustl.edu/student-records/registration/the-inter-university-exchange-program/>)

Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship

The Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship (<http://skandalaris.wustl.edu/>) is the place on campus *Where Creative Minds Connect*.

Mission

The Skandalaris Center aims to inspire and develop **creativity, innovation, and entrepreneurship** at Washington University in St. Louis.

Who We Serve

We work with the best and brightest at WashU — the change-makers, thought leaders, and visionaries — to solve the world's problems and meet local needs through innovation and entrepreneurship. As an interdisciplinary center, our initiatives serve students, faculty, staff, and alumni from all levels and disciplines.

Our Initiatives

Our initiatives are divided into four parts:

1. Create (p. 60)
2. Innovate (p. 60)
3. Launch (p. 60)
4. Learn (p. 61)

Create

We believe everyone can be creative. The following programs are designed to give the WashU community hands-on experiences and the creative means to solve problems.

- **Make It Take It**

These monthly maker events at the Skandalaris Center are designed to promote creativity at any age and within any discipline, because anyone can be creative.

- **Entrepreneurial Student Advisory Committee (ESAC)**

This committee provides an opportunity for students to have a say in the events and programs offered by the Skandalaris Center.

- **Creator's Gallery** (<https://skandalaris.wustl.edu/sc-programs/creatorsgallery/>)
This annual interdisciplinary exhibition allows creators of all types, disciplines, and ages to display their creative works of all mediums.

Innovate

Innovation is the backbone of entrepreneurship. The following programs offer opportunities to develop and share new ideas while connecting with other innovators.

- **IdeaBounce** (<https://skandalaris.wustl.edu/sc-programs/ideabounce/>)[®]
IdeaBounce[®] is both an online platform and an event for sharing venture ideas and making connections. This is an opportunity for participants to pitch their ideas (no matter how "fresh"), get feedback on them, and make connections. In-person events happen around twice per semester.
- **Student Groups** (<https://skandalaris.wustl.edu/sc-programs/student-groups/>)
There are many organizations that allow students to gain experience and make valuable interdisciplinary connections in the areas of creativity, innovation, and entrepreneurship.
- **Workshops** (<https://sc.wustl.edu/events/>)
The Skandalaris Center offers free, noncredit workshops designed to encourage creativity, innovation, and entrepreneurship.

Launch

Good ideas are one opportunity away from success. We developed the following programs and competitions to help innovators and entrepreneurs access the resources they need to take their ideas to the next level.

- **Student Entrepreneurial Program (StEP)** (<https://skandalaris.wustl.edu/sc-programs/step/>)
StEP provides a unique opportunity for students to own and operate a business on campus that serves the WashU community. Student owners can supplement the valuable business and entrepreneurial skills they learn in the classroom while gaining real-world experience as they manage and lead their own businesses.
- **Global Impact Award (GIA)** (<https://skandalaris.wustl.edu/sc-programs/global-impact-award/>)
The GIA awards WashU-affiliated ventures with inventions, products, ideas, and business models that will have a broad and lasting impact on society.
 - **Who Can Apply:** WashU students, postdocs, residents, and alumni who have graduated within the last 10 years
 - **Award:** Up to \$50,000
- **Skandalaris Venture Competition (SVC)** (<https://skandalaris.wustl.edu/sc-programs/svc/>)

The SVC provides expert mentorship to new ventures and startups to ready them for commercializing their ideas, launching, and pitching to investors. Teams will develop materials focused on explaining the ideas that they are working on to a broad audience.

- **Who Can Apply:** Current Washington University students with an early-stage venture or idea
- **Award:** Up to \$22,500

- **LEAP (Leadership and Entrepreneurial Acceleration Program)**

LEAP is a hybrid virtual incubator and gap funding program designed to tackle opportunities in university technology commercialization, illuminate investment risk, and rapidly accelerate the development of validated projects.

- **Who Can Apply:** Any person or team with WashU intellectual property
- **Award:** Up to \$50,000

- **Simon Initiative**

The Simon Initiative is a multistage collaborative initiative to expand diversity and interdisciplinary approaches to entrepreneurship.

- **Resources** (<https://skandalari.wustl.edu/resources/>)
The Skandalari Center, Washington University, and external services and resources are available to support innovators and entrepreneurs.

Learn

Knowledge and skills are key to innovation and entrepreneurship. Our center offers the following events and opportunities to help our community learn the ins and outs of innovation and entrepreneurship.

- **The Hatchery** (<https://skandalari.wustl.edu/sc-programs/hatchery/>)
The Hatchery is a course offered by Olin Business School that allows student teams to pursue their own business ideas or to support community entrepreneurs. Students form teams around a commercial or social venture idea proposed by a student or community entrepreneur. The deliverables for the course include two presentations to a panel of judges and a complete business plan; these are similar to the deliverables in the Skandalari Center's business plan competitions and can be a valuable first step toward competitions and funding for a new venture.
- **Skandalari Internship Program (SKIP)** (<https://skandalari.wustl.edu/sc-programs/internship/>)
SKIP is a paid 10-week summer internship and intensive introduction to St. Louis and the world of startups. Students work at their internships for most of the week; on Wednesday afternoons, they participate in special programs such as tours of entrepreneurial areas/neighborhoods, networking events, and panel discussions.
- **Innovation Conversations** (<https://skandalari.wustl.edu/sc-programs/innovation-conversations/>)

These interactive discussions showcase different topics and industries with a variety of creators, innovators, and entrepreneurs.

- **St. Louis Entrepreneurial Fellowship** (<https://skandalari.wustl.edu/sc-programs/fellowship/>)
This year-long program gives WashU students a chance to explore entrepreneurship at WashU and in St. Louis. The experience includes a spring semester seminar that explores innovation and entrepreneurship, a 10-week paid summer internship at a St. Louis startup, a fall semester capstone project, professional development opportunities, and programs and events to engage with entrepreneurs, founders, and innovators.
- **Washington University in St. Louis Entrepreneurship Courses** (<https://skandalari.wustl.edu/sc-programs/entrepreneurship-courses/>)
Courses in entrepreneurship offered across the university are available to students at all levels and in all disciplines.
- **Honors in Innovation & Entrepreneurship** (<https://skandalari.wustl.edu/sc-programs/honors-in-innovation-and-entrepreneurship/>)
Students who have shown exemplary involvement in innovation and entrepreneurship during their time at Washington University are recognized through this program. Honors are earned by accumulating points through a combination of curricular and cocurricular activities.
- **PhD Citation in Entrepreneurship** (<https://skandalari.wustl.edu/sc-programs/entrepreneurship-citation/>)
This program provides opportunities for PhD students who are interested in developing skills and experiences in the areas of entrepreneurship and innovation.

Learn More

Please contact the Skandalari Center (<https://skandalari.wustl.edu/get-connected/>) to sign up for our newsletter and for additional information about all programs.

Phone: 314-935-9134
Email: sc@wustl.edu
Website: <http://skandalari.wustl.edu>

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