

Architecture Program Report

Lawrence Technological University

7 September 2022

**26 January 2023, Final Version
(corrections noted)**

NAAB

National
Architectural
Accrediting
Board, Inc.



Architecture Program Report (APR)

2020 Conditions for Accreditation

2020 Procedures for Accreditation

Institution	Lawrence Technological University
Name of Academic Unit	Department of Architecture, College of Architecture and Design
<p>Degree(s) <i>(check all that apply)</i></p> <p>Track(s) <i>(Please include all tracks offered by the program under the respective degree, including total number of credits. Examples:</i></p> <p><i>150 semester undergraduate credit hours</i></p> <p><i>Undergraduate degree with architecture major + 60 graduate semester credit hours</i></p> <p><i>Undergraduate degree with non-architecture major + 90 graduate semester credit hours)</i></p>	<p><input type="checkbox"/> <u>Bachelor of Architecture</u></p> <p>Track:</p> <p><input checked="" type="checkbox"/> <u>Master of Architecture</u></p> <p>Track I: 133 semester undergraduate credit hours + 36 graduate semester credit hours</p> <p>Track II: Undergraduate degree with architecture major + 47/48 graduate semester credit hours</p> <p>Track III: Undergraduate degree with non-architecture major + 89 graduate semester credit hours</p> <p>Track IV: Undergraduate degree with non-architecture major + 79 graduate semester credit hours (60 with LTU BS Interior Design)</p> <p><input type="checkbox"/> <u>Doctor of Architecture</u></p> <p>Track:</p> <p>Track:</p>
Application for Accreditation	Continuing Accreditation
Year of Previous Visit	2014
Current Term of Accreditation <i>(refer to most recent decision letter)</i>	Continuing Accreditation (Eight-Year Term)
Program Administrator	Dale Allen Gyure, Chair



Chief Administrator for the academic unit in which the program is located <i>(e.g., dean or department chair)</i>	Karl Daubmann, Dean
Chief Academic Officer of the Institution	Jim Jolly, J.D. [Interim] Dr. Richard Heist, Interim Provost and VP of Academic Affairs
President of the Institution	Dr. Tarek M. Sobh
Individual submitting the APR	Dale Allen Gyure, Architecture Chair
Name and email address of individual to whom questions should be directed	Dale Allen Gyure dgyure@ltu.edu

Submission Requirements:

- The APR must be submitted as one PDF document, with supporting materials
- The APR must not exceed 20 MB and 150 pages
- The APR template document shall not be reformatted



INTRODUCTION

Progress since the Previous Visit (limit 5 pages)

In this Introduction to the APR, the program must document all actions taken since the previous visit to address Conditions Not Met and Causes of Concern cited in the most recent VTR.

The APR must include the exact text quoted from the previous VTR, as well as the summary of activities.

Program Response:

During the 2014 NAAB review, the visiting team identified only one Student Performance Criterion that was not met. The steps taken by the department to address this are described below:

SPC C.7 (2012) Legal Responsibilities: VTR Text: (No comment-text was included in the 2014 VTR.) Program Response: the CoAD's Year 2 IPR (2016) included a revised 2015 syllabus from Professional Practice ARC 5913, identifying SPC C.7 topic allocations to three specific modules and their readings, and also included evidence of student work related to SPC C.7 from 2015 course sections. The CoAD's Year 5 IPR (2019) noted that the necessary topic-coverage response for this area was satisfied by the Year 2 IPR. Since 2019, the CoAD has continued to augment coursework in this area, both prior to and within our Professional Practice course. To scaffold content, we now allocate applied introductory material to our undergraduate Construction Systems 2 course. Within the graduate Professional Practice course, the Contractual Relationships assignment developed in 2015 has been updated to tie back to the previously developed applied Legal Responsibilities understandings.

Progress on addressing Causes for Concern:

During the 2014 NAAB review, the visiting team listed six Causes for Concern, which are listed below, with the steps taken by the department to address each concern:

Social Equity-Faculty: VTR text: "Disparity between the percentage of women in the faculty body and of graduating female students." Program Response: the CoAD's Year 2 IPR (2016) described the program's attempts to increase gender diversity among faculty and students, including statistics from adjunct faculty hiring (42% female during the period 2014-16) and full-time faculty searches (one new female hire and one search with all four final candidates female), the establishment of a new Professor of Practice position (with four of the first six offers made to female instructors), the increasing percentage of female architecture students in the program, and the commitment of new CoAD Dean Karl Daubmann to increasing faculty and student diversity. The CoAD's Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Since 2019, the architecture program has hired six full-time, tenure-track faculty members: females have been among the final candidates in every search, and three of the six new hires (including the last two) were female. Additionally, during the past three years we have made a concentrated effort to hire more female adjuncts, Professors of Practice, and Instructors, resulting in a non-tenure track pool of instructors that is equally balanced or majority female during most semesters. Further, the CoAD will be conducting searches for full-time tenure-track faculty during this academic year; the architecture program will conduct a search that could justify two to four offers due to recent departures and potential future retirements. Dean Daubmann has stipulated in past searches that if the candidate pool is not



balanced in terms of gender representation, then the search will be considered unsuccessful. More detailed information about the CoADs recent diversity efforts is provided in Section 5.5.

Financial Resources: VTR text: “As a tuition-based university, LTU is particularly sensitive to the vagaries of the economy, which can have negative impacts on the ability of the college to offer a quality architecture professional program.” Program Response: the CoAD’s Year 2 IPR (2016) described how the economic recession of 2008 was still impacting the program in terms of reduced enrollments, and how the CoAD was utilizing the opportunity for smaller student/faculty ratios to improve curriculum delivery. The CoAD’s Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Today, the university remains tuition-based, but under a new president, the university is committed to improved philanthropic / alumni fundraising and substantial increases in research funding, both of which will bring increased revenues. In support of the financial initiatives, CoAD now has a Director of Alumni Engagement housed in the college and a Director of External Academic Initiatives to support and increase external sponsorship. Both new positions (2021) will improve the college finances and reduce dependency on tuition.

SPC B.5 (2012) Life Safety: VTR text: “Complex topic that requires more attention.” Program Response: the CoAD’s Year 2 IPR (2016) included evidence of student work related to SPC B.5 from 2016 Integrated Design course sections, focusing on the SPC description of the ability to apply the basic principles of life-safety systems with an emphasis on egress. The CoAD’s Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Since 2019, the CoAD has continued to augment coursework in this area, by significantly broadening and deepening coverage of applied building code usage in the Year 3 Integrated Design Studio coursework, including individual-student explicit graphic and numeric code analysis and documentation included as part of students’ ongoing design project development. This level of engagement with building codes and site planning ordinances is continued forward through subsequent Integrated Design studios and Comprehensive Design.

SPC C.3 (2012) Client Role in Architecture: VTR text: “Some of the evidence found is from 2009 coursework.” Program Response: the CoAD’s Year 2 IPR (2016) included a revised 2015 syllabus from Professional Practice ARC 5913, identifying SPC C.3 topic allocations to three specific modules and their readings, and also included evidence of student work related to SPC C.3 from 2015 course sections. The CoAD’s Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Since 2019, the CoAD has continued to augment coursework in this area, under the NAAB 2014 heading of Stakeholder Roles in Architecture, by allying this topic with Professional Conduct & Ethics, and allocating scaffolded introductory content to two undergraduate public-oriented design studios prior to the graduate Professional Practice course.

SPC C.4 (2012) Project Management: VTR text: “Some of the evidence found is from 2009 coursework.” Program Response: the CoAD’s Year 2 IPR (2016) included a revised 2015 syllabus from Professional Practice ARC 5913, identifying SPC C.4 topic allocations to seven specific modules and their readings, and also included evidence of student work related to SPC C.4 from 2015 course sections. The CoAD’s Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Since 2019, the CoAD has continued to augment coursework in this area, both prior to and within our Professional Practice course. To scaffold content, we now allocate applied introductory material to both of our undergraduate Construction Systems courses. Within the graduate Professional Practice course, the Professional Judgment



Reasoning assignment developed in 2015 has been updated to tie back to the previously developed applied Project Management understandings.

SPC C.5 (2012) Practice Management: VTR text: “Some of the evidence found is from 2009 coursework.” Program Response: the CoAD’s Year 2 IPR (2016) included a revised 2015 syllabus from Professional Practice ARC 5913, identifying SPC C.5 topic allocations to eight specific modules and their readings, and also included evidence of student work related to SPC C.5 from 2015 course sections. The CoAD’s Year 5 IPR (2019) noted that the necessary specific response in this area was satisfied by the Year 2 IPR. Since 2019, the CoAD has continued to augment coursework in this area, under the NAAB 2014 heading of Business Practices, by informally allocating scaffolded introductory content to our multi-disciplinary Design Leadership undergraduate course prior to the graduate Professional Practice course.

Program Changes

Further, if the Accreditation Conditions have changed since the previous visit, the APR must include a brief description of changes made to the program as a result of changes in the Conditions.

This section is limited to 5 pages, total.

Program Response:

The architecture program has made minor changes to the curriculum and the learning objectives based on the new NAAB 2020 Conditions for Accreditation. We already had a robust self-assessment program in place before the new Conditions appeared, so the transition was relatively smooth. In the summer of 2020, Prof. Eric Ward was appointed the new Assessment Coordinator for the program, with responsibilities for overseeing our internal self-assessment regime for both NAAB and LTU. Prof. Ward worked with the department chair and associate chair to create a method for assigning NAAB criteria to program classes, translating our existing scheme for the 2014 Conditions for Accreditation to meet the new demands. On LTU Assessment Day in the fall semester of 2020, all full-time faculty in the program met to discuss the appropriateness of the proposed criteria and objective assignments and adjust as necessary. Minor modifications were made during Assessment Day 2021, based in part on feedback from the previous year. As a result, the architecture program’s transition to the 2020 Conditions was completed by the end of Fall 2021, with a new scheme that incorporated both NAAB and LTU requirements.



1—Context and Mission

To help the NAAB and the visiting team understand the specific circumstances of the school, the program must describe the following:

The institutional context and geographic setting (public or private, urban or rural, size, etc.), and how the program’s mission and culture influence its architecture pedagogy and impact its development. Programs that exist within a larger educational institution must also describe the mission of the college or university and how that shapes or influences the program.

Programs must specify their delivery format (virtual/on-campus).

Program Response:

Lawrence Technological University (LTU) is a private, non-profit institution located in Southfield, Michigan. It has 2,740 students, including approximately 2,000 undergraduate students and 700 graduate students. Although most programs are offered on-campus, LTU has made significant investments in online learning over the last decade to support those students who are employed while enrolled in classes. Currently, for example, the entire graduate architecture program is online.

Since its founding in 1932 in a building adjacent to the original Ford Model T Plant, LTU has focused upon the development of innovative and agile professionals and leaders: <https://www.ltu.edu/about/history.asp>. Originally a college of engineering, LTU now has more than 100 programs in four colleges: Architecture and Design, Arts and Sciences, Business and Information Technology, and Engineering. Since NAAB’s last visit in 2014, LTU has strategically invested in the operationalization of its mission through robust, applied research, project-based learning, student-centered pedagogies, and a more supportive, residential campus environment, including investing in several new residence halls and athletic programs.

LTU Mission and Related Statements

Mission: To develop innovative and agile leaders through a student-centric learning environment and applied research embracing theory and practice.

Vision: To be recognized for transformative STEM and Design education that develops leaders with an entrepreneurial mindset and global perspective.

Values: Theory and practice; Character and integrity; Teamwork and trust; Student-focused and caring culture.

Cause: LTU seeks the intellectual development and transformation of our students into critical thinkers, leaders, and lifelong learners.

These statements are routinely re-evaluated as a part of the university’s strategic planning process. The authors of LTU’s 2021 Strategic Plan reaffirmed LTU’s Mission, Vision, Values, and Cause and how they reflect the institution’s emphasis on instruction, scholarship, and application of research. <https://www.ltu.edu/about/strategic-plan.asp>

College of Architecture and Design

The College of Architecture and Design (CoAD) is dedicated to a pedagogy of “theory and practice,” reflecting the motto of Lawrence Technological University. The College advocates not



one or the other, but both, integrated and coherent. Correspondingly, the CoAD offers students insight into design practice, crafted so that our students might enter thoughtfully into current modes of practice and, when appropriate, expand the conversations so that the practices of architecture and design might be more innovative, inclusive, and democratic.

As an extension of this focus, the CoAD embraces a three-part statement of purpose:

Focused on Design – The CoAD sees design as an expanded endeavor: multidisciplinary by definition. This attitude influences our coursework, teaching, the co- and extracurricular activities we offer, our community-based projects and the international experiences we sponsor.

Immersed in Technology – The CoAD believes that technology is a human endeavor and a reflection of people at their best. We promote the advancement of practice through technology, so that our collective efforts and ideas enable us, as a culture, to make lives better.

Grounded in Practice – The CoAD pursues a grounded design practice, crafted so that we might thoughtfully expand current practices of architecture and design so that they might be more innovative, inclusive, and sustainable.

These statements are based on the legacy of LTU, its current mission, and the belief that our College's graduates will thrive within their chosen fields and use their unique, professional voices as designers to positively influence the world through their creative efforts, upon graduation and for decades to come.

The Department of Architecture

The architecture program embraces the College's statement of purpose:

Focused on Design – The CoAD offers degrees in six fields: architecture, game design, interior design, transportation design, industrial design and graphic design. All of our programs embrace the College's focus on design by providing opportunities for our students to explore the commonalities between disciplines. This includes a shared first-year studio and lecture experience and several required courses that are shared between the College's disciplines. The CoAD also encourages the use of required courses in other design areas to fulfill elective requirements and supports multidisciplinary extracurricular experiences (lecture series, exhibitions, and study-abroad programs). In the aforementioned first-year studio sequence, the program establishes design as a multidisciplinary, evidence-based endeavor. The focus on design is further evidenced in the fact that a majority of the student's coursework foregrounds project-based learning in which students demonstrate the attainment of course learning objectives through creative synthesis. As the majority of courses every semester are related to architecture or design, each student's engagement in design develops over time, The College also offers minors in related design fields.

Immersed in Technology – The architecture program immerses the student in technology in virtually all design coursework. The foundation design sequence, shared between all CoAD majors, teaches students the value of aligning their creative responses with the evidence provided – an emphasis that naturally foregrounds the technology by which the students obtain, and react to, said information. From the perspective of the architecture program and the College, one of the fundamental roles of the designer is to shift data from information to form. To build upon this foundation, our program requires architecture students, through a series of four required freshman and sophomore courses, to work with software platforms and output devices



normally associated with practice, including BIM, CAD, VR, digital fabrication, and robotics, before entering third-year studies. This initiative is supported by LTU's computer laptop program, which provides all of our students with the hardware and software needed to support their coursework. The CoAD offers our students access to additional support technology through our *printLab* (reproduction facility) and *buildLab* (workshop). Those students who wish to embrace technology further may pursue this through elective coursework or by earning certification in areas such as GIS or BIM.

Grounded in Practice – The architecture program at LTU encourages students to overlap their academic and professional aspirations. This has created a strong alumni base within our region, an asset that we leverage in the formation of advisory boards, internship opportunities, design studio reviews, and other activities. This legacy is the foundation of LTU's commitment to theory and practice. Our architecture program has always encouraged students to overlap work and study. Recently, this background inspired our program to be one of the first in the country to embrace the Integrated Path to Licensure Initiative (IPAL). Through this initiative, our program has graduated four students who were licensed upon graduation or soon thereafter, including two in the spring of 2021; these two 23-year old students became the youngest architects in Michigan. Our IPAL program is supported by our fully-online graduate program, which has been an integral part of our program for over a decade. This enables students to complete their degree requirement with us, while they practice anywhere in the world. Additionally, our program frontloads topics such as structures, building systems, material science, and comprehensive design, so that these students may contribute to and benefit from professional experience early in their careers.

The program's role in and relationship to its academic context and university community, including how the program benefits—and benefits from—its institutional setting and how the program as a unit and/or its individual faculty members participate in university-wide initiatives and the university's academic plan. Also describe how the program, as a unit, develops multidisciplinary relationships and leverages unique opportunities in the institution and the community.

Program Response:

The architecture program benefits from being a part of a small, private university focused upon STEM-based studies. As one of the largest programs at LTU, the architecture program has led our campus in the development of multidisciplinary opportunities. We have initiated dual degree programs which have been established in coordination with academic units across the campus to allow students to earn a second accredited degree in fields like media communication, civil engineering, or construction management. Some of our faculty teach courses in the College of Engineering. We are active in multidisciplinary university organizations like the Center for Teaching and Learning, the LTU Research Institutes, the Institutional Review Board, the Office of Diversity Equity and Inclusion Advisory Council, and the Humanity + Technology Lecture Series. Our CoAD lecture series is open to the university—with a recent move to lunchtime lectures—and emphasizes speakers with multidisciplinary backgrounds and practices. The program is also a supporter of university-wide initiatives, including playing a key role in Research Day, Assessment Day, LTU's Teaching Assistant and Graduate Research Assistant programs, and LTU's laptop computer program. The faculty who teach within the architecture program serve the university in numerous ways, including active participation in the Faculty Senate, the LTU Strategic Planning Process, and the university's 2020 re-accreditation by the Higher Learning Commission. Students in the architecture program also serve the wider university community, through student



government, volunteer work by athletic teams, fraternities, and sororities, and work in entities like the LTU Academic Achievement Center.

The ways in which the program encourages students and faculty to learn both inside and outside the classroom through individual and collective opportunities (e.g., field trips, participation in professional societies and organizations, honor societies, and other program-specific or campus-wide and community-wide activities).

Program Response:

LTU's architecture program encourages students to learn inside and outside the classroom. We regularly organize field trips for the required studios through which our students are able to explore the architecture of cities like Chicago, Toronto, Cincinnati, and Detroit, in a structured manner. Guided by our faculty and local experts, these experiences provide critical experiential knowledge for our student's' work. Our ongoing IPAL program, cited above, also functions as an option through which our students are able to overlap professional and academic interests. This program, and its impact, are supported by our fully-online graduate program, through which students are able to work anywhere in the world while they complete their degree with us. As many of our IPAL students work at a distance from campus, nationally and internationally, this program is often a radically immersive experience for our students. The architecture program and College support a number of student-run professional organizations, including NOMAS, AIAS, and Freedom By Design. Through these groups, our students have the opportunity to engage local firms and professionals, participate in service activities, learn key professional skills through workshops, and develop stronger professional networks. The College has supported a number of study-abroad opportunities, including a recent travel experience in Italy and community-oriented building-abroad programs in Bolivia and South Africa.

Faculty opportunities for learning and development are described in detail in the section on Shared Values: Lifelong Learning and Section 5.4.3 below.

Summary Statement of 1 – Context and Mission

This paragraph will be included in the VTR; limit to maximum 250 words.

Program Response:

The LTU Architecture Program is guided by three ideas. First, we are Focused on Design, meaning that we always foreground design and do so in a manner that conceives design as an expanded endeavor, multidisciplinary by definition. This attitude influences our coursework, teaching, the co- and extracurricular activities we offer, our community-based projects, and the international experiences we sponsor. Second, we are Immersed in Technology, and we promote the advancement of practice through technology, keeping in mind that technology is a human endeavor and a reflection of people at their best, and our collective efforts and ideas will enable us, as a culture, to make lives better. Finally, we are Grounded in Practice, and always seek opportunities for thoughtfully expanding current practices of architecture and design to be more innovative, inclusive, and sustainable. We apply these three guiding ideas both inside and outside the classroom, through a program that benefits from being a part of a small, private university focused upon STEM-based studies. Our status as one of the largest programs in the university allows the architecture department to lead our campus in the development of multidisciplinary opportunities.





2—Shared Values of the Discipline and Profession

The program must report on how it responds to the following values, all of which affect the education and development of architects. The response to each value must also identify how the program will continue to address these values as part of its long-range planning. These values are foundational, not exhaustive.

Design: Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.

Program Response:

2.1 Design

The architecture program at LTU believes that design is a collaborative practice that finds its inspiration in the realities of context and the nature of human beings. Our program believes that architecture should seek to draw its creative strength from the world, not impose the profession upon it. It is through productive dialogue with these forces that the architect is able to offer work that makes the world around us more equitable, resilient, sustainable, and beautiful: these are the objectives of our faculty, students, and curriculum.

How we teach

The ability to rigorously analyze the context of our work and offer an effective, creative response focuses our teaching and our architecture. In our courses, faculty ask students to demonstrate their acquisition of knowledge through thoughtful analysis and creative synthesis. For this reason, most courses in the architecture curriculum at LTU embrace project-based learning as a path toward design.

As in most programs, the design studio is the centerpiece of the CoAD architecture curriculum. The analysis of the context of architecture, the task of the design studios, is supported by project-based teaching methodologies implemented by most courses in the curriculum and in which students are asked to participate in focused, workshop-style activities, including fact-finding and analysis relevant to the content area. This occurs, in particular, in the two-credit labs that are associated, but distinct, components of most design studios. Modeled after architectural practices such as the Renzo Piano Building Workshop and SHoP Architects, the lab-studio courses help our students produce evidence-based design responses.

What we teach

Most design studios are organized to encourage students to explore the intersection of architecture with allied fields. For example, in the MArch Track I, the first-year studios—Design Principles (DES 1213) and Design Methodologies (DES 1223)—are multidisciplinary studios (For more information on our Tracks 1-IV, please see Section 4.2.5). Next, Integrated Design 1 (ARC 2116) explores architecture and the landscape; Integrated Design 2 (ARC 2126) focuses on the intersections of architecture, interior design, and human behavior; Integrated Design 3 (ARC 3116) explores architecture and construction and introduces bioclimatic responses; Integrated Design 4 (ARC 3126) looks at architecture, urban planning, and urban design. Integrated Design 5 (ARC 4116) and Comprehensive Design (ARC 4126), the culminating undergraduate studios, ask students to bring together all that they have learned to produce a well-formed, integrated project. The graduate studios require students to consider how architecture is influenced by a



greater and varying range of subjects, through the Advanced Design Studios or the Thesis. Non-studio coursework provides the essential technical framework for creative synthesis, offering students the chance to explore the structures, materials, and systems that inform practice. These courses are subject-focused and rigorous; they employ project-based work where appropriate.

Where we teach

Our primary facilities are located on LTU's main campus in Southfield, Michigan in a building dedicated to the design programs. The major part of our facility (designed by Gwathmey Siegel & Associates) opened in 2000. Every architecture student is provided work space within our studios, along with 24/7 access. Architecture studios are interspersed with (or at least near) those of other majors, and they share workshop and printing facilities, which encourages interdisciplinary exchanges. (Please refer to Section 5.6 for more information).

Who we ask to teach

As a program operating in a STEM-focused university, with the appropriate motto, *Theory and Practice*, our program has a history of emphasizing the ability of our faculty to pursue applied research, practice, and teaching. Our full-time faculty are versed in contemporary architectural practice and most are registered architects. Our adjunct faculty are active within local architectural practices. This mix helps our students to understand that the pursuit of theoretical excellence is not at odds with practical sensibilities, but that these agendas are mutually reinforcing.

The CoAD is committed to the continued improvement of our design studio pedagogy and has made changes recently to facilitate a better learning environment in these courses, including the introduction of more technology options in each studio and the addition of a third studio meeting day every week for undergraduates and a second weekly meeting for graduates.

Environmental Stewardship and Professional Responsibility: Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them.

Program Response:

Throughout the program, students are encouraged to think critically about collective and individual responsibility in creating ecologically-sustainable and socially-equitable environments. The academic path we have built helps them broaden their capacity for systematic thinking so that they may envision a responsive architectural and research practice.

The CoAD curriculum ensures that students learn the basic concepts and skills required to exercise responsible environmental stewardship. The program promotes an understanding of the relationships that exist between design and the built environment, informed by a pragmatic way of viewing the world and its resources. Students examine the environmental impact of design decisions on buildings' execution and find connections between upstream and downstream processes as they relate to land occupation, water consumption, use of raw materials, supply chains, and embodied energy. Climate change is investigated under the lens of multi-scalar natural systems, anthropogenic forces, and socio-political circumstances that trigger debates about the issue of environmental justice.



Curriculum

The integration of ecological systems is expected in design projects. Relevant topics are covered in lectures, seminars, studios, readings, technical coursework, design investigations, research of design precedents, elective courses, and special events. Faculty demonstrate our commitment to sustainable systems through research, scholarly activity, and creative work. Guest critics advance the conversation and best practices. Invited lecturers demonstrate how environmental responsibilities apply in practice.

Integrated Design 1 (ARC 2116) introduces general sustainability principles to beginning students who investigate the relationship between basic bioclimatic strategies and design tactics to respond to a landscape: building orientation, shading, proportions, and landform guide design outcomes. Integrated Design 2 (ARC 2126) and Architectural Foundation 3 (ARC 5034) focus on the relationship between architecture and interior space. The courses see interior space as the study of light, color, texture and volume as they relate to human scale. Typically, these objectives are achieved through the adaptive reuse of existing buildings in the public realm.

Architectural Foundation Studio 2 (ARC 5024) addresses affordable housing in urban areas with a consideration of social and environmental challenges. Integrated Design 4 (ARC 3126) considers issues affecting natural systems in urban design and architecture, including land use, water biology, vegetative ecosystems, and green infrastructures; this course introduces notions of landscape mitigation and long-term planning for urban resilience.

Integrated Design 3 (ARC 3116) and Comprehensive Design (ARC 4126) develop, respectively, introductory and advanced understandings of climate-responsive design, building environmental systems, building materials and assembly systems, and the impact of material selection in building design. The basics of sustainable design are addressed in HVAC and Water Systems (ARC 3423), in which students learn how to construct energy models to measure consumption, efficiency, and the economic impact of sustainable performance. From the theoretical standpoint, the graduate seminar Ecological Issues (ARC 5423) covers global-scale concepts such as the anthropocene, technosphere, terraforming, ecological infrastructure, design ecology, and environmental ethics to understand how architecture can respond to the human transformation of the planet. These ideas provide students with a view as to how cultural factors influence responsible design.

At the CoAD, we have organized our curriculum to ensure attention to environmental issues while addressing architects' obligations and responsibilities. Our curricular activities anticipate future architects' ethical decisions in sustainable design practice.

Equity, Diversity, and Inclusion: Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.

Program Response:



The CoAD works with the recently established LTU Office of Diversity, Equity, and Inclusion, with faculty, staff and students—as well as with outside organizations when appropriate—to achieve its goals in this area.

From its inception, LTU has made its programs available to people who might not otherwise have access to a quality, higher education. LTU was established so that workers in Henry Ford’s plant might have access to education. We were among the first schools to establish degree programs that could be completed primarily at night so working students might have access to higher education. LTU continues that commitment, offering degree programs to working students with evening courses and the opportunity to work through a program at a pace appropriate to the individual student. Both LTU and the CoAD are dedicated to understanding the best practices of online education so that students who could not otherwise pursue a degree might be able to do so.

The CoAD has several faculty and administrators dedicated to DEI-related initiatives, including representation within the Office of Diversity, Equity, and Inclusion’s Advisory Council, the Student Success, Equity, and Inclusion Committee, and a new associate dean who is dedicated to developing and supporting the CoAD DEI Initiatives. In 2022, CoAD appointed its new associate dean, adding a female voice to the college’s administration. The associate dean will partner with the Diversity in Design (DID) Collaborative to develop strategies and support for the CoAD’s Black student population. Also, the LTU campus is deemed accessible for those with physical disabilities.

The CoAD recently dedicated financial resources to DEI-related faculty training. The College invited Dr. Sally Burton-Hoyle to speak with CoAD faculty about how to best support and interact with students who are neurodivergent, and Kristen Renn to speak with all CoAD faculty about issues related to the LGBTQIA2S+ community. The CoAD plans to offer faculty antiracism training in 2023. Starting in fall 2022, the Office of Diversity, Equity, and Inclusion will be offering two training and development opportunities for faculty.

More information about how we address issues of equity, diversity and inclusion can be found in Section 5.5.

Knowledge and Innovation: Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

Program Response:

In the CoAD, knowledge and innovation are pursued through teaching and learning, research and scholarship, internal service, and external outreach. The CoAD explores current knowledge and its evolution and seeks to develop new knowledge. Our interest in knowledge underlies our ability to innovate. Teaching and learning culture drives the curriculum from start to finish in CoAD programs, especially in the studio sequences. Courses like Design Principles and Design Methodologies, design studios at the freshmen level (Year 1), introduce students to the knowledge of fundamental principles and cognitive processes underlying design disciplines. These knowledge structures are instrumental in developing diverse methodologies, strategies, and tactics of design. The studio sequence is supported by technology and visual



communication-focused courses, where exploration of knowledge and innovation take the form of experimentation, simulation, and testing. These studio, communication and modeling-simulation-prototyping courses then connect to the Construction Systems sequence and allow students to apply these knowledge structures systematically in the Comprehensive Design Studio as a place to generate new architectural knowledge by addressing complex information pertaining to different architectural dimensions through ideation, generation, exploration, proposal, and finalization of design works. In the same vein, the graduate or the upper-division curriculum begins with the Critical Practice Studio, an introductory forum for all graduate-level architecture students to engage in the exploration of design knowledge and innovation through making and teamwork using current and evolving technologies in practice. The graduate curriculum also includes Research Methods, an introduction to research discourses, methods, and outcomes as a systematic, strategic, intentional and methodological framework for thinking. This practice-based, research- and innovation-driven approach is reiterated and tested in the Advanced Design Studio (ADS) sequence as well the Thesis sequence, where faculty and students work on specific topics and strategies are faculty-guided (ADS) or student-driven (Thesis), but always research based.

LTU defines scholarship as “systematic inquiry into a subject, attainment of a level of expertise, and communication of that expertise to others.” The faculty are active in the publication of books and articles, and the presentation of conference papers. Several faculty members also sit on the editorial boards of professional and academic organizations and academic journals. These efforts in scholarship and creative activities are supported by the college and the university with structured coordination of time, investment in infrastructure, and support toward external funding as well as internal grants. The college recently created the CoAD Seed IN and Seed OUT grants, targeted awards that fund projects that put forward a compelling vision as to how important social and technological issues might align through design in the form of creative teaching or creative practice / scholarship / research. This support is intended as a bridge to move a project from the initial stage to a phase with more clarity and potential, leading to eventual peer-reviewed faculty dissemination or additional external funding. All of these grants, as well as university-funded Graduate Research Assistantships, support recruitment for students working in research projects and its dissemination at various internal and external forums, like LTU Research Day, and external conferences and workshops.

Knowledge and innovation in education and research within LTU live within the greater purpose of service and outreach to the broader discipline and to the larger sections of our communities. Several ADS sections work within the context of Public Interest Design, where problem formulation with respect to specific groups and communities in and around the immediate context of Metro Detroit becomes a central element of the teaching and learning. Apart from service-based learning studios, many faculty members are also engaged in community-based practice within local communities and beyond. These are undertaken through formal and informal field trips to construction sites, urban neighborhoods, historic projects, and contemporary design examples.

The program is always searching for ways in which we might support knowledge creation, and dissemination and innovation within this overlap, so as to better equip designers and design educators to adapt well to this quickly-changing space.



Leadership, Collaboration, and Community Engagement: Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

Program Response:

Leadership

The CoAD develops student leaders who are equipped to participate in the practice of architecture that is informed by a critical understanding of the architect's role within the office and as part of the larger community. Given the increasingly complex problems in the public realm, it is important that our graduates recognize that architecture has moved beyond the "single genius" model, and toward a collaborative and inclusive practice, integrating diverse skills and viewpoints to better serve clients, users, and everyone else. To underscore this and to better face these challenges, students in our program learn the importance of forging relationships in their coursework and extracurricular activities.

LTU was one of the first universities to commit to a leadership curriculum for all students. It was initially conceived of as a series of four courses delivered to all students at the university. In 2018, LTU made the decision to decentralize the leadership curriculum. In response, the CoAD developed the new course, Design Leadership (DES 4112), a course focused "on leadership skills specific to the allied disciplines of design within the CoAD." The course brings together students from all design programs in the College, a recall of the interdisciplinary freshman design sequence. This course affords students the opportunity to discuss and understand the commonalities and unique characteristics of the allied design fields.

Students may also explore leadership roles, respect for diversity, and environmental needs through a variety of formal and informal experiences. The College supports a number of student organizations (through personnel and financial resources) that give students a chance to understand the breadth of their professional opportunities, make contacts with the larger profession, and build relationships with one another:

1. LTU has an active chapter of AIAS, the American Institute of Architecture Students, which is actively involved in the Freedom by Design program.
2. Energized student leadership has led to the growth of LTU's chapter of NOMAS, the National Organization of Minority Architecture Students. The chapter has been successful in the NOMAS student design competitions and is working to implement a peer-to-peer mentoring network.
3. High-achieving students are eligible for membership in the Gamma Delta Chapter of Tau Sigma Delta, the only nationally-recognized honor society in the field of architecture, landscape architecture, and the allied arts.

LTU students have multiple opportunities to participate in organizations that allow them to learn to work with those outside their field, such as Student Government, American Society of Civil Engineers (ASCE), Architectural Engineering Institute (AEI), Black Student Union (BSU), Sexuality and Gender Alliance (SAGA), Student-Athlete Leadership Team (SALT), Hillel Jewish Student Organization, Collegiate Entrepreneurs' Organization (CEO), Cru LTU, Math Club, Muslim Student Association (MSA), OUT! At LTU With Friends, Student Philanthropy Council (SPC), and various Greek organizations and varsity athletics. A full list of Lawrence Tech student organizations may be found at <https://www.ltu.edu/studentactivities/organizations/index.asp>.



Collaboration

Students are exposed to collaborative work at several points in the curriculum. This begins in Year 1 with Design Methodologies (DES 1223), in which interdisciplinary teams are exposed to design thinking to take advantage of the innate skills and interests of their class partners. Collaborative work is foregrounded in the pedagogy of Integrated Design 5 (ARC 4116) (and its Track II / Track III / Track IV equivalent Architectural Foundation Studio 3 (ARC 5034)). Students work entirely in teams, from initial research to final design development, and receive formal instruction on team dynamics, delegation of responsibilities, leadership models, communication, and conflict resolution throughout the semester. Building on this experience, Critical Practice Studio (ARC 5804) students engage research as teams, leading into the final design-build project, where the entire class works collaboratively. In this class, students are required to self-manage, assign project responsibilities, and step into leadership roles in design coordination, construction scheduling, and on-site safety management. Documentation of the Critical Practice Studio processes and outcomes can be found here:

https://www.ltu.edu/architecture_and_design/critical-practice.asp.

Community Engagement

In recognition of the institution's commitment to community engagement, Lawrence Tech was chosen as one of 361 U.S. colleges and universities to receive the Carnegie Foundation for the Advancement of Teaching's 2015 Community Engagement Classification. In addition, the University was named to the President's Higher Education Community Service Honor Roll (for the third time), recognizing exemplary community service programs for students. Among the service projects cited were: Tree planting for the Greening of Detroit, 70 students, a total of 219 hours; Matrix Human Services, maintenance projects: 80 students, 255 hours; and South Oakland Shelter, processing donations: 14 students, 48 hours.

CoAD faculty seek opportunities for community engagement in their courses and a few examples are worth mentioning:

1. Since fall 2019, students and faculty in Integrated Design 5 (ARC 4116) partnered with the City of Croswell, Michigan, a rural community about eighty miles northeast of Detroit. For each of the past three years, students have worked with residents, business owners, and city officials to envision what form of development might reinforce and re-image Downtown Croswell. Work in progress, and final designs are shared through Instagram and this website: <https://ltuxcroswell.cargo.site/>.
2. The Activist Architecture and Design Studio is one of the options students may elect for Advanced Design Studio 1 (ARC 5814). For fifteen years, this course has challenged students to perform in-depth research into topics, places, and constituencies of personal interest, and partner with non-profit groups or informal community networks that are working to make a difference around these topics. A list of community partners with whom Activist Architecture and Design students have worked includes: Avalon Village, the Crim Fitness Foundation / FoodCorps, the Flint Public Art Project, Freedom Growers, Hamtramck Public Schools, and the Ten Friends Diner (featured in *The Public Interest Design Education Guidebook*, published in 2019 by Routledge). Project examples can be found here: <https://activistarchltu.wordpress.com/>.



And, a number of CoAD faculty foreground community engagement in pedagogy and instruction:

1. Since 1999, the flagship of the architecture program's community engagement activities has been the Detroit Studio, which is a recurring option in the Advanced Design Studios (ARC 5814 / ARC 5824). The Detroit Studio serves neighborhood organizations, local governments, not-for-profit organizations, and other community groups, and has provided students the opportunity to participate in projects for real clients. This experience offers accessible and useful programs and information to the public, the design profession, municipal officials, and the business community; and design-visioning assistance to neighborhoods throughout the city. Dr. Joongsub Kim, director of the Detroit Studio, coordinates the program. Students may also earn a Graduate Certificate in Public Interest Design.

Detroit Studio: https://www.ltu.edu/architecture_and_design/architecture/ds_home.asp

Public Interest Design Certificate:

(https://www.ltu.edu/architecture_and_design/certificates.asp#pid).

2. Beyond Southeast Michigan, students may participate in projects organized by faculty members (sometimes available for credit as elective courses), or courses offered by other institutions through LTU's Study Abroad programs: <https://www.ltu.edu/abroad/>

The CoAD is committed to the continued growth of our program in ways in which our graduates can lead within their fields and the public realm, collaborate with a variety of partners, and find inspiration to become stronger citizens within their communities.

Lifelong Learning: Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

Program Response:

The practice of architecture demands lifelong learning, an ideal shared between academia and practice. The responsibility to foster a culture of lifelong learning at the CoAD is evident in the overlapping interests among our faculty, our students, and our professional partners. Grouped into three areas, we see:

1. The CoAD's ongoing relationship with the Southeast Michigan profession and industry;
2. The CoAD's support of knowledge expansion and dissemination in venues ranging from local to international in scope;
3. The CoAD's culture of teaching development and innovation for its faculty and professionals interested in instruction and mentoring.

Relationship with Practice and Industry

The CoAD's reciprocal ongoing relationships with the local profession and industry benefit everyone, and for more than just employment. Our location allows students to access firms in Detroit and the wider region, increasing students' ability to arrange flexible schedules for work



experience. This enables students to connect their studies with practice and to begin their AXP Experience. Practice becomes an additional educational tool. The CoAD's experience generally, and most evident in the IPAL Program, is that this shared professional and educational culture results in significant student commitment to start and continue ARE testing.

Another result of these relationships is that firms find value in access to well-prepared interns and are comfortable accommodating the students' schedules. This association is a great benefit to the CoAD, as it provides access to skilled and enthusiastic professionals for regular service as critics for project reviews. Mid-career and senior professionals also serve the CoAD, as adjuncts, industry course-content consultants, and visiting speakers. As noted below, under "practitioners who teach," the symbiosis extends farther, as the college adds value to firms, practitioners learn as they teach.

The CoAD's curriculum structure and location provides opportunities for returning or relocating students. Our online Track III MArch Program enables students locally, nationally, and internationally, to seek a NAAB degree as the evening online coursework schedule aligns with professional employment. For professionals licensed outside of the U.S. and seeking required coursework through EESA, the college's online Professional Practice course is of particular benefit. The CoAD benefits reciprocally as this course then draws pedagogically on the experiences of students who are working professionals in international settings.

Support of Knowledge Expansion and Dissemination

The college's support for the development of new knowledge and its dissemination, in venues ranging from local to international in scope, develops capabilities beyond those of the existing profession and industry, to expand the range of opportunities for architects.

Within academia, we research to develop new knowledge and disseminate the results through the presentation of work at scholarly and profession-specific conferences, in publications and presentations. The CoAD opens up this path to students, typically through students' submission of their thesis work for presentation at conferences. We support student-centered opportunities such as the competitive CoAD Pellerin Traveling Scholarship, in which students submit proposals for a competitively chosen grant to travel, research a defined topic, and present their work to the school. Outside of academia, the CoAD supports faculty initiatives that work with local communities in all phases of the design process, and that share their expertise with the public through local service and volunteering. Some faculty even participate in local government activities, hold appointed offices in local government, or present their work to the public through locally-sponsored programs.

Within the profession and industry, our faculty and students contribute content, leadership, and time to local professional and industry organizations such as AIA Detroit and AIA Michigan, as well as to NCARB and other organizations such as USGBC. A particular venue that has benefitted students and faculty has been the AIA Michigan Annual Design Retreat, which brings practitioners together with students and the state's schools of architecture to present and discuss current work and practice. The CoAD further assists start-up groups targeted on topics such as AIA Detroit's Computational Design Detroit group (co.de.D); in partnership with several of Detroit's practices, this group has been a force for advancing this content-area's knowledge, skills, and utilization.

Culture of Teaching Development and Innovation



The college's culture of teaching development and innovation supports the school's commitment to those who wish to be future teachers. We strive to advance teaching performance for anyone who undertakes it, from those in full-time roles, to adjuncts and guest professionals in part-time or semester roles, to students in teaching assistantships or acting as peer-to-peer mentors: all who see helping others with learning as a personal commitment, potentially a lifelong one.

Our faculty make evident in the classroom their ongoing individual enthusiasm for advancing their coursework. They make it evident that this ongoing enthusiasm is shared by fellow faculty members, and that it is what draws faculty to be at this school. We see that collegiality is valuable and a life-long growth opportunity and that while we enjoy doing this individually, we really enjoy doing it together.

Taken together, these areas of consideration are lifelong learning as it is understood at the CoAD. As part of our own understanding, we see them continuing as components of the CoAD's long-range growth: a broadening of practice relationships and teaching development, widened geographically through our online reach. This aspiration is coupled with a deepening of professional knowledge, as the CoAD and LTU together strengthen their commitment to theory and practice as the continuing goals of the institution and the profession.



3—Program and Student Criteria

These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

3.1 Program Criteria (PC)

A program must demonstrate how its curriculum, structure, and other experiences address the following criteria.

PC.1 Career Paths—How the program ensures that students understand the paths to becoming licensed as an architect in the United States and the range of available career opportunities that utilize the discipline’s skills and knowledge.

Program Response:

1) Career Paths in the CoAD Curriculum and Student Experience

Career Paths is the Program Criterion that serves to most closely align our three foundational PCs and SCs: Design PC2, Professional Practice SC2, and Technical Knowledge SC4. As we emphasize in our Statement of Purpose, our foundational strengths are further advanced by being “Grounded in Practice.”

The CoAD’s historical culture of supporting both professional work and coursework and our strong connections to the regional profession and industry, means that our curricular approach is well-positioned to move students easily into professional career paths. Our Year 1 and Year 2 coursework in design, with supporting courses providing multiple software skill-sets, prepares architecture students to begin professional employment after Year 2. Two Year 3 courses, Construction Systems 1 and 2, have traditionally constituted the additional professional knowledge threshold providing the most direct entry into architectural firms.

With the recent strengthening of design across college disciplines, our architecture coursework has become enriched by courses in design topics beyond the NAAB requirements, such that our students seek out many of them as electives during their senior and graduate years. Thus, our program structure suggests the use of two separate content areas to approach the Career Paths PC: Architectural Licensure Paths, and Design Career Paths. The CoAD tracks and evaluates each of these areas as separate Learning Objectives, as described below.

In addition to the understanding of Career Path opportunities provided by the curriculum, several other avenues are used by the college to expose students to Career Path-related topics: Through



the American Institute of Architecture Students (AIAS), CoAD students participate in activities associated with the transition into professional employment, including firm tours and spring break internships. The college's relationships with practitioners in Southeast Michigan as colleagues, employers, and adjunct and visiting faculty, allow exposure to many different approaches to design and architectural work environments and illustrate flexibility across disciplinary boundaries. Through the AIAS, students use peer-to-peer learning for resumé and portfolio refinement and interviewing techniques, and can participate in a network of employed students and the employment opportunities this offers. Within the faculty, the NCARB Licensing Advisor (Prof. Eric Ward) handles AXP and ARE issues, as well as overseeing the CoAD's IPAL Program.

2) Courses and content

In our approach to Career Paths, two Learning Objectives are assigned to three courses: Construction Systems 2 (ARC 2323/5232), Design Leadership (DES 4112), and Professional Practice (ARC 5913). The courses are distributed over Years 3, 4, and 5, when many students enter professional employment.

PC.1A Architectural Licensure Paths

The Construction Systems 2 (ARC 2323/5323) and Professional Practice (ARC 5913) courses cover content for the architectural portion of the PC. As these courses occur in Year 3 and Year 5, the sequence prepares students to be for initial employment, grasping the AXP framework sufficiently to understand the professional workplace, and to incorporate their knowledge and skills to complete the advanced areas of AXP.

PC.1B Design Career Paths

Construction Systems 2 (ARC 2323/5323) and Design Leadership (DES 4112), as a sequence, address core content for the design portion of PC.1 in Year 3 and Year 4. Construction Systems 2 introduces industry-linked skills from a technical perspective, which Design Leadership then considers in the interdisciplinary environment of the College's range of design disciplines, illustrating similarities and how other disciplines can readily use the unique skills possessed by architects.

3) Assessment and continuing improvement

PC.1A Architectural Licensure Paths

Student performance for both courses, measured at 98%-100% across undergraduate and graduate degree tracks, is significantly above this area's preliminary benchmarks of 70% and 80% meeting or exceeding expectations. Benchmarks will be increased.

PC.1B Design Career Paths

Student performance for both courses, measured at 100% across undergraduate and graduate degree tracks, is significantly above the benchmarks of 70% and 80% meeting or exceeding expectations. Benchmarks will be increased.

The strong results in this area accurately reflect the CoAD's attention to Career Paths issues in our curriculum and culture. To further improve performance we envision two steps: 1) Raising the level of specific professional content within each course to increase student knowledge and skills while in school; and 2) Raising the Learning Outcome benchmarks to reflect current performance and to track updated course content.



PC.2 Design—How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

Program Response:

The architecture program anchors design education in the College's statement of intent. In the CoAD, design is an evidence-based and collaborative endeavor through which students work to produce environments that are equitable, inclusive, resilient, and sustainable. Technology is central to this practice, influencing the manner in which ideas are formed, developed, represented, realized, and assessed. Our pursuit is grounded in practice: students are confronted with the realities affected by their work. Never an isolated activity, the act of design asks students and faculty to involve themselves in multiple contexts. This mandate is reflective of both the emphasis of the College on professional training – a long-standing commitment of the CoAD – but also of the University, which embraces the relationship between “theory and practice,” the motto of LTU.

The architecture curriculum reflects our statement of purpose. The studio sequence – which is central to the curriculum – provides the most obvious example of this. Our design courses require students to consider evidence and offer grounded responses: formal propositions that are sustainable, effective, inclusive, and resilient. To help students in this regard, most of the design studios include a coordinated lab component. In the lab, students explore, through research and analysis, the context for their creative response. Similar approaches can be found within almost every other required course in the curriculum through their emphasis on multidisciplinary approaches that foreground the generation of knowledge so as to create measured, evidence-based responses.

The architecture coursework is supported by extracurricular endeavors including study abroad opportunities, internships, and involvement in student organizations.

2) Courses and content

It might be argued that the project-based approach used by most courses within the architecture curriculum allows almost all coursework to contribute to design. However, to focus our assessment the program has identified several courses as central to this criterion. These courses, mostly design studios, are best understood when considered as a sequence of increasingly-demanding, design-focused experiences.

Visual Communication Courses [*Track I: Introduction to Visual Communication (ARC 1213), Visual Communication (ARC 1223); Track II: Equivalent experience is verified by portfolio and transcript submission; Tracks 3 and 4: Visual Communication (ARC 5813)*].

The Visual Communication courses introduce students to the digital tools used by architects to explore ideas, communicate intent, and present proposals. These tools include software platforms like Adobe Photoshop, Illustrator, InDesign, AutoCad, Revit, and Rhino as well as Virtual Reality (VR) tools. In these courses, the tools are deployed to represent and analyze significant works of architecture. This enables students to understand that these tools are not simply for the representation of ideas, but for their exploration. The intent here is to develop a strong, foundational experience within the first few semesters.



Foundation Design Studio Sequence [Track I: Intro to Design, Design Principles, Design Methodologies | Track II: Entrance Requirement, verified by portfolio submission | Tracks 3 and 4: Arch Foundational Studios 1 and 2].

The Foundation Design Studio course sequence is shared by all majors within the College at the undergraduate level to support perspective across the disciplines. At the graduate level, this diversity of perspective is created by having architecture students from a range of professional backgrounds work together. Either way, the intent is to forge a strong foundation of design discourse so that architecture students might understand the critical principles (2F Ordering Systems) and methods (2A Design Process, 2C Design Thinking, 2E Design Skills) of design practice, and develop the ability to communicate with professionals from a variety of fields.

Integrated Design Studio Sequence [Track I: Integrated Design 1, 2, 3, and 4; Tracks 2 and 4: Arch Foundational Studio 3; Track III: Architecture Foundation Studios 3 and 4].

The Integrated Design studio course sequence is a coordinated series of classes which focus upon a particular form of architectural practice and its relationship to other professions. Integrated Design 1 focuses on the relationship between architecture and the landscape, Integrated Design 2 investigates the relationship of architecture and interior environments, Integrated Design 3 looks at the relationship of architecture and construction, and Integrated Design 4 focuses on the relationship of architecture and urban design. Each studio is offered in two components: a 4-credit studio that addresses creative synthesis and a 2-credit lab that addresses research and analysis. Although not yet fully developed, the intent is for the Architectural Foundation Studios to follow a similar pattern.

Comprehensive Design Studio Sequence [Track I: Integrated Design 5 + Comprehensive Design; Tracks 2, 3 and 4: Comprehensive Design].

The Comprehensive Design sequence asks students to integrate what they have learned in previous courses in a comprehensive design project. In Track I, this initiative is supported by two courses: Integrated Design 5, which asks students to complete a comprehensive, community-based design in small teams, and Comprehensive Design, which asks individual students to complete an environmentally-based comprehensive design project.

Advanced Design Studio Sequence [ALL Tracks: Thesis 1 and 2 or Advanced Design Studio 1 and 2* | NOTE: Students are permitted to substitute an elective for Advanced Design Studio 2, as all learning objectives are covered in Advanced Design Studio 1].

The Advanced Design Studios enable students to explore topics of direct interest to them. This can take one of two forms: a sequence of two Advanced Design Studios where a faculty member establishes a design challenge based on their interests and research; or a two-part Thesis sequence in which students establish the parameters of the design investigation with the support of the faculty thesis coordinator and selected faculty content experts. Both paths emphasize that design is an evidence-based activity, wherein students are responsible for creating a grounded, critical position.



3) Assessment and continuing improvement

a. General assessment progress since Spring 2021

We have now assessed PC2 Learning Objectives with NAAB 2020 criteria for four semesters, covering the relevant courses at least once. Benchmarks have provided a baseline for evaluation and improvement. Results and necessary actions are summarized below for each Learning Objective.

b. Assessment of PC.2 Learning Objectives: PC.2A through PC.2G

PC.2A Design Process

Ability to identify design issues, apply and iterate design relationships, and synthesize and evaluate outcomes.

In 2021, benchmarks for the introduction level were met. We had concerns about the reinforcement and emphasis levels, but as achievements were just below the benchmarks, and as this was our first use of this assessment regime, there might have been errors or misunderstandings in the entry of data, as well as in our establishment of benchmarks. It was suggested that we align criteria and objectives better, including the increase of benchmarks at the reinforcement and emphasis levels. In 2022, it was determined that the benchmarks for the introduction and reinforcement levels were met—an improvement over the 2021 assessment—and that the emphasis level was not applicable. It was suggested that “Design Process” be reviewed in multiple courses with a specific definition for how this criteria is met or evaluated as part of the data.

PC.2B Communication and Representation

Ability to use representational media appropriately to communicate, both within the profession and with the general public.

In 2021, benchmarks for the introduction and emphasis levels were assessed as not met. However, the benchmark for the reinforcement level was indicated as met. It was suggested that the benchmark of 95% for a freshman course was unrealistically high. It was suggested that course expectations be clarified and combined for the graduate-level courses. In 2022, benchmarks for PC.2B were perceived to have not been met in the introduction and reinforcement areas and were somewhere in between the met and not met marks in the emphasis area. It was again thought that a 95% benchmark at the introductory level was too high, and that more specific criteria might be useful, particularly across the graduate-level design courses. Interpretations for representation and communication are critically important and more closely aligned criteria for evaluation would be helpful.

PC.2C Design Thinking

Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

In 2021, our assessment indicated that none of the three levels—introduction, reinforcement, or emphasis, met our benchmarks. It is thought that the spring semester Design Methodologies course, with lower-performance students having left the program, nearly satisfied this criterion. At



the graduate level, section variances do not indicate a curricular issue, but rather one of coordination. Other graduate-level suggestions include the development of smaller assignments that require multiple factor challenges. Further, as students in the program participate in ten design courses in Track I, and seven in Track III, there is ample opportunity for students to refine their competencies. Recent revisions to the freshman year curriculum have clarified our introduction to principles intrinsic to design thinking. The 2022 assessment indicated some improvement. The introduction benchmark of PC.2 was met but we were not satisfied with the reinforcement or introduction results. It may be that in ID4, the benchmarks are too high. Nevertheless, it was proposed that more complexity and a better sense of the overall project be introduced earlier in the term and more time for the final project be provided. Better coordination helped in the ADS2 course. In AFS2, it was suggested that recalibrating the focus of the studio to be more design-exercise based and less technically-based might bring all the students to the expected level of design competency.

PC.2D Investigative Skills

Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

The 2021 benchmarks for the introduction, reinforcement, and emphasis levels were not met. However, as more than half of the students surveyed met the benchmarks, we believe that the benchmarks are too high. Additionally, in some courses, the sample size was too small. To address this, the faculty designed a better framework for investigation for the teaching of analytical methods such as diagramming and case studies. Additionally, the Thesis option was changed so that it is now offered in a studio format, which will bring more consistency and structure to this part of the program. In general, the few inconsistencies in this area have been addressed to make the performance more consistent across the curriculum. Due to these changes, significant improvement in meeting the benchmarks was observed in 2022. There was satisfaction of this PC across the curriculum from the first year to the fifth-year studios and in graduate studios. Multiple sections of the same course also displayed similar trends of addressing or exceeding benchmarks, indicating consistency of coordination across sections within a course.

PC.2E Design Skills

Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.

In 2021, the introduction, reinforcement, and emphasis benchmarks were met. It was suggested that, to clarify our strategy, introduction students define the design problem, which should go beyond the requirements of the studio brief; Reinforcement students should illustrate their design processes by generating options that lead to the final design, and emphasis could be more clearly assessed in written review responses that encourage and require the students to reflect upon the review feedback. In 2022, we saw that the introduction benchmark was met, but the reinforcement and emphasis benchmarks were not. It is thought that the benchmarks may be too high for the lower-level courses and that iterative design processes should be further emphasized in the classroom. We need to offer clear objectives so that instructor evaluation of the criteria is based on student knowledge and not simply on grades.

PC.2F Ordering Systems



Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.

In 2021, our analysis revealed a strong level of achievement even in the Introductory area at lower-level courses with the percentages of students not meeting expectations decreasing somewhat as they proceed through the program and acquire skills. Introduction and reinforcement activities are satisfactory but could be improved and become more consistent. As may be expected, students find the processes of iteration, analysis, and critique to be the most difficult. It is suggested that more finely-staged assignments and further clarity about these three skills is needed. The 95% benchmark established for two first-year courses is on the high side of ambitious and needs to be realistically adjusted. In 2022, the trend toward higher student achievement in the PC.2F realm increased nicely as students completed higher-level coursework. The emphasis level joined the preceding introduction and emphasis levels as being objectives that are well met. Despite these successes, the rather zealous 95% benchmarks for the earliest courses in the curriculum persist and should be reconsidered, but without lowering standards. The CoAD now offers several strong and consistent curriculum experiences focused on this skill and related design process understandings, so refinements and higher performance are achievable.

PC.2G Use of Precedents

Ability to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

In 2021, it was concluded that we had not met our benchmarks for introduction, reinforcement, or emphasis. However, student achievement in this area is comfortably situated, generally, in the high 70% range, even with a benchmark set at 90%. The 70% mark seems reasonable, particularly for students near the commencement of their design coursework. It was suggested that we pre-define a range of appropriate case studies for the students, better define analytical methods, and teach these skills in several steps or through a series of connected smaller assignments. In 2022, it was again concluded that we had not met our benchmarks; however, achievement numbers improved over those of 2021, inching upward into the low 80% range. Overall, for PC.2G, the courses support the performance criterion well with promising trends toward meeting or exceeding the respective benchmarks. In view of the 80% mark, it was suggested that our benchmark may be unrealistic, particularly in lower-level courses, and that the content and process of precedent study be formalized and coordinated in graduate courses. A pedagogical suggestion, addressed to the AFS 2 course, may be widely applicable to improved achievement in this area: students need to be allowed to spend more time studying single elements in sequence to be better prepared for more complex analyses of multiple elements.

c. Overall Summary of PC.2 Design

In the area of design, our analysis reveals a generally solid level of performance among our students with a desire on the part of the faculty to do better. It should also be acknowledged that with only two academic years dedicated to our new assessment protocols, the data and interpretations represented here are not just evaluations of student performance and pedagogy, but also of our assessment methods. Both are part of our continuing project at the CoAD.



In general, the interpretations gathered here call for the adjustment of benchmarks so that they are realistic but challenging and that they be tuned to specific courses and appropriate levels of sophistication and complexity. We also call for strategically staged assignments that provide time for the acquisition of analytical skills and for more coordination and clarity among instructors in regards to evaluation criteria and definitions.

Not reflected in these numbers is CoAD's ongoing and revealing faculty-wide discussion of design and studio coursework that has taken place every semester since 2013. In these discussions, known as "Fine Grain Reviews," student projects are exhibited and discussed by the faculty, with concerns as well as achievements evaluated, and with future intentions for improvement also aired. This process has been most valuable and has instigated ongoing teaching and student performance improvements over the years. For more information on the Fine Grain Review, see Section 5.2.5.

PC.3 Ecological Knowledge and Responsibility—How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

Program Response:

1) Ecological Knowledge and Responsibility in the CoAD curriculum and student experience

Ecological knowledge is a foundational aspect of the design culture in the architecture program. Ecology, in relation to the built environment, is framed as a palimpsest of theoretical concepts, documentation strategies, design principles, and application tactics that may be addressed within design practice.

Our program evaluates Ecological Knowledge and Responsibility content from different perspectives over the course of the undergraduate and graduate program. Ecological Knowledge is evaluated within the design studios by reviewing the sustainability of buildings, materials, design processes, and architectural practice. It is evaluated at the graduate level in the Ecological Issues course, where broader concepts and theoretical frameworks are discussed and interpreted.

In addition to the emphasis on ecological issues throughout the curriculum, the CoAD offers relevant precedent studies and field trips in most design studios to support responsible building practices. Students are encouraged to attend lectures relevant to the topic in the college lecture series. These lectures initiate in-class discussions or assignments such as quizzes or writing responses. We diverge from the typical course format to organize individual guest lectures in courses by outside experts that work at the intersection of technology, the science of materials, ecological justice, and architectural design.

2) Courses and content

PC.3A Ecological Knowledge

Understanding of the dynamic between built and natural environments, of the impacts and the mitigation of climate change, and of the principles of resilience design.



Integrated Design 1 (ARC 2116), Integrated Design 3 (ARC 3116), Integrated Design 4 (ARC 3126), HVAC & Water Systems (ARC 5413), Comprehensive Design (ARC 4126), Ecological Issues (ARC 5423), Architectural Foundation Studio 1 (ARC 5014), Architectural Foundation Studio 2 (ARC 5024), and Architectural Foundation Studio 3 (ARC 5034).

Students learn to identify social, economic, ecological, technological, and cultural factors that influence the built environment. They are introduced to vocabulary and associated ideas relevant to ecological literacy, they learn the best practices of building sustainability, and come to understand that these principles are scalable. As a sequence, the courses enable students to reinforce their ecological knowledge each year as the courses present projects of increasing complexity and scale. The Ecological Issues course (ARC 5423) synthesizes and expands ecological knowledge and encourages investigation. Ultimately, students learn to visualize architecture projects as long-term scenarios and come to understand the consequences of climate change in terms of global trends and regional conditions.

PC.3B Site Design

Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

Integrated Design 1 (ARC 2116), Integrated Design 2 (ARC 2126), Integrated Design 4 (ARC 3126), Comprehensive Design (ARC 4126), Architectural Foundation Studio 1 (ARC 5014), Architectural Foundation Studio 2 (ARC 5024), and Architectural Foundation Studio 3 (ARC 5034).

Ecological knowledge aims to optimize natural resources alongside anthropogenic surroundings. Beginning with Integrated Design 1, which directly addresses landscape issues, through the graduate-level Architectural Foundation Studio 3, students learn to respond to site conditions so that they might accommodate programs sustainably. Students become aware that meaningful site analysis enables a design project to take advantage of natural light and shading, airflows, solar orientation, daily temperature swings and seasonal rhythms, the flow of water, and views. They learn that integrating vernacular (long-standing) construction practices still plays a role in the performance of building envelopes and managing energy flows. At a higher level of investigation, students learn that principles of resiliency need to be deployed as a long-term design strategy in response to extreme climate conditions.

3) Assessment and continuing improvement

PC.3A Ecological Knowledge

Student performance across undergraduate and graduate degree tracks has been, on average, above this area's benchmarks of 70% meeting or exceeding expectations. This result applies in particular to two Learning Outcomes assessment rubric items: PC.3A-01 Built Environment Impact and PC.3A-02 Climate Change Mitigation. However, PC.3A-03 Resilient Design Principles section has a fluctuating score. These data suggest that instructors and coordinators could clarify a methodology for translating resilience principles into design applications.

PC.3B Site Design



For the courses covering this area, and in particular the assessment rubric item PC.3B-01 Environmental Factors, student performance has been above the 70% benchmark of meeting or exceeding expectations. Some variation around the benchmark is noticeable in the items PC.3B-02 Social Cultural Factors, PC.3B-03 Reflect Impacting Factors, and PC.3B-04 Reconcile External Forces and we have some concerns. The data suggest that instructors and coordinators could clarify a methodology for making more explicit expectations about socio-cultural implications in design choices within the ecological context.

To summarize CoAD implementation of PC.3 Ecological Knowledge and Responsibility, our results show a high level of student performance across all of our Learning Objectives. Students demonstrate a high level of understanding and ability to apply information pertaining to natural and anthropogenic environments, including impact and mitigation strategies for climate change and design that is responsive to local conditions. Additional efforts are needed to address criteria for the successful evaluation of social factors and approaches for addressing resiliency.

PC.4 History and Theory—How the program ensures that students understand the histories and theories of architecture and urbanism, framed by diverse social, cultural, economic, and political forces, nationally and globally.

Program Response:

1) History and Theory, in CoAD's curriculum & student experience

The CoAD's MArch Program believes that architecture students require a firm grounding in the history and theory of architecture as it has been experienced around the world and impacted by a variety of factors.

Our program evaluates history and theory content by breaking the topic into two areas: 1) History and Global Culture and 2) Theory; these carry forward the very useful 2014 NAAB content areas: A.7 History and Global Culture and A.8 Cultural Diversity and Social Equity. The program tracks and evaluates performance in these two areas as separate Learning Objectives. The Objectives are tracked through five required history and theory courses offered in the undergraduate and graduate programs, as described below.

In addition to historical and theoretical knowledge delivered through the curriculum, the CoAD utilizes the historical resources of the Detroit area, the state of Michigan, and the Midwest to extend our coursework into alternative experiences. Our history and theory curriculum is supplemented by precedent studies (see PC.2 Design) and field trips in most studios; a college lecture series; individual guest lectures in courses by outside experts in history and theory; on-campus symposia, such as the recent Albert Kahn Research Coalition Symposium; and study abroad classes and opportunities, both internally and externally.

CoAD Lecture Series: https://www.ltu.edu/architecture_and_design/events/

LTU Study Abroad: <https://www.ltu.edu/abroad/all-programs.asp>

2) Courses and Content

The CoAD uses the curriculum structure to help develop students' understanding of history and theory, aligning sequences of related courses under each Learning Objective. This allows course



content to be distributed across multiple courses, semesters, and years, while maintaining coherence. While the history and theory courses are centered on Western architecture, we utilize a textbook with a global focus (Richard Ingersoll, *World Architecture: A Cross-Cultural History*) in our survey courses and one-quarter to one-third of the lecture topics in the two History of the Designed Environment courses address non-Western topics.

PC4A History and Global Culture

Introduction to Design DES 1022), History of the Designed Environment I (ARC 3613), History of the Designed Environment II (ARC 3623), and Twentieth Century Architecture (ARC 4183).

This course sequence enables students to encounter history and theory in almost every year of the program, beginning with the freshman-level Introduction to Design. Using four courses for this material allows rigorous coverage of the topics' full breadth: identifying the social, economic, ecological, technological, religious, and other cultural factors that influence the built environment, determining how those factors have influenced architecture in different places around the world at different times, and the implications of this diversity on architectural design and construction. Students learn a basic vocabulary for developing descriptive and analytical skills and cultivating basic historical literacy of canons and traditions.

PC.4B Theory

History of the Designed Environment I (ARC 3613), History of the Designed Environment II (ARC 3623), and Twentieth Century Architecture, Design Theory (ARC 4183)

The Theory courses cover broad issues raised by architectural history. The Introduction to Design and History of the Designed Environment courses introduce broad theoretical issues endemic to architecture (such as the role of order, the human body as a model, the relation of part to whole, etc.) and canonical theory writers throughout history. Twentieth Century Architecture is a deeper inquiry into theoretical content and includes more reading of original sources. The concluding class, Design Theory, includes a history of aesthetic theory, but is more practically oriented, in keeping with our intention to be "Grounded in Practice." The course helps students identify intellectual positions where designers engage, influence, and are affected by larger socio-cultural trends and values.

3) Assessment and continuing improvement

PC.4A History and Global Culture

Student performance for all courses, across undergraduate and graduate degree tracks, has significantly exceeded this area's 70% benchmark: in most classes, 75% to 85% of students met or exceeded expectations. The History and Theory coordinator and instructors intend to raise the benchmarks to 75% and review the class structure to find opportunities for more rigorous methods of evaluation and new assignments.

PC.4B Theory

In the Theory coursework, student performance significantly exceeded the 70% benchmark. Benchmarks will be increased to 75% and the class will be reviewed to find opportunities for more rigorous methods of evaluation and new assignments.



In summary, our implementation of PC.4 History and Theory uniformly indicates a high level of student performance across both Learning Objectives. Students demonstrate a high level of understanding and successfully apply information pertaining to architectural history and theory and their relationships to global culture in their work.

PC.5 Research and Innovation—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

Program Response:

1) Research and Innovation, in CoAD’s curriculum and student experience

The gathering of existing information and the generation of new knowledge are central to the practice of architecture and to reflective practice. Our program breaks PC.5 Research and Innovation content into two areas: (1) Research as inquiry through the study of existing information (PC.5A) and (2) Innovation as experimentation toward construction and development of new knowledge (PC.5B). The program evaluates each of these areas as separate Learning Objectives in specific courses as will be described below.

1. Research is tracked through one first-year undergraduate-level course in the Track I MArch program, one first-year graduate-level course in the Track III MArch program, and five fifth-year graduate-level courses in all MArch tracks.
2. Innovation is tracked through two second-year undergraduate-level courses in the Track I MArch program, one first-year graduate-level course in all MArch tracks, and one first-year graduate-level courses in the Track III M. Arch program.

Research and innovation coursework is supplemented by PC.2 Design coursework through Design Thinking (PC.2C), Investigative Skills (PC.2D), and Precedent Studies (PC.2G). In addition, the CoAD dedicates resources and academic and professional connections to provide students with reinforcing examples and experiences. We use the college lecture series, internal and external faculty research, and individual guest lectures in courses by internal and outside experts as sources of information and to supplement course material. In courses such as Critical Practice and Thesis, class projects are the outcome of research and innovation.

CoAD Lecture Series: https://www.ltu.edu/architecture_and_design/events/

CoAD Faculty Research: https://www.ltu.edu/architecture_and_design/creative_centers_labs.asp

Critical Practice Studio: https://www.ltu.edu/architecture_and_design/critical-practice.asp

Master of Architecture Thesis: https://www.ltu.edu/architecture_and_design/marchthesis.asp

2) Courses and content

Sequences of courses under each Learning Objective are aligned so that research and innovation skills become refined as students progress through their coursework. These are described in the table below:

Program criterion	Course	Time and location in curriculum	Content
PC.5A: Research (Learning Objective group 1)	Design Methodologies	1 st year – UG (Track I)	Introduction
	Architecture Foundation Studio 2	1 st year – Grad (Track III and Track IV, sometimes Track II)	Introduction
	Research Methods Architecture Design Studio 1/ Thesis 1 Architecture Design Studio 2/ Thesis 2	1 st year – Grad (All tracks)	Reinforcement Emphasis Emphasis
PC.5B: Innovation (Learning Objective group 2)	Information Modeling and Simulation	2 nd year – UG (Track I)	Introduction
	Prototyping and Fabrication		Reinforcement
	Simulation and Prototyping	1 st year – Grad (Track III and Track IV)	Introduction/ Reinforcement
	Critical Practice Studio	1 st year – Grad (All tracks)	Emphasis

PC.5A Research

Design Methodology (DES 1223), Architecture Foundation Studio 2 (ARC 5024), Research Methods (ARC 5013), Advanced Design Studio 1 (ARC 5814)/ Thesis 1 (ARC 6514), Advanced Design Studio 2 (ARC 5824), and Thesis 2 (ARC 6524)

These courses enable students to encounter research tasks during the first years of their undergraduate and graduate programs. Student work includes understanding the relationship between design and research; identification of problems, exploration of issues and understanding related discourses inside and outside architecture; framing critical questions and assuming positions; evaluating research methodologies for testing and experimentation; using research and



analysis to make decisions; and recognizing the implications of design decisions. Students learn a foundational vocabulary of research and analysis, and develop critical thinking skills.

PC.5B Innovation

Information Modeling and Simulation (ARC 2813), Prototyping and Fabrication (ARC 3823), Critical Practice (ARC 5804), Simulation and Prototyping (ARC 5823).

Information Modeling and Simulation introduces innovation using digital information modeling and simulation and focuses on generative and performative modeling, and analysis. Prototyping and Fabrication presents experimentation as central to the production of physical outcomes and focuses on the relationship between information and morphology. The graduate level Simulation and Prototyping course addresses innovation by exposing students to building information modeling and manipulation, parametric modeling, scripting, simulation, and analytical methods. The Critical Practice Studio utilizes these ideas and processes to define a specific topic and process for an innovative design project exploring current design issues. Innovation is seen as practice as students research, generate, and represent design ideas in collaborative teams, reflective of professional architectural practice.

3) Assessment and continuing improvement

PC.5A Research

Understanding of the theoretical and applied research methodologies and practices used during the design process.

Research outcomes indicate that large sections of courses support this criterion well and meet or exceed benchmarks. The percentage of students exceeding benchmarks is smaller as students proceed into upper-division classes. However, most students meet the criteria in most courses. We believe that there should be additional clarity among faculty to frame research as a driving force for design, especially as architecture needs to respond to increasing complex forces.

PC.6 Leadership and Collaboration—How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

Program Response:

1) Leadership and Collaboration in CoAD's curriculum and student experience

Opportunities for leadership and collaboration occur at multiple points in the architecture program. Core freshman courses (Introduction to Design, Design Principles, and Design Methodologies) are interdisciplinary, allowing our students to interact with and see the value of other design fields. This experience is revisited in Design Leadership. Senior and graduate-level studio courses (Integrated Design 5, Architectural Foundation Studio 3, and Critical Practice Studio) incorporate teamwork and community engagement projects. In these courses, students are guided through best practices in collaborative work and in principles such as participatory and co-design.

Students at Lawrence Tech have multiple opportunities to participate in organizations that allow them to learn to work with those outside their field, in student government, athletics, sororities, and fraternities. Within the College, student-run professional organizations, such as AIAS and



NOMAS, allow students to pursue meaningful projects, strengthen connections to local practices, and mentor one another. Teaching and research assistantships are also available, giving students the opportunity to work with and learn from faculty engaged in scholarship and pedagogical development.

2) Courses and content

The CoAD uses its curriculum structure to develop students' understanding of leadership and collaboration. A variety of lecture, seminar, and studio courses expose students to relevant content, as noted below under each assessment rubric item.

PC.6-01 Collaborative Skills

Students are able to demonstrate collaborative skills as part of a team.

Introduction to Design (DES 1022), Design Leadership (DES 4112 / 5112), Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034)

Introduction to Design incorporates lectures that emphasize the value of collaboration and establishes the importance of teamwork. Design Leadership reinforces this later by emphasizing teamwork models and practice structures, and identifies the manner in which different individuals and personality types fill specific roles in design teams. In Integrated Design 5, teamwork is central to course pedagogy. In ID5, sessions on successful teamwork, delegation of tasks, and accountability are held early in the semester, and check-ins (“team therapy”) sessions are held periodically, in response to the peer reviews after each phase. Architectural Foundation Studios 2-3 emphasize the importance of teamwork, simulating professional settings with entirely collaborative studio experiences.

PC.6-02 Leadership Models

Students are able to compare and contrast a variety of design leadership models.

Design Leadership (DES 4112 / 5112), Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034)

Design Leadership covers this criterion and is taken by all CoAD students. Integrated Design 5 students, in the fall of 2021, participated in an online quiz created by the University of Southern California to identify their “leadership style.” The lab instructor used the results to help each team identify the unique skills of each team member and how they can contribute to the overall success of the group. In Architecture Foundation Studios 2-3, every student has primary and secondary roles in the design project, meaning that each student brings a particular expertise to the semester essential to the project’s development and completion.

PC.6-03 Successful Integration of Input from Others

Students are able to successfully integrate input from a community partner representative of a program-targeted user group.

Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034), Critical Practice Studio (ARC 5804)



Architecture Foundation Studios 2 and 3, offered online with students at different and sometimes distant locations, rely on information and community profiles shared by the Detroit-based instructors to stand in for direct interaction with community partners. For the last three years, work undertaken in Integrated Design 5 has been based in Croswell, Michigan, a rural community located ninety minutes north of the LTU campus. Design projects are informed by a variety of constituencies in the community. In the summer of 2021, students in Critical Practice Studio designed and built a project in the public realm. They received and integrated input from the City of Southfield, a professional structural engineer, local suppliers, and fabricators with reference to material availability and lead times, cost, fabrication limitations, tooling processes, etc.

PC.6-04 Personal opportunities in public realm

Students are able to identify personal opportunities for leadership as a designer in the public realm

Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034), Critical Practice Studio (ARC 5804)

Based on results from the “leadership style” quiz, students in Integrated Design 5 are able to see how their respective skills contribute to the development of a complex design project and how their personality traits position them to engage with the public in different leadership models. These activities are reinforced by discussions of readings assigned in Design Leadership. Due to the design-build format of Critical Practice Studio, the opportunities to explore different roles and responsibilities of the practice of architecture is perhaps greater than that of a typical design studio. As teams become more task-based, not all students take on the role of “designer,” but make valuable contributions in areas such as cost estimating, material sourcing and specification, project scheduling and organization, etc.

3) Assessment and continuing improvement

The data indicates that the PC.6 criterion is well-addressed in our curriculum, with benchmarks met or exceeded in all courses. Introduction to Design presents the rudiments of this subject area. ID5, AFS2, AFS3, and Critical Practice Studio utilize teamwork as part of the course pedagogy, and the data indicates that students in both Track I and Track III are successfully guided in collaborative work.

PC.6-01 Collaborative Skills and PC.6-02 Leadership Models

While students have met the benchmarks established for PC.6-01 and PC.6-02 in fall 2022, ID5 will be more thoroughly coordinated with readings assigned in Design Leadership. In future iterations of AFS3, the coordinator plans to create student teams that will respond to their physical proximity, to enhance opportunities to schedule collaborative work.

PC.6-03 Successful Integration of Input from Others

In the fall of 2022, ID5 will develop a platform to encourage design feedback from the Croswell community to better evaluate student proposals. The ID5 coordinator plans to introduce a case study assignment based upon projects in the SEED network to identify techniques to better integrate user needs into design work.

PC.6-04 Personal Opportunities in the Public Realm



The Critical Practice Studio coordinator notes that the benchmark is low and could be raised to 75-80%. AFS3 is completely online and students in various locations work on a Detroit-based project. As AFS3 (Track III) and ID5 (Track I) address this criterion, it will be necessary to evaluate how some of the ID5 tools can be integrated into AFS3, to ensure student success regardless of track. While AFS2 is assigned responsibility for certain Learning Objectives for Track III students, there is no corresponding “midpoint” studio in Track I with the corresponding assessment. AFS2 has content parallels to ID1 and ID4, but to date neither of the latter courses emphasize teamwork.

PC.7 Learning and Teaching Culture—How the program fosters and ensures a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among its faculty, students, administration, and staff.

Program Response:

1) Learning and Teaching Culture, in CoAD’s curriculum & student experience

As we have noted, our understanding of the College as a venue for learning is very broad and inclusive, as befits the needs of those coming to us along many different paths, and with many different goals. This openness to the full-life spectrum of learning is in direct response to the multidisciplinary that the CoAD asserts in its statement of purpose. Because the intent of Learning and Teaching Culture is broader than coursework, the program approaches PC.7 differently from the other PCs and SCs. Within the curriculum, CoAD utilizes the variety of settings available in Years 1, 2, and 3, including class formats and supplemental exposures, to support behaviors that build an active learning and teaching culture. In Year 4, in the cross-disciplinary Design Leadership course, we assess students’ progress and skill in applying these behaviors.

The CoAD provides several opportunities in this area, a few of which are described below. Our annual multidisciplinary College lecture series; end-of-semester student work exhibitions, our “Fine Grain” faculty curriculum review at the end of each semester; bi-weekly faculty/administration/staff meetings; organizational development meetings; semester all-school convocations; staff pre-semester week-long organizational meetings, and other less-structured events described under Supplemental Exposures below. Several less-structured opportunities are used to expose students to Learning and Teaching Culture-related topics and to welcome all into the broader college conversation.

For students, AIAS, NOMAS, and many other student groups provide opportunities for peer-to-peer mentoring and often include faculty and administration members as contributors. Since many students work in firms, student organizations are an excellent venue for sharing experiences. The firms themselves, as they naturally support a mixture of roles and career stages, also stand as examples of ongoing learning and teaching cultures.

For students and faculty, as noted in PC.1, the CoAD’s metropolitan location provides opportunities in the learning continua of AIA activities, and the CoAD’s connections to national NCARB activities offer opportunities to enter into discussions with others, nationally and internationally. Also, at a national scope, increasing CoAD student participation in academic conferences provides opportunities for students, faculty, and young professionals to make contributions to the larger culture of learning and teaching.



2) Courses and content

Learning and Teaching Culture issues are addressed in a limited number of courses and are assessed only in Design Leadership (DES 4112/5112). Prior to that, in Year 1, CoAD students from all disciplines are introduced to group projects in the Design Principles and Design Methodologies studio courses, which include active peer-to-peer discussion, participation, leadership, and mentoring activities. These activities are present again in the Year 2 and 3 design studios and other courses. The two Year 4 studios—Integrated Design 5 and Comprehensive Design—also address these skills. The Track III curricular experience is similarly supportive of Learning and Teaching Culture within online skills.

PC.7 Learning and Teaching Culture

As it has only one Learning Objective and is assessed formally in one course, Learning and Teaching Culture is discussed here in terms of its three assessment rubric items:

PC.7-01 Discussions: Student is able to demonstrate participation in respectful and engaged class discussions (Introductory level)

PC.7-02 Initiating questions: Student is able to freely initiate asking questions of other students and faculty (Reinforcement level)

PC.7-03 Mentoring: Student is able to mentor and be mentored by other students regarding coursework material (Emphasis level).

3) Assessment and continuing improvement

As Design Leadership is offered once each academic year, we have PC.7 course assessment data from only one semester, fall 2021. However, since so much in this area is supported by activities outside of coursework, assessment for this PC also comes from the evaluation of performance in other venues.

Learning and Teaching Culture is discussed here in terms of the three components:

PC.7-01 Class Discussions

Student performance on this item, at 94% meeting or exceeding expectations in the Design Leadership course, is significantly above the course's preliminary benchmark of 70%. The benchmark will be increased.

PC.7-02 Initiate questions

Similarly, student performance on this item, at 91% meeting or exceeding expectations, is significantly above its benchmark, and warrants a benchmark increase.

PC.7-03 Mentoring

And again, student performance on this subject, at 85% meeting or exceeding expectations, is above its benchmark, and warrants an appropriate benchmark elevation.

Faculty, Staff, and Administration Activities

The CoAD highlights two items from the above lists: Our end-of-semester "Fine Grain" conversation, a review of student work and curriculum; and our faculty, administration, and staff pre-semester week-long organizational meetings. The first is an example of long-standing faculty cooperation and effective self-assessment, and the second is an example of a new approach to faculty learning and teaching improvement.



The Fine Grain review is held each semester after final studio reviews, and focuses on a different portion of the curriculum, for both studio and non-studio courses. At each review, faculty post course materials, present a range of selected student work, describe the intentions and outcomes for the course, and then invite discussion from the faculty. Participation is high, comments are documented, and results are discussed throughout subsequent semesters.

The new faculty/administration/staff pre-semester development meetings will this year include two teaching-skills topics on autism in the classroom, and on LGBTQ+ awareness in educational culture. The meetings coincide with Annual Faculty Reviews to allow the discussions to continue beyond the meetings and become a part of the yearly professional development cycle.

Some venues for faculty/administration/staff participation have lagged slightly due to COVID disruptions and CoAD has targeted for improvements three items in particular: lecture-series attendance; teaching assistant and student mentoring participation; and faculty/staff meeting participation.

In summary, CoAD's implementation of Learning and Teaching Culture has yielded strong results that accurately reflect our connection to these issues as expressed in the Lifelong Learning portion of the Shared Values section.

In regard to the one-course assessment of PC.7, we intend to advance CoAD's presentation of this material in three ways: 1) We plan to raise the level of applied content within Design Leadership and other courses to increase relevance after graduation; 2) We will raise the benchmarks to track the impact of ongoing content updates; and 3) We will work to broaden the assessment by adding additional courses into this assessment.

PC.8 Social Equity and Inclusion—How the program furthers and deepens students' understanding of diverse cultural and social contexts and helps them translate that understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.

Program Response:

1) Social Equity and Inclusion in CoAD's Curriculum and Student Experience

The CoAD believes that human differences enrich innovation, and collaboration, and have a positive impact in a complex world. Built on this belief, the CoAD seeks to develop students that enter thoughtfully into the profession and challenge practices with the goal of making them more innovative, inclusive, and democratic.

The curriculum seeks to aid students in understanding the diversity of constituencies influenced by design in the public realm; we help students to recognize the social and spatial patterns and needs unique to each of these constituencies. In design studios, students are challenged to create buildings and spaces that draw information from, and respond to, various users, and reflect on what constitutes an inclusive environment. Courses in theory, practice, and leadership reinforce the fiduciary responsibility of the designer to practice as a citizen and advocate.

In addition, the CoAD and LTU have developed social equity and inclusion-related initiatives that reinforce student sensitivity to these issues. We have an active NOMAS student chapter and an



AIAS chapter that participates in Freedom by Design projects. Resources such as the “AIA Guides for Equitable Practice” are used to shape our culture and instruction. LTU supports training for faculty in the areas of neurodiversity and gender non-conformance and regular listening sessions to learn more from students about their experiences and challenges.

2) Courses and content

The CoAD structures its curriculum to develop students’ understanding of social equity and inclusion, with assessment rubric items matching developmental progress: organizing related courses under Learning Objectives.

PC.8-01 Awareness of social patterns

Students are able to demonstrate awareness of the diverse social patterns that characterize different cultures and individuals (needs, values, behavioral norms, physical abilities).

History of the Designed Environment 1 (ARC 3613 / 5613), History of the Designed Environment 2 (ARC 3623 / 5623), Twentieth Century Architecture (ARC 4183 / 5063)

Utilizing case studies introduced through lectures and readings, the history sequence promotes student understanding of the manner in which social patterns influence the use of space and form throughout various time periods.

Integrated Design 2 (ARC 2126), Architectural Foundation Studio 1 (ARC 5014), Integrated Design 4 (ARC 3126), Architectural Foundation Studio 2 (ARC 5024)

Integrated Design 2 and Architectural Foundation Studio 1 consider social patterns through discussions regarding non-western approaches to architecture and critique current building examples to understand the appropriateness of cultural “fit.” Integrated Design 4 and Architectural Foundation Studio 2 require students to analyze patterns in an urban context and demonstrate an understanding of how these patterns were influenced by social and cultural forces.

PC.8-02 - Awareness of spatial patterns

Student is able to demonstrate awareness of the diverse spatial patterns that characterize different cultures and individuals (needs, values, behavioral norms, physical abilities)

History of the Designed Environment 1 (ARC 3613 / 5613), History of the Designed Environment 2 (ARC 3623 / 5623), Twentieth Century Architecture (ARC 4183 / 5063)

Utilizing case studies introduced through lectures and readings, the history sequence promotes student understanding of the manner in which culturally-based spatial patterns influence the development of design movements.

Integrated Design 2 (ARC 2126), Architectural Foundation Studio 1 (ARC 5014), Integrated Design 4 (ARC 3126), Architectural Foundation Studio 2 (ARC 5024)

Integrated Design 2 and Architectural Foundation Studio 1 introduce spatial patterns through discussions regarding diverse approaches to architecture, field visits, and critiques of students’ building projects for accessibility opportunities and overall response to user needs. Integrated Design 4 and Architectural Foundation Studio 2 require students to recognize, map, and critique spatial patterns in an urban context; and to demonstrate an understanding of how well these existing patterns meet the needs of diverse users.

PC.8-03 Identify Those Affected



Students are able to identify those affected (impacts, opportunities) in a case-study or project.

History of the Designed Environment 1 (ARC 5613), Twentieth Century Architecture (ARC 4183 / 5063)

The history sequence provides perspective on the constituencies involved in the creation of works of architecture and the power dynamics at play in the creation of buildings and spaces.

Design Leadership (DES 4112 / 5112), Ecological Issues (ARC 5423), Design Theory (ARC 5643), Professional Practice (ARC 5913)

The seminar courses identify those affected in a manner particular to course content, collectively providing students with a view of the network of constituencies. Design Theory and Ecological Issues analyze the relationships between various communities. Design Leadership and Professional Practice focus on the relationships between practitioners and the public.

Integrated Design 4 (ARC 3126), Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034)

Integrated Design 4 and Architectural Foundation Studio 2 require students to identify a range of “publics” who have a stake in the development of urban space and form. Integrated Design 5 and Architectural Foundation Studio 3 require students to identify the range of public users as well as those involved in building creation and regulation. Students participate in empathy exercises to understand how various physical, social and economic constraints affect a user’s experience of the built environment.

PC.8-04 Value of Designer Responsibility

Student is able to demonstrate understanding of the value of designers in fulfilling social responsibility.

History of the Designed Environment 1 (ARC 5613), Twentieth Century Architecture (ARC 4183 / 5063), Design Leadership (DES 4112 / 5112), Ecological Issues (ARC 5423), Design Theory (ARC 5643), Professional Practice (ARC 5913), Integrated Design 4 (ARC 3126), Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034)

Building on case study analyses, students critique the manner in which design practitioners respond to their social responsibilities. In design studios, students are required to periodically evaluate how their own design work meets the needs of various constituencies, including users, the public at large, and the natural environment.

PC.8-05 - Integrate into Decision Making

Students are able to integrate diverse needs into decision-making.

History of the Designed Environment 1 (ARC 5613), Twentieth Century Architecture (ARC 4183 / 5063), Design Leadership (DES 4112 / 5112), Ecological Issues (ARC 5423), Design Theory (ARC 5643), Professional Practice (ARC 5913)

The history sequence and seminar courses utilize case studies to provide students with an understanding of how differing needs are successfully considered in the practice and creation of architecture, and how various historical movements address changing social concerns.



Integrated Design 4 (ARC 3126), Architectural Foundation Studio 2 (ARC 5024), Integrated Design 5 (ARC 4116), Architectural Foundation Studio 3 (ARC 5034)

In Integrated Design 4 and Architectural Foundation Studio 2, students demonstrate how the needs of constituencies influence the students' proposals for the creation of urban space and form. Students are accountable for providing equitable access for users with a range of experiences and physical abilities. In Integrated Design 5 and Architectural Foundation Studio 3, there is a required accounting of community and user engagement.

3) Assessment and continuing improvement

In general, the department's coverage of this PC has been successful. Student performance in coursework suggests that the students may be ready for increased challenges. In addition, as ID4 and AFS2 are intended to introduce urban design as a basis for the course pedagogy, these courses are a natural fit to assess students' understanding of the needs of multiple constituencies.

PC.8-01 - Awareness of Social Patterns and PC.8-02 – Awareness of Spatial Patterns

Assessment data indicate that student performance is at or above the benchmarks. In ID2, significant improvement in performance is due, in part, to the addition of participatory formats (films, lectures, field trips). The history coordinator has proposed that benchmarks be raised from 75% to 80%. While ID4 students in 2022 met or exceeded the benchmarks for these learning objectives, the ID4 coordinator believes that social demographic decision-making may improve with the use of public records and census studies.

PC.8-03 - Identify those Affected

In general, benchmarks for this learning object have been met. However, there was some inconsistency regarding the data received from each section such that the ID4 coordinator has proposed a more consistent approach to the understanding and collection of information about affected communities. The practice of locating projects in Detroit makes it difficult for remote students to have an authentic grasp of issues in the city; the coordinator for AFS2 (online) has proposed that we might just as successfully site projects in the communities where the students reside.

PC.8-04 - Value of Designer Responsibility

Student performance has met or exceeded benchmarks. This indicates that students may be ready for more challenging material. ID5 faculty will develop a platform to promote and encourage design feedback from the partner community to better test the cultural fit of student proposals (also to be used in AFS3). If implemented, the benchmark for this learning objective can be raised to 85% in ID5 and AFS3.

PC.8-05 - Integrate into Decision Making

Student performance has met or exceeded benchmarks in this area. The Professional Practice coordinator has proposed that the benchmark of 80% could be raised to 85% or 90% and is evaluating how to adjust assignments and discussions to target more real-world engagement of the material.

As this is an emphasized learning objective, special attention is paid to the degree at which students can implement this content into their studio work. In ID4, students mostly met the



benchmark for this objective in spring 2022, but we observed a wide variation of results between sections; this indicates that greater consistency regarding assessment metrics is needed. The ID4 coordinator has proposed that specific assignments should be targeted toward the integration of social equity and inclusion ideas into design, and should be introduced in ID4 and AFS2 from the beginning and addressed as an important component of each assignment.

In ID5, in fall of 2021, 75.7% of students met or exceeded expectations, falling short of the benchmark of 80%. To address this, an assignment will be added to the lab component of ID5 and AFS3 in which students will explore case studies based upon projects in the SEED network, to identify techniques to integrate user needs into design work; documentation demonstrating universal design responses will be required prior to final project submittal, for review.

3.2 Student Criteria (SC): Student Learning Objectives and Outcomes

A program must demonstrate how it addresses the following criteria through program curricula and other experiences, with an emphasis on the articulation of learning objectives and assessment.

SC.1 Health, Safety and Welfare in the Built Environment—How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.

Program Response:

1) Health, Safety, and Welfare in CoAD's Curriculum and Student Experience

As a College that offers an education in six design disciplines, “multidisciplinarity” plays a significant role in our culture, as does the belief that the designed environment provides value to and has a role in the improvement of the human condition. Considered from these perspectives and in light of our statement of purpose, the CoAD understands Health, Safety, and Welfare in the Built Environment inclusively, as a holistically evaluative, critical framework used to keep human condition issues foregrounded in our work. HSW includes detailed topics that are often narrowly equated with “health, safety, and welfare,” such as codes and ordinances, and the provisions of the Americans With Disabilities Act. More broadly however, it includes the issue of climate change as a global equity initiative that contains a built environment component, so that it is much larger in intent than that: Health, Safety, and Welfare is the mechanism of improvement by which more detailed topics such as codes and ordinances are advanced.

In the CoAD's curriculum, Years 1-2 focus on the humanities and the beneficial power of design in the environment. In Year 3 students acquire sufficient exposure to the difficulties encountered in design — goals in conflict, tradeoffs sometimes necessary, choices with implications — to discuss design as something striving towards worthwhile objectives while carrying a broad responsibility to society within the contexts of professional settings and of architectural licensure. To implement the CoAD's encompassing perspective on Health, Safety, and Welfare in the Built Environment, our program structure suggests that it be introduced in the curriculum as a big-picture counterpoint to be kept in mind while engaging the highly focused — and sometimes opaque or resistant — detailed content.

Several other avenues are used to expose students to a variety of related topics. AIAS students participate in several groups associated with helping those who have been underrepresented in



the making of the built environment, for example, through Habitat for Humanity and Freedom by Design. The CoAD's NOMAS chapter ~~organizes~~ encourages participation in events that foreground constituencies advocating for the importance of Health, Safety, and Welfare reasoning. Students are exposed via AXP to **Setting A** experience areas that engage HSW topics ~~and they participate in~~ as well as to **Setting O** AIA Continuing Education programs for HSW. The CoAD lecture series offers the viewpoints of designers and architects re-thinking the breadth of their duties to the world; for example, Chris Cornelius described indigenous perspectives in his work, practice and advocacy, and Joyce Wang described shared human and non-human habitats in her work with Ants of the Prairie.

2) Courses and content

Construction Systems 2 (ARC 2323/5232), Design Leadership (DES 4112), and Professional Practice (ARC 5913).

Having only one Learning Objective, HSW is discussed here in terms of its three scaffolded courses. The courses are distributed over Years 3-5 and engage advanced students.

Construction Systems 2 addresses the first step (Introduction): SC1-01: "Basis of architectural licensure: Student is able to demonstrate an understanding of protecting Health, Safety, and Welfare in the Built Environment as the wider societal foundation of architectural licensure." Construction Systems 2 introduces many of the larger issues of the profession and its action and impacts in society, including the various roles, tasks, responsibilities and duties expanded on in later coursework and in AXP.

Design Leadership addresses the second step (Reinforcement): SC1-02: "Reasoning based on civil-law framework: Student is able to demonstrate the ability to reason and make decisions based on the framework of wider societal and civil-law concepts of duty-of-care and negligence." Design Leadership, in its cross-disciplinary framework, is able to communicate the impacts of design as always carrying a responsibility to society, across all design disciplines.

Professional Practice addresses the third scaffolded step (Emphasis): SC1-03: "Interpretation of case studies: Student is able to apply HSW knowledge and reasoning to the interpretation of case studies." Professional Practice, in its targeted case-study reasoning, is able to significantly expand students' understanding of the breadth and application of duty within the context of architectural licensure.

3) Assessment and continuing improvement

Health, Safety and Welfare in the Built Environment is discussed here in terms of its three components:

SC1-01 Basis of architectural licensure

Student performance is high with 82% and 100% meeting or exceeding expectations, respectively, across undergraduate and graduate degree tracks in Construction Systems 2, far above the benchmark of 70%. The benchmark will be increased.

SC1-02 Reasoning based on civil-law framework



Student performance, now at 100% meeting or exceeding expectations within the cross-disciplinary framework of Design Leadership, exceeds the benchmark of 75%. The benchmark will be increased.

SC1-03 Interpretation of case studies

Student performance, having reached 98% meeting or exceeding expectations in the graduate level Professional Practice course, is above the benchmark of 80%. The benchmark will be increased.

In summary, our conveyance of Health, Safety and Welfare in the Built Environment as a broad and inclusive reasoning perspective, based on a duty of care, and aimed at betterment of the human condition, has been successfully received and applied by students, within the bounds of its initial testing goals. Our next steps will likely be: 1) Raising the level of applied content within courses to increase student knowledge of actionable specifics and increase usefulness in practice; and 2) Raising the Learning Outcome benchmarks to reflect current performance levels and better track the impact of ongoing course content updates.

SC.2 Professional Practice—How the program ensures that students understand professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States, and the forces influencing change in these subjects.

Program Response:

1) Professional Practice, in CoAD's curriculum and student experience

Professional Practice is given a foundational position at the CoAD, as explained in our statement of purpose.

To continue the integrated academic experience in professional practice that the CoAD has historically offered, our program has maintained the distinct content areas delineated in NAAB 2014 criteria and employed them as Learning Objectives: Stakeholder Roles in Architecture, Project Management, Business Practices, Legal Responsibilities, and Professional Conduct.

CoAD students gain work experience in firms in southeast Michigan and earn Architecture Experience Program (AXP Settings A and O) credits and make progress toward the Architectural Registration Exam (ARE). The work experience supports their coursework and architects in our partner firms participate in design reviews, guest lecturers, and serve as adjunct faculty.

2) Courses and content

Professional Practice is an SC that corresponds to several Learning Objectives; it locates a small amount of material in a number of courses. We therefore rely on course syllabi and instructors to clarify how each Objective and SC is fulfilled.

Stakeholder Roles and Professional Conduct

Stakeholder Roles: *Design Leadership (DES 4112), Integrated Design 5 (ARC 4116), and Professional Practice (ARC 5913), as a sequence, cover content in this area. (For Track III, Architectural Foundation Studios 1-4 carry content corresponding to that in ID5).*



Utilizing these three courses allows for an alternation between conceptual and applied approaches to this broad subject area. Design Leadership, a cross-disciplinary course, provides an initial awareness of the interaction of various constituencies, while Integrated Design 5 or Architectural Foundation Studios 1-4 provide an integrative opportunity to apply these concepts to design situations. Professional Practice uses these understandings to develop strategies for incorporating this topic into professional decision-making.

Professional Conduct: *Design Leadership (DES 4112), Design Theory (ARC 5643), and Professional Practice (ARC 5913) as a sequence cover content in this area.*

Design Leadership and Design Theory provide a progression of understandings, beginning with ethical and civil-law frameworks governing the responsibilities of designers and designed objects to their users, followed by specific codes of conduct adopted by architects, and the ethical response that supports them. Professional Practice applies these skills to professional case-study analysis and decision-making.

Project Management, Legal Responsibilities, and Business Practices

Project Management: *Construction Systems 1 (ARC 2313/5313), Construction Systems 2 (ARC 2323/5323), and Professional Practice (ARC 5913), as a sequence, cover content in this area.*

Project Management: Construction Systems 1 and 2 in Year 3 (two years prior to Professional Practice) introduce and apply project management skills to the basics of project process and delivery, and documentation goals. This allows Professional Practice to introduce quantitative cost and time measures, as methods to increase the effectiveness of previously acquired skills.

Legal Responsibilities: *Construction Systems 2 (ARC 2323/5323) and Professional Practice (ARC 5913), as a sequence, cover content in this area.*

Again, utilizing Construction Systems 2 to introduce basic legal language, and the duties and consequences that are implied by it, allows Professional Practice to subsequently introduce the concept of standard of care and its extension into contracts.

Business Practices: Professional Practice (ARC 5913) is the only course that covers this content. But the course builds on the financial awareness developed in other courses regarding project management and cost estimating. To improve curricular depth in this area, it may be possible to make a connection with business concepts introduced in Design Leadership (DES 4112).

Importantly, the introduction of these topics in Year 3 is intentionally coincident with students' typical initial professional employment, which then corresponds with the acquisition of broader AXP experience.

3) Assessment and continuing improvement

SC.2A Stakeholder Roles in Architecture

Student performance in nearly all courses, across undergraduate and graduate degree tracks, met or exceeded this area's benchmarks of 70%, 75%, and 80%. In studio courses, student performance was variable, due to individual section differences. As one AFS2 section fell short of the benchmark, the studio coordinator and instructors will better align section goals to raise



performance. Given the differing performance data among degree tracks, benchmarks in the studio courses will remain as they are. For non-studio courses, benchmarks will likely be increased.

SC.2B Project Management

Student performance for all four courses, across both undergraduate and graduate tracks, has met or exceeded this area's benchmarks of 70%, 75%, and 80%. Where any course is close to the benchmark (CS2, Track III), the instructor will seek ways to provide a wider margin above the benchmark. Benchmarks will likely be increased.

SC.2C Business Practices

Student performance for the one course covering this material has met or exceeded this area's benchmark of 70%. The benchmark will likely be increased.

SC.2D Legal Responsibilities

Student performance for all three courses, across undergraduate and graduate tracks, has met or exceeded this area's benchmarks of 70%, 75%, and 80%. Where any course is close to the benchmark (CS2, Track III), the instructor will seek ways to provide a wider margin above the benchmark. Benchmarks will likely be increased.

SC.2E Professional Conduct

Student performance for all three courses has met or exceeded this area's benchmarks of 20%, 70%, and 80%. Benchmarks will likely be increased.

In summary, the program's results in the area of Professional Practice accurately reflect our strong connection to practice and the practice community, as noted in the Career Paths PC.

A difficult task facing many schools regarding professional practice is the tendency to have many or most of the SCs topics allocated to one or very few courses in the curriculum. The CoAD has attempted to increase student performance by addressing SC.2E in other courses, such as Construction Systems 1-2 and Design Theory. A distributed, scaffolded approach creates its own set of problems however, especially in areas of highly structured material such as professional practice (and SC.4 Technical Knowledge): calibrating the work of courses with different formats is an ongoing effort, but one that the CoAD views as an important aspect of its approach to the curriculum. As results are strong, to further improve the CoAD's communication of this material, our next step will be to raise benchmarks. However, given the balance of benefits and difficulties noted with content distributed across contributing courses, content updates will likely proceed in pace with industry evolution, but not undergo significant changes in the short term.

SC.3 Regulatory Context—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

Program Response:

1) Regulatory Context/ Codes and Standards, in CoAD's curriculum and student experience



The knowledge, values, and skills needed to establish professional responsibility and competency in graduates are integral to a practice-centered program; practice is cited as one of the foundational aspects of the architecture program as reflected in our statement of purpose.

In our program, the Regulatory Context is addressed first in the Year 3 courses: Construction Systems 1-2 and Integrated Design 3. It continues in Year 4 with Integrated Design 5 and Comprehensive Design. The content is addressed in the graduate-level Architecture Foundation Studios 1-4. The CoAD evaluates each of these areas as separate Learning Objectives, as described below.

In addition to professional practice topics through the curriculum, the CoAD leverages the resources of our southeastern Michigan location to extend our efforts into experiences in the profession. Numerous and well-established relationships with supportive partner firms offer a range of AXP Setting A and O work experiences in Project and Practice Management, assisting with both AXP and ARE progress. A range of guest professional and industry speakers provide insights into current practice, and targeted industry information-gathering experiences are offered. Access to regular AIA Detroit and AIA Michigan events provide broad practice exposure.

2) Courses and content

The architecture program groups the relevant Learning Objectives and aligns related courses under each. This allows a large amount of topic-content to be distributed across multiple courses, semesters and years, while maintaining topic coherence.

SC.3 has five specific assessment rubric items as delineated below.

SC.3-01 Identify codes and applications

The following courses introduce the content: Construction Systems 1 (ARC 2313/5313), Construction Systems 2 (ARC 2323/ 5323), and Integrated Design Studio 3 (ARC 3116), and graduate-level courses Architecture Foundation Studio 1 (ARC 5014) and Architectural Foundation Studio 2 (ARC 5024).

Construction Systems 1 student performance exceeded the 70% benchmark with scores of 84% -100% in both undergraduate and graduate courses. Construction Systems 2 exceeded the 75% benchmark with scores of 77% -81% in both undergraduate and graduate courses. Integrated Design Studio 3 met or exceeded the 75% benchmark with scores of 71.5% -100% in both undergraduate and graduate courses. Architecture Foundation Studio 1 (graduate) exceeded its 70% benchmark with a 100% score. The course operates at the introductory level but benchmarks might still be raised.

SC.3-02 Interpret codes for application

The following courses operate at the introductory level: Construction Systems 1 (ARC 2313 & 5313), Construction Systems 2 (ARC 2323 & 5323), Integrated Design Studio 3 (ARC 3116), Integrated Design 4 (ARC 3126), Architecture Foundation Studio 1 (ARC 5014).

Construction Systems 1 exceeded the benchmark of 70% with scores of 84% -100% for both the undergraduate and graduate sections. Construction Systems 2 exceeded the benchmark of 75% with results of 81% -100% for the undergraduate section; the graduate section essentially met the benchmark with a 77% score. Integrated Design Studio 3 had a benchmark of 70%, but several



sections missed that target with only 61.5% meeting it. One section reporting 92% meeting the benchmark which may reflect an instructor misunderstanding or recording error. Integrated Design 4 exceeded its 75% benchmark with an assessment of 97%.

The graduate-level Architecture Foundation Studio 1 exceeded its 70% benchmark with a 100% score. The Architectural Foundation Studio 2 similarly exceeded its 75% benchmark with a 100% score. Again, these are introductory level presentations of the material.

SC.3-03 Reconcile codes with design

The following courses present introductory or reinforcement material: Construction Systems 2 (ARC 2323 / 5323), Integrated Design Studio 3 (ARC 3116), Integrated Design 4 (ARC 3126), Architectural Foundation Studio 1 (ARC 5014), Architectural Foundation Studio 2 (ARC 5024), Architectural Foundation Studio 3 (ARC 5034), Architectural Foundation Studio 4 (ARC 5044).

Construction Systems 2 had a benchmark of 75 % and the data indicated that it met the criterion with an 81% -100% rating in the undergraduate section; in the grad section 77% met expectations. The Integrated Design Studio 3 had a benchmark of 70%; three of four sections missed that target with only 62% meeting the target, while one section reported 92% meeting; this may reflect a recording error or better instruction. Integrated Design 4 was benchmarked at 75% and 92% -100% met or exceeded the benchmark.

For the Architectural Foundation Studio 1, the benchmark was 70% and the data showed 100% meeting that target. Architectural Foundation Studio 2 was benchmarked at 75%; only 50% met the criteria. In contrast, in the Architectural Foundation Studio 3, the benchmark of 80% was exceeded with 100% meeting the criterion. We have no data recorded yet for the Architectural Foundation Studio 4 since the class is new and has not run.

SC.3-04 Develop building in response to codes

The following courses operate at the reinforcement or the emphasis level: Integrated Design 4 (ARC 3126), Integrated Design 5 (ARC 4116), Comprehensive Design (ARC 4126 and ARC51226), Architectural Foundation Studio 2 (ARC 5024), and Architectural Foundation Studio 4 (ARC 5044).

Integrated Design 4 with a benchmark of 75% met the target with 92% -100%. Integrated Design 5 had an 80% benchmark and 100% of the class exceeded that goal. Comprehensive Design was assigned a benchmark of 80% and exceeded the target with 82%-88 % meeting the objective. However, the graduate section of this course, at 66.7%, missed the target. In the graduate program, Architectural Foundation Studio 2 missed the 75% benchmark, with only 50% meeting the criterion. In contrast, in the Architectural Foundation Studio 3, benchmarked at 80%, every student met the criterion. We have no data recorded yet for the Architectural Foundation Studio 4.

SC.3-05 Develop site in response to codes

The following courses operate at the reinforcement or the emphasis level: Integrated Design 5 (ARC 4116), Comprehensive Design (ARC 4126 and ARC 51226), Architectural Foundation Studio 3 (ARC 5034), and Architectural Foundation Studio 4 (ARC 5044).



Integrated Design 5 had an 80% benchmark and 91.89% met the criteria. Comprehensive Design had an 80% benchmark: in the undergraduate sections, 81.7% met the criterion, but 55.6% of the graduate section missed the target. In the Architectural Foundation Studio 3, the benchmark was 80% and 100% met the criterion. We have no data recorded yet for the Architectural Foundation Studio 4.

3) Assessment and continuing improvement

The CoAD architecture program has adequately met SC.3 Regulatory Context objectives through introducing, reinforcing, and emphasizing relevant content throughout the curriculum and supplementary experiences. This is appropriate for a department within a university that focuses on technology, design, and practice. Assessment results convince us that students who begin and complete the architecture curriculum at LTU demonstrate competency in addressing appropriate regulatory content as it applies to building design. Students who transfer into LTU at the graduate level from a previous institution need additional support to learn and demonstrate competency in regulatory issues; the program attempts to address this with additional coursework where needed.

The architecture program has met SC.3 objectives and relevant content throughout the curriculum and through supplementary experience.

SC.3-01 Identify Codes and Applications

This SC spans multiple courses at the undergraduate and graduate levels and has a variety of faculty involved in the evaluation. Construction Systems 1-2, Integrated Design 3, and Comprehensive Design have had a consistent set of lab-based technical faculty in scoring assessments.

The coordinator for Construction Systems 1 states that the benchmark for SC3 could be raised to 75% from the current 70%, and changes to the course might include strengthening of industry relevant Revit/BIM modeling iterations, documentation, and management to support the Integrated Design sequence and technical courses. The Integrated Design 3 targets were met.

In Architectural Foundation Studio 1, coursework is delivered through studio and lab settings and assignments, accelerated here for graduate students. We propose no change in benchmarks or modifications to methods. The coordinator believes that all subsequent courses should reinforce regulatory concerns as a practical component of the field.

In Integrated Design 4, while each section meets the benchmark, analysis of the data reveals that the percentage of students who “exceeded expectations” was relatively low (13.7%) compared to “met expectations” (83.8%). This is an area of potential improvement with respect to the three SC3 criteria addressed. The benchmark for these criteria can be confidently raised to 80%. Assignments need to include the study of regulations and codes in urban context. If housing becomes a specific study area of the class, the effect of regulatory context (zoning codes) on massing, density, use, access, and programming issues will be important. Specific efforts can be made for students to hear from city planning officials explaining how the code is applied to design proposals.

SC.3-02 Interpret codes for application



In Integrated Design 3, some benchmarks were not met and there may be an assessment data inconsistency to be resolved. Construction Systems 1 is taken concurrently with Integrated Design 3, so as to coordinate student experience with the integration of building technologies, site design, codes, and their integration into a coherent design. Please refer to the commentary above for SC3-01. Similarly, please refer to the commentary in SC3-01 for Architectural Foundation Studio 1 and Integrated Design 4.

SC.3-03 Reconcile Codes with Design

In the Architectural Foundation Studio 2, the benchmark may decrease to 70% from the current 75%, which would be appropriate for the introduction of this material. The Integrated Design 5 coordinator foresees no immediate changes. The Architectural Foundation Studio 3 coordinator suggests that the benchmark for SC3 remain at the current 80%. An important change to the course could be more emphasis on individual work, as the course is currently structured around group work and it is difficult to assess each individual student's understanding. The coordinator for Comprehensive Design suggests that the benchmark for SC3 remain at the current 80%, but that some changes are necessary to address deficiencies in the graduate student response to SC3-04, and deficiencies in both undergraduate and graduate student response to SC3-05. We need to reconsider the required work and be more specific.

SC.3-04 Develop building in response to codes

For Advanced Design Studio 2, Integrated Design 5, Architectural Foundation Studio 3, and Comprehensive Design, please refer to comments immediately above in SC.3-02 and SC.3-03.

SC.3-05 Develop site in response to codes

For Advanced Design Studio 2, Integrated Design 5, Architectural Foundation Studio 3, and Comprehensive Design, please refer to comments immediately above in SC.3-02 and SC.3-03.

In summary, the CoAD's implementation of Regulatory Context issues results in a high level of student performance across all Learning Objectives. We plan to work on several issues in this area including consistency of evaluation, placing this SC in appropriate courses, finding ways to evaluate individual students who work in teams, and reducing teacher-student ratios in labs, where needed, such as in Comprehensive Design.

SC.4 Technical Knowledge—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

Program Response:

1) Technical Knowledge in CoAD's curriculum and student experience

Technical knowledge and skills combined with technological tools is another of the PCs and SCs given a foundational position in the CoAD's architecture program.

To continue the rigorous academic experience in technical knowledge that the CoAD has historically offered, our program structure has maintained the distinct content areas from the NAAB 2014 criteria: Structural Systems, Environmental Systems, Building Envelope, Materials



and Assemblies, Building Services Systems, Building Costs, and Documentation. The program tracks and evaluates each of these areas as separate Learning Objectives, as described below.

Similar to what is described under SC2 Professional Practice, the program leverages the resources of our southeastern Michigan location to extend our technical knowledge endeavors into experiences in the profession. Relationships with partner firms offer a range of work experiences in planning, design, development, documentation, and construction areas, which supports student AXP and ARE progress. Adjunct professors and guest professional and industry speakers provide insights into current practice and targeted industry experiences; we organize construction site field trips and support construction-related internships that provide practical experience. Access to regular AIA Detroit and AIA Michigan events offer additional broadening and deepening experiences.

2) Courses and content

For PCs and SCs that cover structured content areas and Learning Objectives, it may be helpful to track related courses and sequences in the program course flowcharts, available to students online. Technical Knowledge is an SC of this type.

Structural Systems, Environmental Systems, and Building Services Systems

Structural Systems: *Basic, Intermediate, and Advanced Structures (ARC 2513/5513, ARC 3513/5523, and ARC 4543/5543) as a course sequence covers content in this area. Structural Systems.*

Utilizing three courses for this material allows rigorous coverage of the topics from gravity loads and material systems through lateral loads and long-span systems.

Environmental Systems and Building Services Systems: *HVAC & Water Systems (ARC 3423/5413) and Acoustical, Electrical & Illumination Systems (ARC 4443/5543) cover content in these areas. Environmental Systems and Building Services Systems content.*

Increased use of simulation and analysis tools has allowed this topic area to influence subsequent coursework on the implementation of sustainability strategies. Integrated Design 3 (ARC 3116) and Architectural Foundation Studios 2-4 (ARC 5034, 5034, 5044) provide initial exposure to the application of selected systems in this area.

SC.4A-Building Envelope Systems, and Materials and Assemblies

Construction Systems 1-2 (ARC 2313/5313 and ARC 2323/5323) cover content for both areas.

Both Construction Systems courses incorporate 3D BIM tools for system modeling and visualization to improve student understanding of assemblies, performance, and the construction process. Integrated Design 3 and Architectural Foundation Studios 2-4 provide initial exposure to the application of selected systems.

SC.4B-Documentation and Building Costs

Several courses contribute content in this area.

Information Modeling & Simulation (ARC 2813) and Simulation & Prototyping (ARC 5823) provide initial documentation content. Construction Systems 1-2 provide further exposure to the applied aspects of both areas. HVAC & Water Systems and Professional Practice (ARC 5913) present



advanced material in Building Costs. The courses focus on current industry practice, but also explore progress in the larger industry and the effect it may have on future practices.

3) Assessment and continuing improvement

SC.4A Structural Systems

Student performance for all courses, across undergraduate and graduate degree tracks, has been sufficiently or significantly above this area's benchmarks of 70% meeting or exceeding expectations. Where a course is close to the benchmark (e.g. Advanced Structures), the area coordinator will seek ways to elevate student performance. Given differing performance in the degree tracks, benchmarks will remain as they are.

SC.4B Environmental Systems

For the technical courses covering this subject matter, student performance has been significantly above the benchmarks of 70%, 75%, and 80% meeting or exceeding expectations. Benchmarks will likely be increased. For studio courses contributing to initial understanding of the design influence of environmental systems, student performance was variable, due to individual section differences. Where a section falls short of the benchmark (one such in Integrated Design 3), the studio coordinator and instructors will better align studio section goals to raise performance above the benchmark.

SC.4C Building Envelope

For the technical courses covering this area, student performance has been significantly above the first and second benchmarks of 70% and 75% meeting or exceeding expectations, but fell short for the third benchmark of 80%, for content material on "simulation techniques" (Construction Systems 2). The first two benchmarks will likely be increased. The third benchmark will remain as it is, but simulation content material will be improved through connections to its use in other courses. For studio courses contributing to understanding in this area, student performance was variable, due to section differences.

SC.4D Materials & Assemblies

Student performance for nearly all courses has been sufficiently or significantly above this area's benchmarks of 70%, 75%, and 80% meeting or exceeding expectations. Benchmarks will likely be increased. Where a course fell short of the 80% benchmark (Graduate Construction Systems 2) for content material on "Environmental alternatives," course material will be improved to raise performance above the benchmark.

SC.4E Building Services Systems

For the topic-specific technical courses covering this area, student performance has been significantly above the second and third benchmarks of 70% and 75% meeting or exceeding expectations. Benchmarks will likely be increased. For studio courses contributing to initial understanding of this area, student performance was variable, due to section differences. Where a section fell short of the first 60% benchmark (such as Integrated Design 3), the studio coordinator and instructors will align studio goals to raise performance. For the construction course contributing to understanding of applications in this area, where the course fell short of the second 70% benchmark (Construction Systems 2, spring 2021), this underperformance has already been corrected by improvements made in the spring 2022 semester, using the improved systems visualization techniques, as part of the ongoing development of the course.



SC.4F Building Costs

For two of the three courses contributing to an understanding of building costs (Constructions Systems 2 and Professional Practice), student performance has been significantly above the first and third benchmarks of 70% and 90% meeting or exceeding expectations. Benchmarks will likely be increased. For the third course (HVAC & Water Systems, covering operational and life-cycle cost estimating), student performance fell just short of the second 80% benchmark for content material in this area. Material for that area will be improved to raise performance.

SC.4G Documentation

For the three courses contributing to an understanding of documentation, student performance has been significantly above the benchmarks of 70%, 75%, and 80% meeting exceeding expectations. Benchmarks will likely be increased. Where a course falls short (Construction Systems 2, fall 2021), the shortfall will be corrected by improvements to be made in the fall 2022 semester, using the improved documentation examples, as part of the ongoing development of the course.

In summary, the program's implementation of the Technical Knowledge (SC.4) shows a consistently high level of student performance across Technical Knowledge Learning Objectives, with most results significantly above their benchmarks. As noted, a distributed, scaffolded approach creates its own assessment complications in regard to highly-structured material such as Technical Knowledge: correctly calibrating the work of technical courses with project-based studio courses, is an ongoing effort, but one that the program views as an important aspect of its approach to assessment. Our next step, as with other PCs or SCs where results are strong, will be to raise the outcome benchmarks to reflect current performance levels, in order to better track the impact of ongoing updates.

In the few courses where benchmark underperformance has occurred for more than one Learning Objective, this has usually been the result of ongoing content changes and improvements in the courses. Construction Systems 1-2, for example, have been significantly updated since the beginning of the fall 2020 semester to respond to preceding improvements in the prerequisite Information Modeling and Simulation course and to incorporate new material needed later in the curriculum. Construction Systems 2 has nearly completed its redevelopment, and will return shortly to its previously high level of performance against benchmarks.

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

Program Response:

1) SC.5 in Curriculum and Student Experience

The process of design synthesizes the technologies of contemporary practice, as expressed through the conditions of culture and nature, that guide design decisions unique to each architectural project. Synthesis of design is fundamental to the CoAD's architecture program and our statement of purpose.



The synthesis of design is grounded in technology and contemporary practice, providing clear context and content for the architecture curriculum. The conditions of SC.5 are strategically addressed throughout the design studio sequence. Students experience specific SC.5 content that is selectively introduced in the beginning design studios, selectively reinforced in the intermediate studios, and emphasized holistically within an advanced level studio where it is formally assessed with specific learning objectives.

Students receive supplemental exposure to the conditions of SC.5 throughout their academic careers at the CoAD. The robust practice community of architects in Southeast Michigan allows students to witness professional design synthesis through internships, mentorships, alumni, advocacy groups, guest lecturers, and adjunct faculty. Each semester, the formal CoAD Design x Technology Lecture Series features presentations by local, national, or international practicing architects that deliver SC.5 content in the context of professional practice. Specific lectures are mandatory for students in selected design studios. An example includes the “Future of University Libraries” lecture series delivered in spring 2022 by four different design firms, addressing specific SC.5 content in the context of library programs.

2) Courses and content

Design synthesis is woven into the curriculum, from the very beginning of the degree program. Students in Track I, who typically enter as freshman, take an integrated design course in each semester (see PC.2. section 2), and complete seven design courses prior to Comprehensive Design (ARC 4126). Students in Track II or III, who enter as graduate students, complete two-to-four design courses (the Architectural Foundation Studio sequence, based on acceptance criteria and previous studio experience at other institutions) with relevant theory and technical courses prior to completing Comprehensive Design (ARC 5126).

SC.5 Design Synthesis

SC.5 is formally evaluated and assessed in the Comprehensive Design course (ARC 4126 for Track I students, and ARC 5126 for Track II and III students). ARC 4126 and ARC 5126 are equivalent in content and process; their numeric distinction designates only the degree path and whether the course is delivered as an undergraduate or graduate section.

In Comprehensive Design, each student makes individual design synthesis decisions for a building design project. Course content is a collaborative teaching effort unique to the architecture program, by designated studio and lab instructors. Studio instructors guide design synthesis; lab faculty present and critique technical content as appropriate to an advanced design. The spring 2022 Comprehensive Design course included three faculty assigned to the undergraduate studio, and two faculty assigned to the graduate studio; and a group of three lab instructors (with expertise in bioclimatic, energy, and HVAC systems; regulatory and enclosure systems; and structural systems) who taught the undergraduate and graduate students labs.

The Comprehensive Design course has four specific Learning Objectives assessment rubric items related to SC.5 as delineated below.

SC.5-01 Identify Essential Issues

SC.5-01 addresses student ability to identify the essential issues relevant to the design problem including a clear response to performance-standard benchmarks from LEED, COTE, or the Living



Building Challenge, along with a synthesized design response to bioclimatic systems expressed through site conditions, orientation, and enclosure selection.

SC.5-02 Evaluate Multiple Needs and Relationships

SC.5-02 addresses student ability to evaluate multiple user needs and requirements, and their interrelationships. This includes a clear response to user requirements for program and site conditions, along with a synthesized response to regulatory systems that organize egress; building construction type, area, and height; and provisions of accessibility. It also includes a response to energy systems that include essential HVAC needs and preferred on-site energy generation synthesized with the architectural design.

SC.5-03 Analyze Outcomes and Interpret Significance

SC.5-03 addresses student ability to analyze performance requirement outcomes and interpret their significance. This includes a range of performance issues and interpretations of their design significance, defined by the synthesis of program, structure, and enclosure. It also includes measurable environmental impacts of design decisions related to the synthesis of HVAC and energy systems within the architectural design.

SC.5-04 Compare Options and Establish Position

SC.5-04 addresses student ability to generate and compare options and establish clear positions that lead to viable solutions. This includes the demonstration of options explored for a range of systems, options for synthesizing the array of those systems within a design, and a clear position established for the final architectural design development proposition that best synthesizes all selected systems.

3) Assessment and continuing improvement

Formal assessment protocols for the NAAB 2020 SC.5 content have been in place since 2021 and formal assessment has been conducted for the Comprehensive Design course on an annual basis since 2014. A preliminary benchmark of 70% for SC.5 was established in 2021 to provide a performance baseline for evaluation and improvements. Results of assessment, interpretation, and continuing improvement actions are summarized below for each SC.5 learning objective.

SC.5-01 Identify Essential Issues

SC.5-01 was assessed in spring 2021 in the two undergraduate (ARC 4126) and two graduate (ARC 5126) sections of Comprehensive Design, and the number of students meeting or exceeding expectations ranged from 87.5%-100%. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 91%-95%, and the single section of ARC 5126 was at 79%. The lower rate for ARC 5126 was interpreted and attributed to some of the life and work challenges faced by the graduate student cohort, and the rigor of the LTU Comprehensive Design course relative to other studio courses taken by students at their previous institutions that were not as focused on technology and practice issues synthesized with building design. The benchmark for SC.5-01 could be raised to 80% based on interpretation of student success in this area and faculty can continue to improve clarity on the definition of essential issues within SC.5.

SC.5-02 Evaluate Multiple Needs and Relationships

SC.5-02 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding expectations ranged from 69%-100%. A single section of ARC 4126 was slightly below expectations: this was interpreted as related to the



pace at which content is delivered and student ability to respond to complexity or retain skills and information from a previous course. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 82%-95%, and the single section of ARC 5126 was at 85%. The benchmark for SC.5-02 could be raised to 80% based on the interpretation of student success in this area and faculty can continue to improve specificity on the needs and relationships that must be addressed and evaluated within SC.5.

SC.5-03 Analyze Outcomes and Interpret Significance

SC.5-03 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding expectations ranged from 63%-93%. The two sections of ARC 4126 below the benchmark were interpreted as a possible pace and process issue for studio and lab that could be addressed by faculty members providing greater clarity on the criteria for SC.5.03 and streamlining the process to address it. It was also interpreted as an issue regarding student retention of previous knowledge or skills. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 91%-95%, and the single section of ARC 5126 was at 79%. The benchmark for SC.5-02 could be raised to 80% based on interpretation of student success in this area. Faculty can continue to improve specificity on the expected analysis of outcomes and the interpretation of their significance that must be addressed and evaluated within SC.5.

SC.5-04 Compare Options and Establish Position

SC.5-04 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding expectations ranged from 86%-100%. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 72%-78%, and the single section of ARC 5126 was at 69%. The lower number for ARC 5126 was attributed to possible weak preparation by some Track III students. The results were interpreted by faculty as the greatest challenge within SC.5, recognizing that many students often struggle to develop options and alternatives within their design process. Faculty determined that the program selection for spring 2022 was perhaps too large and complex for some students, inhibiting their ability to develop viable options and establish clear positions for their building design. Continuous improvement will include appropriate size and complexity of program selection, and greater oversight of the prerequisites and preparation for Track III students prior to enrolling in Comprehensive Design.

Continuous improvements have been made to the Comprehensive Design course based on formal faculty and administrative review of each annual course assessment. Most recently, in preparation for spring 2022, Comprehensive Design faculty worked to refine course assignments, clarify the course objectives and deliverables, and strengthen the pedagogy and process to directly address SC.5 content. Specific issues related to SC.5 that can be improved include appropriate program type, complexity and size, greater clarity on productive process with focused scope and clear deliverables, greater emphasis on options and positions developed, and greater clarity on student work evaluation protocols for studio and lab faculty. Specific to the ARC 5126 students, improvements are needed in their preparation prior to enrollment in Comprehensive Design, including greater emphasis on individual work in prior studios, and improved oversight on their technical skills and knowledge.

Additionally, program faculty have recently revised Track III to include an additional graduate-level studio (Architectural Foundation Studio 4) to be required prior to enrolling in ARC 5126. This improvement will allow students to be more fully prepared for ARC 5126 and it is expected that a



greater number of students will be able to successfully meet or exceed the provisions of SC.5. In the current MArch assessment protocol, all NAAB PCs and SCs are scaffolded through the degree program in three tiers of progression (Introduce, Reinforce, and Emphasize) in courses at the beginning, intermediate, and advanced levels. An exception to this occurs in Comprehensive Design, in which the three tiers of SC.5 are defined within the course itself, through four modules. Although this has proved sufficient, SC.5 could be formally dispersed and assessed throughout the curriculum, and this will be revisited in future faculty meetings.

In summary, assessment data for implementation of SC.5 indicate that overall student performance is meeting or exceeding initial benchmark expectations for the four Learning Objectives assessment rubric items that comprise support for SC5. It appears that benchmark expectations can be confidently raised for SC.5-01, 02, and 03, and closely monitored for SC.5-04, following a successful spring 2023 delivery and assessment of the Comprehensive Design course. Improvements made to the course in spring 2022 and proposed for spring 2023 indicate a positive trajectory for continued student success in response to the criteria of SC.5.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

Program Response:

1) SC.6 in Curriculum and Student Experience

Building integration is emphasized in the degree program through a focus on the technical and practice-oriented systems that are fundamental to building design. Conditions of SC.6 are addressed throughout the design curriculum. Students experience selected SC.6 content that is introduced in the beginning design studios, reinforced in the intermediate studios, and emphasized holistically within an advanced studio where SC.6 is formally assessed with specific learning objectives.

Students receive supplemental exposure to the conditions of SC.6 throughout their academic careers at CoAD. This is fostered through student engagement in the AIA Detroit Chapter, the LTU chapter of AIAS, the Detroit chapter of the Building Enclosure Council, the U.S. Green Building Council, and the Computational Design Detroit (co.de.D) group. The CoAD Design x Technology Lecture Series features presentations delivered by local, national, or international practicing architects, each semester, that deliver supplemental SC.6 content. Southeastern Michigan's substantial community of practicing architects allows students to witness building integration through internships, mentorships, alumni, advocacy groups, guest lecturers, and adjunct faculty.

2) Courses and content

Building integration is part of the curriculum, from the very beginning of the degree program. Students in Track I take an integrated design course in each semester (see PC.2.2) and complete seven design courses prior to Comprehensive Design (ARC 4126). Students in Track II or III, who enter as graduate students, complete two-to-four design courses (the Architectural Foundation Studio sequence, based on acceptance criteria and previous studio experience at other



institutions) with relevant theory and technical courses prior to completing Comprehensive Design (ARC 5126).

SC.6 Building Integration

SC.6 is formally evaluated and assessed in the Comprehensive Design course (ARC 4126 for Track I students, and ARC 5126 for Track II and III students). ARC 4126 and 5126 are equivalent in content and process; their numeric distinction designates the degree path and whether the course is delivered as an undergraduate or graduate section.

In Comprehensive Design, each student makes individual design synthesis decisions for a building design project. Course content is a collaborative teaching effort unique to the architecture program, by designated studio and lab instructors. Studio instructors guide design synthesis; lab faculty present and critique technical content as appropriate to an advanced design. The spring 2022 Comprehensive Design course included three faculty assigned to the undergraduate studio, and two faculty assigned to the graduate studio; and a group of three lab instructors (with expertise in bioclimatic, energy, and HVAC systems; regulatory and enclosure systems; and structural systems) who taught the undergraduate and graduate students labs.

The Comprehensive Design course has four specific Learning Objectives assessment rubric items related to SC.6 as delineated below.

SC.6-01 Performance Outcomes

SC.6-01 evaluates student ability to identify relevant building systems related to performance outcomes. This includes a clear response to the integration of building envelope systems and assemblies with thermal and water resistance performance outcomes; structural systems with member selection and load diagrams based on performance outcomes; HVAC systems with element selection and distribution diagrams demonstrating performance; and life safety systems for egress, fire-ratings, separations, sprinkler criteria, and occupancy loads with diagrams demonstrating performance outcomes.

SC.6-02 Design-specific Conditions

SC.6-02 evaluates student ability to apply building systems to design-specific conditions. This includes a clear response to envelope systems designed for bioclimatic conditions; structural systems designed for material, load, fabrication, and installation; environmental control systems designed for use, occupancy, and bioclimatic conditions; and life safety systems designed to meet regulatory provisions and conditions.

SC.6-03 Limited Range of Systems

SC.6-03 evaluates student ability to select and integrate a limited range of appropriate building systems based on performance criteria and regulatory codes. This includes options for selection and integration iterations of an enclosure system with program and site performance criteria; options for selection and integration iterations of a structural system with spaces and loads based on program use and occupancy criteria; options for selection and integration iterations of HVAC systems with bioclimate criteria; and preliminary integration of life safety systems with regulatory criteria.

SC.6-04 Broad Array of Systems



SC.6-04 evaluates student ability to integrate a broad array of building systems cohesively in a complex and code-compliant design project. This includes clear integration of envelope systems with structural systems to meet code compliance and full integration with program spaces and the site for a complete building design. It includes clear integration of HVAC and energy systems with structural and envelope systems, and full integration with program and bioclimatic systems for a complete building design. This further includes clear integration of life safety systems with program use and occupancy, and demonstrated code compliance for a complete building design.

3) Assessment and continuing improvement

Formal assessment protocols for the NAAB 2020 SC.6 content have been in place since 2021 and formal assessment has been conducted for the Comprehensive Design course on an annual basis since 2014. A preliminary benchmark of 70% for SC.6 was established in 2021 to provide a performance baseline for evaluation and improvements. Results of assessment, interpretation, and continuing improvement actions are summarized below for each current SC.6 Learning Objective.

SC.6-01 Performance Outcomes

SC.6-01 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding expectations ranged from 94%-100%. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 91%-100%, and the single section of ARC 5126 was at 100%. The benchmark for SC.6.01 could be raised to 80% or higher based on interpretation of student success in this area.

SC.6-02 Design-specific Conditions

SC.6-02 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding the benchmark ranged from 69%-100%. A single section of ARC 4126 was slightly below expectations and was interpreted as a speed or complexity issue, or a student non-retention issue. The assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 78%-83%, and the single section of ARC 5126 was at 65%. The percentage of students not meeting the benchmark was interpreted as due to weak preparation for some Track III students. This was also interpreted as student adjustment to a studio/lab teaching model, which they had not experienced in their preceding academic courses. The benchmark for SC.6-02 should remain at 70% based on interpretation of student success in this area. Both studio and lab instructors can continue to improve the process and guidance for students on how to successfully apply building systems to relevant design propositions. Studio and lab instructors can improve coordination of the rubrics for evaluation, and consider how to consistently evaluate student work. Instructors can improve the precision and clarity of defining design conditions with more manageable scope.

SC.6-03 Limited Range of Systems

SC.6-03 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding the benchmark ranged from 93%-100%. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 94%-100%, and the single section of ARC 5126 was at 100%. The benchmark for SC.6-03 could be raised to 80% or higher based on interpretation of student success in this area. Alternatively, this Learning Objective can be interpreted as unnecessary to measure in the Comprehensive Design course, as students all have prior experience and ability to select and integrate a limited



range of appropriate building systems based on performance criteria and regulatory codes. SC.6-03 could then potentially be redefined with alternative Learning Objective content.

SC.6-04 Broad Array of Systems

SC.6-04 was assessed in spring 2021 for the two sections of ARC 4126 and two sections of ARC 5126, and the range of students meeting or exceeding the benchmark ranged from 69%-93%. Assessment conducted in spring 2022 for the three sections of ARC 4126 ranged from 75%-82%, and the single section of ARC 5126 was at 66%. The lower number for ARC 5126 was attributed to student non-preparation or non-retention of previously learned material by approximately 30% of ARC 5126 students. This observation is also contextualized by the work and life challenges that many graduate students face, leaving them insufficient time to develop a broad array of systems and integrate them in a complex building design. Faculty also determined that the program selection for spring 2022 was perhaps too large and complex for some students, inhibiting their ability to develop and integrate a broad array of systems. In addition, many of these Track II and III students completed AFS courses in which a complex project was designed in a team format, and where individual students were not required to select, design, and integrate a broad array of systems. As a result, many students were overwhelmed with the challenges of meeting the requirements of SC.6-04 in Comprehensive Design. Continuous improvement relative to SC.6-04 will include appropriate size and complexity of program selection and revisiting the team-format of the AFS studios.

Overall, continuous improvements have been made to the Comprehensive Design course based on formal faculty and administrative review of each annual course assessment. Most recently, in preparation for spring 2022, faculty in the Comprehensive Design course worked collaboratively to refine the course assignments, clarify the course objectives and deliverables, and strengthen the pedagogy and process to directly address SC.6 content. Specific to the ARC 5126 graduate students, improvements are needed in their preparation prior to the Comprehensive Design course including greater emphasis on individual work in prior studios, and improved oversight of their technical skills and knowledge. Additionally, smaller faculty-to-student ratios will be sought in all of the sections.

In the current MArch assessment protocol, all NAAB PCs and SCs are scaffolded through the degree program in three tiers of progression (Introduce, Reinforce, and Emphasize) in courses at the beginning, intermediate, and advanced levels. An exception to this occurs in Comprehensive Design, in which the three tiers of SC.6 are defined within the course itself, through four modules. Though this has proved sufficient, faculty recognize that SC.6 could be formally dispersed and assessed throughout the curriculum and this will be revisited in a future faculty meeting.

In summary, assessment data for the implementation of SC.6 indicate that overall student performance is meeting or exceeding initial benchmark expectations for the four Learning Objectives assessment rubric items that comprise SC.6. It appears that benchmark expectations can be confidently raised for SC.6-01 and 03, with a potential reframing or reconsideration of the 03 content and Learning Objective. Benchmark expectations for SC.6-02 should remain at 70%, with minor adjustments made to improve student success. Student performance should be closely monitored for SC.6-04, following the spring 2023 delivery and assessment of the Comprehensive Design course, with specific attention paid to addressing current issues with ARC 5126 student performance. Improvements made to the course in spring 2022 and proposed for



spring 2023 indicate a positive trajectory for improving student success in response to the criteria of SC.6.



4—Curricular Framework

This condition addresses the institution's regional accreditation and the program's degree nomenclature, credit-hour and curricular requirements, and the process used to evaluate student preparatory work.

4.1 Institutional Accreditation

The APR must include a copy of the most recent letter from the regional accrediting commission/agency regarding the institution's term of accreditation.

Program Response:

Lawrence Technological University is accredited by the Higher Learning Commission (HLC Institution ID # 1339) and is a member of the North Central Association of Colleges and Schools (NCA). The institution's original accreditation date is 1967.

The HLC's last recorded comprehensive visit to Lawrence Technological University was in December 2020. After that visit, the Institutional Actions Council of the Higher Learning Commission continued the accreditation of Lawrence Technological University with the next Reaffirmation of Accreditation in 2030-31. In conjunction with this action, IAC required an interim report, due 5/28/2021, stating the university's credit hour policy, and explaining how the requirements of the policy are being conveyed to all instructional staff, as well as the processes by which LTU will monitor adherence to the requirements of the Federal credit hour in all courses delivered via all modalities. The HLC's 2020 Action Letter, and the 2021 Interim Report Acceptance Letter are available for public view at <https://www.ltu.edu/academicsandmajors/accreditation.asp>.

The next scheduled visit by HLC shall be for the 2030-2031 academic year, with an Open Pathway Assurance Review expected in 2024-2025.

An action letter issued by the HLC to then-University President Virinder Moudgil is attached in the Appendix. Confirmation of the Commission's December 2020 re-accreditation visit and LTU's accreditation standing can be found at the Higher Learning Commission's website at: <https://www.hlcommission.org/component/directory/?Itemid=&Action=ShowBasic&instid=1339>

4.2 Professional Degrees and Curriculum

The NAAB accredits professional degree programs with the following titles: the Bachelor of Architecture (B. Arch.), the Master of Architecture (M. Arch.), and the Doctor of Architecture (D. Arch.). The curricular requirements for awarding these degrees must include professional studies, general studies, and optional studies.

4.2.1 Professional Studies. Courses with architectural content required of all students in the NAAB-accredited program are the core of a professional degree program that leads to licensure. Knowledge from these courses is used to satisfy Condition 3—Program and Student Criteria. The degree program has the flexibility to add additional professional studies courses to address its mission or institutional context. In its documentation, the program must clearly indicate which professional courses are required for all students.

Programs must include a link to the documentation that contains professional courses that are required for all students.

Program Response:



The Master of Architecture (MArch) program features a rigorous curriculum of professional studies and general education intended to develop the creative, practical, and professional acumen of our students. These courses are categorized in the following groups as listed in Section 4.2.5.

History / Theory / Social

Understanding the historical and theoretical foundations of architecture is essential to the education of an architect as an intellectual being. The four-course history and theory sequence is designed as an exploration of the social, political, economic, intellectual, formal, and technological factors that have driven design movements in western and non-western cultures. Graduate-level courses in Design Theory and Ecological Issues frame architecture and urban design as intellectual inquiry, social responsiveness, and harmonious relations with the natural world.

Technical

The MArch program has long offered a rigorous technical education to its graduates. The architect's ability to understand the technical aspects of buildings and apply technology as a driver of design and performance is crucial in the twenty-first century. Technical coursework in the program occurs in three sequences: construction systems and materials; structural theory and systems; and environmental systems. All three are thought of as components of human comfort, security, and perception.

Professional

The CoAD seeks to educate future professionals who might “thoughtfully expand current practices of architecture and design.” To this end, the program offers a course sequence that teaches students to practice ethics and professional communication, explores the designer's social responsibilities, and promotes an entrepreneurial attitude. These courses challenge students to understand current models of practice and professionalism, and to speculate on how public needs may shift the manner in which architecture as a profession is engaged.

Design

The design studio is where all the facets of the practice of architecture come together. The freshman design sequence introduces the principles and methodologies of design in a multidisciplinary framework and prepares design students in the college to pursue their work with the understanding of a common foundation. The issue-specific content of the architectural studios is fully delineated in PC.2, section 2. Required courses for each track of the Master of Architecture program are listed on the CoAD website at https://www.ltu.edu/architecture_and_design/architecture/architecture.asp.

4.2.2 General Studies. An important component of architecture education, general studies provide basic knowledge and methodologies of the humanities, fine arts, mathematics, natural sciences, and social sciences. Programs must document how students earning an accredited degree achieve a broad, interdisciplinary understanding of human knowledge.

In most cases, the general studies requirement can be satisfied by the general education program of an institution's baccalaureate degree. Graduate programs must describe and document the criteria and process used to evaluate applicants' prior academic experience relative to this requirement. Programs accepting transfers from other institutions must



document the criteria and process used to ensure that the general education requirement was covered at another institution.

Programs must state the minimum number of credits for general education required by their institution and the minimum number of credits for general education required by their institutional regional accreditor.

Program Response:

The Core Curriculum (general studies) is the set of classes taken by all LTU undergraduates. The College of Arts and Sciences (CoAS) is responsible for its delivery. The core consists of 36 credit-hours of coursework in literature, history, philosophy, mathematics, science, and the arts. For CoAD graduate students, we require a three-credit graduate-level elective outside the CoAD.

The Higher Learning Commission does not specify a minimum number of general education credits, but stipulates that an institution must offer a program “appropriate to its mission.” (HLC Criterion 3A, found online at <https://www.hlcommission.org/Policies/criteria-and-core-components.html>). General education coursework in the MArch program is listed in Section 4.2.5. Required courses in the Lawrence Tech Core Curriculum are described at https://www.ltu.edu/arts_sciences/ltu_core/core-curriculum.asp.

4.2.3 Optional Studies. All professional degree programs must provide sufficient flexibility in the curriculum to allow students to develop additional expertise, either by taking additional courses offered in other academic units or departments, or by taking courses offered within the department offering the accredited program but outside the required professional studies curriculum. These courses may be configured in a variety of curricular structures, including elective offerings, concentrations, certificate programs, and minors.

The program must describe what options they provide to students to pursue optional studies both within and outside of the Department of Architecture.

Program Response:

The CoAD believes that in order for our graduates to “enter thoughtfully into current modes of practice and, when appropriate, expand the conversations,” it is essential to afford them the opportunity to tailor their studies to meet individual interests. Flexibility in the MArch program comes in the form of elective courses on topics ranging from digital practice to urban design and work in the public realm. Students in lower division studies are encouraged to take elective courses from any design program in the CoAD.

At the graduate level, the Advanced Design Studio allows students to choose from a number of topical options, which vary over time, framed around inquiry and practice. Alternatively, graduate students may choose to prepare a thesis, which gives them the freedom to pursue two semesters of design-based research on a topic of individual interest.

Students may elect to pursue one of several dual-degree that have been developed in partnership with units in and outside the CoAD (https://www.ltu.edu/architecture_and_design/dual-degrees.asp). These programs allow students to pair the MArch degree with the following degrees:

Bachelor of Science in Interior Design



Bachelor of Science in Media Communication
Bachelor of Science in Civil Engineering
Bachelor of Science in Construction Management
Master of Business Administration

MArch students may also designate minors in Graphic Design and Game Design, which allows students to broaden their design skills. Information on minors is found at https://www.ltu.edu/architecture_and_design/minors.asp.

The CoAD offers several focused undergraduate and graduate certificate programs, which are open to students enrolled as part of a degree granting program and to guest students. Students may use a percentage of courses required for their major to fulfill certificate coursework. Currently, the CoAD offers an undergraduate and graduate certificate in Building Information Modeling (BIM), a graduate certificate in Geographic Information Systems (GIS), a graduate certificate in Public Interest Design, and an undergraduate certificate in Design Thinking. Certificate program details are found at: https://www.ltu.edu/architecture_and_design/certificates.asp.

NAAB-accredited professional degree programs have the exclusive right to use the B. Arch., M. Arch., and/or D. Arch. titles, which are recognized by the public as accredited degrees and therefore may not be used by non-accredited programs.

Programs must list all degree programs, if any, offered in the same administrative unit as the accredited architecture degree program, especially pre-professional degrees in architecture and post-professional degrees.

Program Response:

The Department of Architecture at Lawrence Technological University offers the Master of Architecture (MArch) as its sole accredited professional degree. The MArch degree is designed “to provide a broad foundation for the development of design skills and insights, social responsibility, environmental awareness, problem-solving abilities, and professional aptitude. Although primarily directed toward the practice of architecture, the program constitutes an excellent, broad-minded education and preparation for work in a range of essential fields in and beyond design, including teaching, research, product representation and development, and public service.” There are four course tracks leading to the degree, as described below. All four tracks include pre-professional lower division and upper division (formerly “graduate”) credit hours. All paths require a minimum of 30 upper division credit hours as mandated by NAAB, and are regularly assessed and evaluated to ensure that all M. Arch students – regardless of track – are demonstrating the requisite learning outcomes and meeting all necessary accreditation criteria to permit them to successfully enter the profession of architecture.

The number of credit hours for each degree is outlined below. All accredited programs must conform to minimum credit-hour requirements established by the institution’s regional accreditor. Programs must provide accredited degree titles, including separate tracks.

4.2.4 Bachelor of Architecture. The B. Arch. degree consists of a minimum of 150 semester credit hours, or the quarter-hour equivalent, in academic coursework in general studies, professional studies, and optional studies, all of which are delivered or accounted for (either



by transfer or articulation) by the institution that will grant the degree. Programs must document the required professional studies courses (course numbers, titles, and credits), the elective professional studies courses (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.

Program Response:

Not applicable.

4.2.5 Master of Architecture. The M. Arch. degree consists of a minimum of 169 semester credit hours, or the quarter-hour equivalent, of combined undergraduate coursework and a minimum of 30 semester credits of graduate coursework. Programs must document the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for both the undergraduate and graduate degrees.

Program Response:

MArch Track I

Track I of the MArch program is intended for first-time college students, and undergraduate-level transfer students. All students enrolled as undergraduates are considered to be MArch Track I students. It is a direct-entry path that combines lower division (1000--4000 level) and upper division (5000--6000 level) coursework for a total of 169 credits. This format recognizes that most students intend to become licensed architects and will need to earn the accredited, professional MArch degree.

Students who have completed all required lower-division coursework and related university requirements and maintained a 3.0 grade point average may be admitted to the upper division of Track I. If a student does not meet this benchmark, or chooses not to enter the upper division, that student may elect to complete their studies with the Bachelor of Science in Architecture (B Arch).

Our MArch Track I curriculum as listed on the program website:

https://www.ltu.edu/architecture_and_design/architecture/architecture.asp#directentry

Year 1

Required Professional

DES 1002	Introduction to Design	2 credits
ARC 1213	Introduction to Visual Communications	3 credits
ARC 1223	Visual Communications	3 credits
DES 1213	Design Principles	3 credits
DES 1223	Design Methodologies	3 credits
TOTAL		14 credits

General Studies

COM 1113	College Composition	3 credits
MCS xxx4	Mathematics 1	4 credits



MCS xxx4	Mathematics 2	4 credits
LLT 1213	World Masterpieces 1	3 credits
SSC 2413	Foundations of the American Experience	3 credits
<i>TOTAL</i>		<i>17 credits</i>

Elective Professional

None

Optional Studies

None

Year 2

Required Professional

ARC 2813	Information Modeling & Simulation	3 credits
ARC 3823	Prototyping & Fabrication	3 credits
ARC 3613	History of the Designed Environment I	3 credits
ARC 3623	History of the Designed Environment II	3 credits
ARC 2116	Integrated Design 1	6 credits
ARC 2126	Integrated Design 2	6 credits
<i>TOTAL</i>		<i>24 credits</i>

General Studies

PHY 2213	College Physics 1	3 credits
PHY 2221	College Physics 1 lab	1 credit
LLT 1223	World Masterpieces 2	3 credits
PSC 1143	Environmental Science & Sustainability	3 credits
<i>TOTAL</i>		<i>10 credits</i>

Elective Professional

None

Optional Studies

None

Year 3

Required Professional

ARC 2213	Construction Systems 1	3 credits
ARC 2333	Construction Systems 2	3 credits
ARC 3116	Integrated Design 3	6 credits
ARC 3126	Integrated Design 4	6 credits
ARC 2513	Basic Structures	3 credits
ARC 3513	Intermediate Structures	3 credits
ARC 4183	20th Century Architecture & Theory	3 credits
<i>TOTAL</i>		<i>27 credits</i>

General Studies



SSC 2423	Development of the American Experience	3 credits
COM 2103	Technical and Professional Communication	3 credits
<i>TOTAL</i>		<i>6 credits</i>

Elective Professional
None

<i>Optional Studies</i>		
LLT/SSC/PSY 3/4xx3	Junior/Senior Elective	3 credits
<i>TOTAL</i>		<i>3 credits</i>

Year 4

DES 4112	Design Leadership	2 credits
ARC 4116	Integrated Design 5	6 credits
ARC 4126	Comprehensive Design	6 credits
ARC 4543	Advanced Structures	3 credits
ARC 3423	HVAC and Water Systems	3 credits
ARC 4443	Acoustics, Electrical & Illumination Systems	3 credits
<i>TOTAL</i>		<i>23 credits</i>

General Studies
None

<i>Elective Professional/Optional Studies</i>		
CoAD 1/2/3/4xx3	CoAD 3-Credit Elective	3 credits
CoAD 1/2/3/4xx3	CoAD 3-Credit Elective	3 credits
CoAD 1/2/3/4xx3	CoAD 3-Credit Elective	3 credits
<i>TOTAL</i>		<i>9 credits</i>

TOTAL DEGREE CREDITS: TRACK I **133 credits**

Graduate

<i>Required Professional</i>		
ARC 5013	Research Methods	3 credits
ARC 5423	Ecological Issues	3 credits
ARC 5643	Design Theory	3 credits
ARC 5913	Professional Practice	3 credits
ARC 5804	Critical Practice Studio	4 credits
ARC 5814 or 6514	Advanced Design Studio 1 or Thesis 1	4 credits
ARC 5824 or 6524	Advanced Design Studio 2 or Thesis 2	4 credits
<i>TOTAL</i>		<i>24 credits</i>

General Studies
None

Elective Professional



CoAD 5xx2/3 or 6xx2/3	CoAD Graduate Electives	9 credits
<i>TOTAL</i>		<i>9 credits</i>

Optional Studies

None		
5/6xx3	Non-CoAD Elective	3 credits
<i>TOTAL</i>		<i>3 credits</i>

TOTAL DEGREE CREDITS: GRADUATE TRACK I 36 credits

MArch Track II

Track II of the MArch program is intended for students who have earned at least a pre-professional degree, typically the Bachelor of Science in Architecture, at another institution, or who have earned the professional Bachelor of Architecture degree at another institution. Students coming to LTU from other schools are required to complete a minimum of 47 credits while applicants who hold the Bachelor of Science in Architecture degree from Lawrence Tech can complete the program in as few as 36 credit hours.

This track includes upper-division courses from Track I, as well as select graduate-numbered equivalents of specific courses found in the lower division of Track I. The need for these courses is identified through audits of application transcripts with reference to NAAB PCs and SCs that may be missing from the pre-professional degrees of Track II applicants. Students may complete all but four of the MArch Track II credits online: the Critical Practice Studio, a 4-credit summer course, requires students to work on campus for one week.

Our MArch Track II curriculum as listed on the program website:

https://www.ltu.edu/architecture_and_design/architecture/architecture.asp#thirtysix

Track II

Required Professional

Design Studies

ARC 5034	Architectural Foundation Studio 3*	4 credits
ARC 5126	Comprehensive Design Studio*	6 credits
ARC 5804	Critical Practice Studio	4 credits
ARC 5814 or 6514	Advanced Design Studio 1 or Thesis 1	4 credits
ARC 5824 or 6524	Advanced Design Studio 2 or Thesis 2	4 credits

Note: If ARC 6514 Thesis 1 is taken, student must take ARC 6524 Thesis 2

If ARC 5814 ADS1 is taken, student may take ARC 5824 ADS2 or a 3-credit elective

Technical Courses

ARC 5543	Advanced Structures*	3 credits
----------	----------------------	-----------

History/Theory/Social Courses

ARC 5643	Design Theory	3 credits
ARC 5423	Ecological Issues	3 credits
ARC 5063	20th Century Architecture & Theory*	3 credits



Professional Courses

ARC 5112	Design Leadership*	2 credits
ARC 5013	Research Methods	3 credits
ARC 5913	Professional Practice	3 credits
<i>TOTAL</i>		<i>38 credits</i>

General Studies

None

Elective Professional

5/6xx3	CoAD Graduate Elective	3 credits
<i>TOTAL</i>		<i>3 credits</i>

Optional Studies

5/6xx3	Non-CoAD Graduate Elective	3 credits
<i>TOTAL</i>		<i>3 credits</i>

* Not required for students who have completed the BS Architecture at LTU

TOTAL DEGREE CREDITS: TRACK II

47-48 credits

MArch Track III

Track III of the MArch program is intended for students who hold an undergraduate degree in a field other than architecture or environmental design. This option specifically welcomes students who come to LTU with accomplishments in other fields with the expectation that such students will bring their interests and skills into the practice of architecture. Students may complete almost all 89 required credits for the MArch Track III program online: the Critical Practice Studio, a 4-credit summer course, requires students to work on campus for one week.

Based upon an expectation of student maturity and previous degree-earning experience, some courses common to Tracks III and IV are consolidated versions of courses found in Track I. These courses are:

ARC 5813 – Visual Communication (combines material covered in ARC 1213 – Intro to Visual Communication, and ARC 1223 – Visual Communication)

ARC 5823 – Simulation and Prototyping (combines material covered in ARC 2813 – Information Modeling and Simulation, and ARC 3823 – Prototyping and Fabrication)

ARC 5014 – Architectural Foundation Studio 1 (combines material covered in DES 1213 – Design Principles, ARC 1223 – Design Methodologies, and ARC 2126 – Integrated Design 2)

ARC 5024 – Architectural Foundation Studio 2 (combines material covered in ARC 2116 – Integrated Design 1, and ARC 3126 – Integrated Design 4)

ARC 5034 – Architectural Foundation Studio 3 (combined material covered in ARC 3116 – Integrated Design 3, and ARC 4116 – Integrated Design 5)

Our MArch Track III curriculum as listed on the program website:



Track III

Required Professional

Design Studies

ARC 5014	Architectural Foundation Studio 1	4 credits
ARC 5024	Architectural Foundation Studio 2	4 credits
ARC 5034	Architectural Foundation Studio 3	4 credits
ARC 5044	Architectural Foundation Studio 4	4 credits
ARC 5126	Comprehensive Design Studio	6 credits
ARC 5804	Critical Practice Studio	4 credits
ARC 5814 or 6514	Advanced Design Studio 1 or Thesis 1	4 credits

Note: If ARC 6514 Thesis 1 is taken, the student must take ARC 6524 Thesis 2

If ARC 5814 ADS1 is taken, the student may take ARC 5824 ADS2 or a 3-credit elective

TOTAL *30 credits*

Technical Courses

ARC 5513	Basic Structures^	3 credits
ARC 5523	Intermediate Structures^	3 credits
ARC 5543	Advanced Structures^	3 credits
ARC 5313	Construction Systems 1	3 credits
ARC 5323	Construction Systems 2	3 credits
ARC 5543	Acoustics, Electrical & Illumination Systems^	3 credits
ARC 5413	HVAC and Water Systems^	3 credits
TOTAL		<i>21 credits</i>

History/Theory/Social Courses

ARC 5613	History of the Design Environment I	3 credits
ARC 5623	History of the Design Environment II	3 credits
ARC 5063	20th Century Architecture & Theory	3 credits
ARC 5643	Design Theory	3 credits
ARC 5423	Ecological Issues	3 credits
TOTAL		<i>15 credits</i>

Professional Courses

ARC 5813	Visual Communication	3 credits
ARC 5823	Simulation and Prototyping	3 credits
ARC 5013	Research Methods	3 credits
ARC 5913	Professional Practice	3 credits
ARC 5112	Design Leadership	2 credits
TOTAL		<i>14 credits</i>

General Studies

None

Elective Studies

5/6xx3	CoAD Elective	3 credits
--------	---------------	-----------



5/6xx3	CoAD Elective	3 credits
5/6xx3	CoAD Elective	3 credits
TOTAL		9 credits

Optional Studies

None

^ Course requires content of College Physics and Pre-Calculus

TOTAL DEGREE CREDITS: TRACK III 89 credits

MArch Track IV

The MArch Track IV program is intended for students who hold an undergraduate degree in one of the non-architectural environmental design fields (interior design, landscape architecture, etc.). Track IV has two options: a 79-graduate-credit curriculum intended for students whose undergraduate environmental design degrees are from schools other than LTU, and a 60-credit curriculum intended to serve students who have earned a Bachelor of Science in Interior Design degree from LTU. Students are able to complete almost all courses for the M. Arch Track IV online: the Critical Practice Studio, a 4-credit summer course, requires students to work on campus for one week.

Our MArch Track IV curriculum as listed on the program website:

https://www.ltu.edu/architecture_and_design/architecture/architecture.asp#four

Track IV

Required Professional

Design Studies

ARC 5014	Architectural Foundation Studio 1	4 credits
ARC 5024	Architectural Foundation Studio 2	4 credits
ARC 5034	Architectural Foundation Studio 3*	4 credits
ARC 5126	Comprehensive Design Studio	6 credits
ARC 5804	Critical Practice Studio*	4 credits
ARC 5814 or 6514	Advanced Design Studio 1 or Thesis 1*	4 credits

Note: If ARC 6514 Thesis 1 is taken, student must take ARC 6524 Thesis 2

If ARC 5814 ADS1 is taken, student may take ARC 5824 ADS2 or a 3-credit elective

TOTAL 26 credits

Technical Courses

ARC 5513	Basic Structures^	3 credits
ARC 5523	Intermediate Structures^	3 credits
ARC 5543	Advanced Structures^	3 credits
ARC 5313	Construction Systems 1	3 credits
ARC 5323	Construction Systems 2	3 credits
ARC 5543	Acoustics, Electrical & Illumination Systems^	3 credits
ARC 5413	HVAC and Water Systems^	3 credits
TOTAL		21 credits



History/Theory/Social Courses

ARC 5613	History of the Design Environment I*	3 credits
ARC 5623	History of the Design Environment II*	3 credits
ARC 5643	Design Theory*	3 credits
ARC 5423	Ecological Issues	3 credits
ARC 5063	20th Century Architecture & Theory	3 credits
<i>TOTAL</i>		<i>15 credits</i>

Professional Courses

ARC 5823	Simulation and Prototyping	3 credits
ARC 5013	Research Methods	3 credits
ARC 5913	Professional Practice	3 credits
ARC 5112	Design Leadership*	2 credits
<i>TOTAL</i>		<i>11 credits</i>

General Studies

None

Electives Studies

5/6xx3	CoAD Electives	3 credits
5/6xx3	CoAD Electives	3 credits
<i>TOTAL</i>		<i>6 credits</i>

Optional Studies

None

^ Course requires content of College Physics and Pre-Calculus

* Not required for students who have completed the BS Interior Design at LTU

TOTAL DEGREE CREDITS: TRACK IV

79 credits

4.2.6 Doctor of Architecture. The D. Arch. degree consists of a minimum of 210 credits, or the quarter-hour equivalent, of combined undergraduate and graduate coursework. The D. Arch. requires a minimum of 90 graduate-level semester credit hours, or the graduate-level 135 quarter-hour equivalent, in academic coursework in professional studies and optional studies. Programs must document, for both undergraduate and graduate degrees, the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.

Program Response:

Not Applicable.

4.3 Evaluation of Preparatory Education

The NAAB recognizes that students transferring to an undergraduate accredited program or entering a graduate accredited program come from different types of programs and have different needs, aptitudes, and knowledge bases. In this condition, a program must demonstrate that it utilizes a thorough and equitable process to evaluate incoming students and that it documents the



accreditation criteria it expects students to have met in their education experiences in non-accredited programs.

4.3.1 A program must document its process for evaluating a student's prior academic coursework related to satisfying NAAB accreditation criteria when it admits a student to the professional degree program.

See also Condition 6.5

Program Response:

Track I

Undergraduate-level transfer students are placed in Track I based upon equivalency of coursework and criteria coverage at previous institutions. A review of transfer credits is coordinated by the chair of the Department of Architecture, with the assistance of faculty curriculum coordinators. Students are only granted transfer credit if equivalent coverage of PCs and SCs is confirmed; in some cases, multiple courses from the original institution are required to demonstrate equivalency.

Track II

In the Track II admission process, we assess undergraduate transfer coursework through transcripts, grade point averages, design portfolios, essays, and letters of recommendation to assess the overall quality of the application and the students' likelihood for success in the program. Applications for admission are reviewed for previous successful completion of specific PCs and SCs. Areas of particular attention are those in which the criteria occur in lower-division coursework in the LTU Track I. Students who have not satisfied specific criteria are directed to supplementary coursework. For all applicants, assessments of these materials are recorded in a standard evaluation form. The form is included in the Appendix.

Tracks III and IV

Applications to Tracks III and IV follow a process similar to that of Track II applications. The evaluation form used to record this process is included in the Appendix. As these tracks are specifically crafted for students who have not earned an undergraduate degree in architecture and include all required PC and SC coursework, supplemental coursework is typically not required. Admitted students are informed that certain technical courses will require knowledge of physics and pre-calculus, and if they have not taken courses in these areas, they are advised to do so.

4.3.2 In the event a program relies on the preparatory education experience to ensure that admitted students have met certain accreditation criteria, the program must demonstrate it has established standards for ensuring these accreditation criteria are met and for determining whether any gaps exist.

Program Response:

Track I

Please refer to section 4.3.1, above. Transfer credit for students is reviewed by the admissions committee and faculty curriculum coordinators as required. Applicants are required to submit a portfolio of work to demonstrate competencies required in courses for which they seek transfer credit. The CoAD currently has eleven articulation agreements with institutions in the U.S. and Canada. These agreements are reviewed and updated regularly to



account for changes to courses at either institution, as well as changes to NAAB criteria. For transfer applicants who have completed only part of a program at another institution, the articulation agreements provide a guide for assigning transfer credit or LTU coursework where needed. Articulation agreements are posted on the LTU website at <https://www.ltu.edu/futurestudents/transfer/articulation.asp>.

Track II

We consult the NAAB Visiting Team Report for the previous institution (if NAAB accredited), as well as that program's Annual Program Report matrix, if available, to verify satisfaction of PCs and SCs. Given that criteria have changed between the 2014 and 2020 Conditions, we have developed a conversion process, which is shown in the review form included in the Appendix. If information is not available or inconclusive, we review course descriptions, design portfolios, and course syllabi. Reviews are tracked by undergraduate degree and create a standard for future applicants holding the same degree, to ensure consistency of placement.

Tracks III and IV

These tracks are designed for students who do not have an undergraduate degree in architecture, so there are few reviews of previous architectural work. Students with degrees in architectural engineering or architectural technology may be given credit for relevant coursework, if justified. In such cases, reviewers utilize course descriptions, an optional portfolio (if provided), and course syllabi to understand the scope of an applicant's exposure to NAAB criteria.

4.3.3 A program must demonstrate that it has clearly articulated the evaluation of baccalaureate-degree or associate-degree content in the admissions process, and that a candidate understands the evaluation process and its implications for the length of a professional degree program before accepting an offer of admission.

Program Response:

Lawrence Technological University posts admission requirements on its website at this address: https://www.ltu.edu/futurestudents/transfer/admissions_requirements.asp and its transfer credit policy here: <https://www.ltu.edu/futurestudents/transfer/transferpolicy.asp>. Furthermore, the CoAD makes information regarding the transfer credit application process, portfolio requirements, and the Track I flowchart available here: https://www.ltu.edu/architecture_and_design/architecture/architecture.asp. Students accepted into Track I are assigned a faculty academic advisor who provides guidance on the student's placement, and the resulting length of their degree program.

Tracks II, III, and IV

Admissions materials and course flowcharts for Tracks II, III, and IV are posted on the CoAD website: https://www.ltu.edu/architecture_and_design/architecture/architecture.asp. Upon acceptance, all students are put in contact with the CoAD Administrator of Student Services to review placement, provisional or waived courses, and their path to the Master of Architecture degree. All accepted Track II students receive an Admission Plan (a copy is included in the Appendix).



5—Resources

5.1 Structure and Governance

The program must describe the administrative and governance processes that provide for organizational continuity, clarity, and fairness and allow for improvement and change.

5.1.1 Administrative Structure: Describe the administrative structure and identify key personnel in the program and school, college, and institution.

Program Response:

Lawrence Technological University is organized as a non-stock, non-profit, trusteeship corporation whose purpose is entirely educational. It is governed by a Board of Trustees consisting of fifteen-to-twenty-five persons who serve three-year renewable terms. The board is responsible for the overall policy of the institution and approval of the following: faculty promotion and tenure; the University's plan of organization; major expansion of facilities; the budget; establishment and discontinuance of all academic programs; and, upon the recommendation of the faculty, awarding of degrees, certificates, and diplomas.

The officers of the corporation are a Chairman of the Board; a President, who is also the Chief Executive Officer; a Secretary; a Treasurer; and a Provost; all of whom are appointed by the board. The board may appoint such standing and special committees as it deems advisable. Typically, the Board operates with four standing committees: academic affairs, executive, finance, and strategic planning, and an ad-hoc nominating committee. Currently there are eighteen trustees and the university president, Dr. Tarek Sobh, who serves ex officio with a vote.

The Board holds its regular meetings in October, January, and June. The college deans attend Board meetings. The committees meet once or twice between board meetings and the executive committee is empowered to act on behalf of the Board. The function of the Board is to oversee all operations of the University, including approval of the annual budget, management of the endowment, authorization of bonds, promissory notes or other university borrowing, establishment and discontinuance of academic programs, rules and regulations, granting tenure, adoption of personnel practices, awarding of degrees, certificates, and diplomas upon recommendation by the faculty, and all other policy matters concerning the general interests of the corporation.

The Board is assisted in its work by an advisory body. Members of this advisory body are appointed by the Board and do not hold terms. Current members are distinguished representatives of the community, outstanding alumni, retired and/or emeritus trustees and



industrial leaders. The members receive information on University activities and meet annually in June to consult with and advise the Board.

The President of the University is the Chief Executive Officer of the Corporation, appointed by and reporting to the board. The President is responsible for all activities and programs of the University including its fiscal, administrative and academic well-being. Reporting directly to the President are the Vice President for Marketing and Public Affairs, a Special Assistant for Philanthropy and Alumni Engagement, the Provost and Vice President for Academic Affairs, the Vice President for Finance and Administration, and the Vice President for Enrollment Management. The President is an ex-officio member of all University committees, councils, senates, groups, etc.

The Provost and Vice President of Academic Affairs is the Chief Academic Officer of the University, appointed by the Board of Trustees and reporting to the President. The Provost is responsible for all degree and non-degree academic programs, the delivery of academic and student services, and academic policy and planning. All academic personnel actions, the academic budget, and curriculum control and quality are responsibilities of the Office of the Provost.

The Vice President for Finance and Administration is the Chief Fiscal Officer of the University and Treasurer of the Corporation. He or she is appointed by the Board of Trustees and reports to the President. The Vice President is responsible for all financial and administrative activities and support services, and related policy and planning.

The Special Assistant to the President for Philanthropy and Alumni Engagement is responsible for organizing, directing and evaluating the University's institutional advancement activities, including the annual fund, capital campaign, major donor relations, deferred giving, corporate participation, and foundation support. The Vice President of Marketing and Public Affairs handles media relations, news and marketing, university publications, web services, and digital media. The Vice President of Enrollment Management oversees admissions, the Registrar's Office, financial aid, veterans' affairs, university advertising, and institutional research.

The academic deans are the chief academic officers of their respective colleges, and are responsible for establishing the strategic direction of their colleges and for the implementation of University policy, planning, development and quality of academic programs and scholarship, including research. They also promote professional development, recruitment, supervision and evaluation of the faculty, and representation of their college, profession, and the University in the community. Reporting to the deans may be associate and assistant deans, department chairpersons, division heads or other academic administrators, and faculty. Upon the recommendation of the Provost, the deans are appointed by the President, and approved by the Trustees.

The Dean of Students is responsible for promoting student activities including student government, housing and dining services, the counseling center, disability services, retention programs, student discipline, and career services. The Dean of Students is one of the designated officers of the University who reviews concerns of students, faculty and staff related to prohibited discrimination on the basis of race, sex, national origin, religion, or disability.

Assistant and associate deans support the work of college deans and perform duties consistent with the mission and goals of their college.



Faculty have the primary responsibility for delivery of academic programs, student academic mentoring, curriculum, course content and method of instruction, scholarship, and service.

5.1.2 Governance: Describe the role of faculty, staff, and students in both program and institutional governance structures and how these structures relate to the governance structures of the academic unit and the institution.

Program Response:

Faculty members are indirectly engaged in administrative governance of the College. They serve as directors or coordinators of specific programs and curriculum areas. In that capacity, they coordinate the classwork and participate in the hiring and performance reviews of adjunct faculty members. Through the CoAD Faculty Council, the faculty maintains governance over all curriculum issues within the College. The faculty is directly responsible for the curriculum within the College. New courses and new academic programs are developed by a sponsoring faculty member. The College's Faculty Council and University's Graduate Council (for upper division initiatives), and the full College faculty must approve any initiative before it is advanced to the University for final approval.

The CoAD Faculty Council consists of five faculty members elected by College faculty to two-year terms, and faculty may serve up to two consecutive terms. Individual terms are staggered so that the entire membership does not change in any one year. The *LTU Faculty Handbook*, adopted April 8, 2022, outlines the structure of Faculty Council in section 6.2.2:

“Organized to meet its own structural requirements, each college has a faculty council that advises the dean on academic and other matters. The councils are independent of administrative channels and may consider any issues they believe appropriate, but are particularly involved with faculty and curricular concerns within their colleges. Membership of the faculty councils consists of full-time college faculty. Advice of faculty councils is not binding on academic deans, but is considered significant to administrative decision-making.”

The CoAD Faculty Council maintains standing committees on curriculum, and lectures and exhibitions. In addition, the Faculty Council may convene special committees or task forces to advise the CoAD administration on specific matters of policy. In accordance with the CoAD Constitution, all faculty committees are appointed by and report directly to the Faculty Council.

Faculty coordinators are appointed by the Department Chair for required subject areas in the professional curriculum in order to deliver the curriculum across many class sections in a consistent manner. Each coordinator is a full-time faculty member who oversees an area in which he or she teaches, such as the design studio sequences, technical course sequences, and other program support areas. These faculty coordinate both full-time and adjunct faculty in their area of responsibility. Duties include convening regular meetings with their faculty, developing consistent syllabus guidelines, giving faculty performance reports to the department chair, reviewing assessment data, and assistance in identifying potential new faculty members in their area of responsibility.

Responsibility for review of College courses and curricula is shared. Curricula and course review are continuous with a specific area of focus addressed each year. The responsibility for curriculum planning and implementation is held by the faculty. The University administration reviews all aspects of curricula including enrollment trends, tuition, course fees, course evaluations, program interest, and faculty interest on an annual basis and, if necessary,



communicates directly with the dean of each College about curriculum concerns. The administration is careful to research program development thoroughly before allowing a new degree program to become implemented.

The chief academic and administrative officer of the CoAD is the Dean, Karl Daubmann. He is the primary liaison between the College and the University, communicating through the office of the Provost. There are also cooperative relationships with the President, Philanthropy and Alumni Engagement, Finance, Academic Affairs, Enrollment Management, Marketing and Public Affairs, and other units of the University. While these relationships are technically coordinated through the Dean's office, it is not unusual for other administrators, faculty, or staff to have direct contact with University departments or leaders.

Prof. Lilian Crum, serves as Associate Dean. She assists the Dean in administering the college and represents the dean, when necessary, at University or community events. The Associate Dean is also the primary liaison between the College and Admissions. The Chair of the Department of Architecture is Dr. Dale Allen Gyure. He provides administrative leadership for all architectural programs from freshman year through the upper-division coursework. Prof. Edward Orłowski is associate chair of the Department of Architecture, with responsibilities for accreditation and assists the chair with student affairs. Dr. Philip Plowright serves as the Chair of the Department of Design. A close cooperative partnership exists between the chairs of the departments of Architecture and Design for the shared delivery of curriculum, as well as the provision of extra-curricular activities.

Each College staff member provides significant leadership in one or more areas, such as administration, budget, upper division admissions, student services, recruitment, social media and outreach, academic initiatives, alumni development, labs management, printing and software support, fabrication and maintenance. The staff is managed by Kathryn Roy, working with the Dean. They meet regularly to coordinate responsibilities and cross-train staff for efficient delivery of services. Additionally, the staff is represented by the Staff Senate at the University level. Currently, two members of the CoAD staff serve on the Staff Senate Board.

Student participation and input by which courses and curricula are changed are recognized in several ways. The Dean and Chair meet with a group of students each semester to identify areas of success and areas for improvement. In addition to issues of curriculum, students have an opportunity to share their ideas, concerns, and suggestions about all aspects of College life. These meetings are used to update students on program changes, responses from past concerns, and any issues that need to be disseminated to the student body. The students have the opportunity to join professional student organizations within the College, as well as University-sponsored groups and organizations across campus. A CoAD student convocation is held at the beginning of each semester, for dissemination of information, and as a forum for student participation.

Additional avenues for student feedback include course evaluations and graduating student surveys. The University conducts graduating student surveys to gather information, such as employment statistics. The CoAD uses a separate survey of student opinions that addresses issues such as employment while attending school, student preferences for communication, student satisfaction with the curriculum in general and as regards specific courses. Mandatory course evaluations are conducted each semester and mid-semester for student input; the surveys are managed by LTU Institutional Research.



5.2 Planning and Assessment

The program must demonstrate that it has a planning process for continuous improvement that identifies:

5.2.1 The program's multi year strategic objectives, including the requirement to meet the NAAB Conditions, as part of the larger institutional strategic planning and assessment efforts.

Program Response:

The CoAD is engaged in a continual self-assessment process, as described below. The department chairs identify their department's goals and objectives with input from full-time and adjunct faculty, students, the associate dean, formal and informal program partners, and colleagues in other colleges, under the direction of the dean. The NAAB and university self-assessment procedures, Fine Grain faculty reviews, annual faculty self-assessments and reviews, student course evaluations, administrator's meetings, and department, studio coordinator, and CoAD faculty meetings are all connected to this process.

The architecture program is guided by its statement of purpose: we consider how our strategic initiatives mesh with our stated mission to be "Focused on Design, Immersed in Technology, and Grounded in Practice." We are currently in the process of creating a CoAD Strategic Plan pursuant to a request by the university's new president. College administrators met over the summer to discuss the project, and this fall semester's "Welcome Back Week" for CoAD faculty included an information and question/answer session specifically about the developing CoAD Strategic Plan. Faculty will be further engaged to help develop the plan before submission to the university in mid-September.

That plan will be coordinated with the university's 2021 Strategic Plan and "North Star Goals 2021-2027." The latter effort envisions the university nearly doubling in size in five years as it moves toward achieving R2 research status in the next ten years. To meet these ambitious challenges, the university will focus on three essential, linked areas: Education and Research, Scholarships and Giving, and Innovative Branding.

The CoAD Strategic Plan will align with the university's efforts by emphasizing the following objectives:

1. Increasing student and faculty diversity and inclusion
2. Increasing student enrollment in the right areas
3. Increasing faculty research and innovation
4. Improving relations and giving from alumni, community, and industry partners

5.2.2 Key performance indicators used by the unit and the institution

Program Response:

The CoAD and LTU utilize a broad range of indicators to evaluate performance. At a foundational level, student enrollment, retention, and graduation are significant indicators of the program's health and its attractiveness to prospective students. We work with the Admissions Office to recruit new students and with the Office of Career Services to make graduation and placement as successful as possible. We have a contract with Educational Dynamics to help recruit graduate students. Retention rates are tracked by LTU Institutional Research (IR) and the information provided influences decisions on class offerings and curriculum changes. IR provides information



on cohort comparisons, which are crucial to understanding the impact curriculum has on student performance. IR manages the student course evaluations every semester and sends the results for each course to faculty members and administrators. During the academic year the chair and dean conduct informal listening sessions with students on various topics of student life, including studio culture and diversity. We also review the annual Graduate Student Survey for potential areas for improvement.

Another indicator of program performance concerns scholarly and creative activity, including the quality of scholarly and creative activity generated by faculty members and students, and the presence of external funding from grants and collaborators. Recent publications include books (e.g., Dr. Anirban Adhya, *Urban Design Made by Humans: A Handbook of Design Ideas*), chapters (e.g., Dr. Joongsub Kim, "Covid-19 and the World of Ad Hoc Geometries;" Dr. Sara Codarin, "Robotic Workflows in Design;" Prof. Edward Orłowski, "The Empathetic Designer: Emotional Intelligence in the Design Studio"), and articles in publications such as the *Journal of Public Health*, *Scroope*, the *International Journal of Community Well-Being*, and *Health Environments Research & Development Journal*. Further, members of our faculty have developed international reputations in their field (Dr. Joongsub Kim - urban design; Dr. Dale Allen Gyure - architectural history). More information on faculty publications and achievements can be found in the faculty resumes in the Appendix.

We are pleased to report that program graduates perform above the norm on their Architect Registration Exams. In 2020 and 2021, LTU students surpassed the national average in four and five of the six tested categories, respectively.

<https://www.ncarb.org/pass-the-are/pass-rates/are5-pass-rates-school>

The final gauge of our performance deals with the diversity of students, faculty, and staff. As described in Section 5.5, the CoAD is actively engaged in recruiting students of diverse backgrounds to our programs, and seeks to diversify our faculty and staff. To date our efforts have had varying degrees of success; we know we have much room to improve and plan to increase our diversity in the next round of faculty searches.

5.2.3 How well the program is progressing toward its mission and stated multiyear objectives.

Program Response:

The program measures its progress toward achieving its mission and multiyear objectives through our self-assessment process. We have developed a curriculum focused on design, immersed in technology from the first semester, and grounded in practice even at the online level. We assess that curriculum in every class, every semester, and we assess it as a whole when we perform the Fine Grain Reviews. The curriculum is administered through full-time faculty acting as coordinators, whose responsibility might range from one class (ID1 coordinator) to three or more classes (Structures coordinator). The coordinators create the syllabi for their class(es), participate in hiring adjunct instructors and teaching assistants, and conduct regular coordination meetings with the instructors and professors in their area of concern. Linkages between studios, the content of individual studios, and the flow of the design curriculum are consistent topics of discussion in our bi-monthly studio coordinator meetings.

In 2019 CoAD moved the administrative suite to the entry of the school (and a point of entry to the university). The offices are open and the administrators sit together at one long table. There are no silos within the college and the administration and staff are in close and constant dialog



related to both strategic and tactical concerns. When issues arise the issues typically get addressed almost immediately. The college leadership for administration and staff meet every other week to share any strategic and collaborative items beyond those that are discussed informally. The result is a team that is working well together with shared goals and a collaborative team that knows how to get there. The team is well practiced at using data and anecdotal evidence to identify and address issues and using this same process to identify and plan our multi-year goals.

5.2.4 Strengths, challenges, and opportunities faced by the program as it strives to continuously improve learning outcomes and opportunities.

Program Response:

Strengths

The architecture program exhibits a number of “strengths.” One of the most important is our flexibility, which refers to our ability to adapt to new technologies and unforeseen circumstances, and our willingness to experiment with alternative models. The graduate architecture program, which has been entirely online since 2014, leads the way in this regard. Our experiences in delivering both studio and lecture content online in the graduate program enabled the rest of the college to transition with relative ease to a fully online delivery for the undergraduate program during the COVID-19 lockdowns of 2020-2021. As a result, the experiences gained from teaching during the pandemic have been incorporated into regular pedagogy. These transitions have been aided by the university’s Computer Laptop Program, which makes a laptop computer preloaded with all required software available to all undergraduates and some graduate students. The success of our brief transition to online undergraduate education during the pandemic may be reflected in a 43% increase in program enrollment during the last two academic years.

During the past few years we have begun to experiment with alternatives to the traditional modes and practices of higher education. We have extended our graduate offerings to Friday evenings to open some space in a very tight weeknight schedule. We are running two, 2-credit courses simultaneously in the graduate program this fall: the courses meet synchronously with students but on alternative weeks while providing pre-recorded lectures or asynchronous content on the off week. We ran a 3-credit spring break study abroad course in 2022, consisting of a six-day trip to Rome and introductory and post-trip meetings. Both scenarios demonstrate a regard for how students learn: some content can be delivered in bursts, while other content happens slowly over multiple weeks. And we offered a 3-credit summer elective (“Digital Bodies, Digital Twins”) for all undergraduate and graduate students with no prerequisites based on the belief that some new technology needs no prior knowledge and that anyone and everyone should have access.

Our regional reputation is a strength, evidenced by our large and extensive alumni network in Michigan and surrounding states. We maintain contact with our alumni, industry, and community partners through email and social media postings; invitations to lectures and student studio reviews; participation in Alumni Council meetings; and through the activities of the college’s Director of External Academic Initiatives, Christopher Stefani; and the CoAD Director of Development, Avram Kluger.

Finally, we consider the sequencing of our architecture program to be a strength. Since 2019, all new freshmen entering our undergraduate architecture program have the



opportunity to begin our graduate program in their senior year. Undergraduate students who keep their grade point averages at 3.0 or higher may take graduate courses once they have reached senior status and are automatically admitted to the graduate program. This allows some students to decrease the length of their studies. However, after completing the required 132 credits of lower division coursework, students are free to complete their studies with the Bachelor of Science degree and move to other institutions for graduate school if they are so inclined.

Challenges

The primary challenges facing the architecture program fall into three categories: expanding and refining the online graduate program, student and faculty diversity, and program staffing.

We are proud of the progress made by our online MArch program in the past several years. Enrollment in Track III (for those with a bachelor's degree outside of architecture) continues to climb, there is interest in our new Track IV, and the quality of our student's work is improving. Most of our students in these programs work full time, requiring us to run classes in the evenings—which creates its own challenges as we have students in different time zones. As the program grows and we offer more class sections in an attempt to maintain appropriate student-faculty ratios, semester scheduling becomes difficult. Given our working students' schedules, very few follow the flowchart perfectly, making scheduling even more complex. We continue to seek innovative alternatives, like offering two required classes simultaneously and coordinating the synchronous and asynchronous workload on different weeks. Our experiences with creative uses of technology give us confidence that we will find effective and imaginative solutions.

Perhaps more difficult is the challenge of achieving equivalence between the four MArch tracks in the program. We are continuing to refine the Architecture Foundation Studios (the graduate design courses) based on feedback during a Fine Grain faculty discussion, to align graduate studios with the very effective Track I sequence; our recent addition of AFS 4 to Track III will help to bring about a better correspondence between them. Also, we focused on strengthening the relationship between graduate Visual Communications and AFS 1, since this vital sequence must achieve in two simultaneous courses what Track I achieves in a three-course sequence..

As the graduate program is online and as students live at a distance from each other, it is often difficult to develop a strong studio culture, to configure project teams and sections, and to participate in community engagement to the same extent that we can with the undergraduate, on-campus sections. Adding to these challenges are the varied backgrounds and capabilities of our Track III students. Since our last NAAB visit, in 2014, we have made significant progress in the quality and sophistication of the work of our undergraduate design studios. As the online graduate program continues to grow, we seek more opportunities to develop the culture and level of achievement in our graduate studios.

Our second major challenge has to do with diversity. Despite our location in the metropolitan Detroit area, and our ongoing efforts to increase the diversity of our student body, our program is not as diverse as we would like it to be. The CoAD faculty remains largely White and male. Only 8% of the tenured or tenure-track faculty in the Department of Architecture is female (16% for the entire college), and non-white ethnicities make up 8% of tenured/tenure-track faculty (11% for the college). Student and faculty diversity are discussed in greater detail in Section 5.5.2.



Third, the architecture program needs more tenure-track faculty. In the last three years, the program has lost two tenured faculty members: one left for an administrative role in another institution and the other became the chair of our Department of Design. We have recently lost two tenure-track faculty members and a full-time instructor, creating a full-time faculty shortfall, which we are currently filling with adjuncts. Due to the shortage, the program and college have found it difficult to populate their committees. Although we hired four new tenure-track faculty over the last two academic years, one of them chose not to accept the position and one resigned after two years, leaving us with a net gain of only two new full-time, tenure-track faculty. This year we will run a search that we hope will result in two-to-four new faculty members. The recent and next round of hires are viewed as the future of the department, especially given that five of the thirteen full-time faculty are above the age of sixty. It is also clear that hiring individual junior faculty does not build the culture or peer mentorship required to robustly onboard new faculty.

Opportunities

The architecture program sees three important opportunities to improve the program in the coming years. First, some administrative changes will lead to better coordination with the university to attract and retain diverse students and faculty candidates. LTU recently created an Office of Diversity, Equity, and Inclusion and we have been working with that office to help enrolled students and to craft new recruiting strategies for future students. As noted in Section 5.5, Prof. Lilian Crum has become associate dean of the CoAD; she has been an essential part of developing the DEI office and recruiting its staff. Prof. Crum will prioritize diversity recruiting for the college.

Second, with the return to on-campus instruction last year, after the pandemic lockdowns of 2020-21, the program has an opportunity to translate lessons learned from the temporary move to online undergraduate instruction into on-campus teaching. Some of the experiences gained from hybrid supplementation, asynchronous assignments, group work, model making, etc., can be integrated into our on-campus classes this year. As part of our faculty welcome back this semester we ran a pedagogy session on creative and engaging uses of Canvas led by our best faculty in this area. We have already started to run hybrid online and on-campus design review sessions and public presentations. We also have a chance to reinvigorate studio culture through planned activities and cross-studio contact.

A final important opportunity arises from the college's new relationship with the university's Office of Philanthropy and Alumni Engagement (PAE). The PAE has been restructured recently, and each college has been assigned a dedicated individual to direct fundraising and alumni development. Avram Kluger is the CoAD Director of Development and works in the Dean's Office with the CoAD administration. The college is already witnessing an increase in alumni engagement and alumni giving as a result of the university improvements and increased interaction with the academic units.

5.2.5 Ongoing outside input from others, including practitioners.

Program Response:

The architecture program has several methods for soliciting input from outside individuals, including practitioners, alumni, academics, and industry professionals.



The Department of Architecture has an Advisory Board consisting of five prominent members of the Metro Detroit architectural community: Keith Kohler, AIA: Founder, Creative Design Principal, and Partner of Kohler Architecture (BS Arch '95); Constantine George (Guss) Pappas, AIA: Founding Principal, Constantine George Pappas AIA Architecture/Planning (BS Arch '77, BArch '78) and CoAD Distinguished Alumni Award Winner (2006); Megan Martin-Campbell, AIA: Project Leader, inFORM Studio (BS Arch '07, BIA '08, MArch '14); Tiffany Brown, Associate AIA: Executive Director of NOMA (BS Arch '05, MArch '07, MBA '15); and Mark Farlow, AIA: Director of Design, Hamilton Anderson Associates in Detroit (BS Arch '82, MArch '09).

Recently the Advisory Board moved to an alternative model, distinguished by informality and more frequent contact. Although the Board does not meet on a regular basis, the members listed above have been active participants in studio reviews, career fairs, alumni events, informal dinners, awards committees, and two of them (Pappas and Farlow) are members of the Distinguished Architecture Alumni (DAA) group – a committee consisting of twenty-two winners of the Distinguished Alumni Award. The DAA meets regularly, frequently with the CoAD dean, serving as a kind of *de facto* Advisory Board. Further, the architecture program is in the unique position of having *three* architecture alumni currently serving on the LTU Board of Trustees (Beverly Hannah-Jones, MArch '00, BSArch '88, BArch '85; Victor A. Saroki, BSArch '79, BArch '80; and Daniel W. Winey BSArch '74, BArch '75, MArch '15). We therefore feel confident that the interests of the program and college are well-represented at university's highest levels.

We receive feedback from the numerous local, regional, and national practitioners who participate in student reviews. Faculty are encouraged to invite guest critics to student reviews (particularly via Zoom during the recent COVID-19 lockdowns) and the program includes funding for visiting reviewers in its budget. Many connections with practitioners are made through professional organizations such as the Michigan AIA (which recently presented Dean Daubmann with the President's Award); the American Collegiate Schools of Architecture (ACSA); and the Architectural Research Centers Consortium (ARCC), whose journal, *ENQ Enquiry* (an open access journal for architectural research) is edited by the Department of Design chair, Dr. Philip Plowright. Another means of input comes from our participation in the IPAL program in which we have participated since its inception in 2016. Finally, the program has a strong relationship with its alumni, and frequently uses them to provide informal feedback on student performance and course relevance. The Architecture and Design Chapter, a group of CoAD alumni, is a sub-group of LTU's Alumni Association that works closely with the architecture program.

The program must also demonstrate that it regularly uses the results of self-assessments to advise and encourage changes and adjustments that promote student and faculty success.

Program Response:

The Department of Architecture and the CoAD benefit from a self-assessment program that has been in place for two years, which improves assessment structures and processes that have been in place for many years at LTU. There are three main components to this improved program: student course evaluations, an internal assessment scheme for reporting results in each class each semester through Canvas, and the faculty Fine Grain review of student work. We outline these and other assessment activities in this section. (See the Assessment Process Chart in the Appendix).



Student Course Evaluations

LTU solicits student feedback through midterm and final course evaluations for every course in every semester. Each student is sent a standardized survey of twelve questions twice per semester through the Canvas LMS. The chair and dean utilize student course evaluations as part of the yearly faculty performance evaluation, and course or area coordinators can use these results to pinpoint areas of success or improvement.

CoAD Internal Assessment

The CoAD internal assessment process coordinates both NAAB and LTU requirements into a single assessment regime. The program has used Assessment Day to develop learning objectives, map the curriculum, and agree on appropriate benchmarks for the objectives. Each NAAB PC or SC was broken down into its component learning objectives, which were then incorporated into a rubric that can be completed in the Canvas learning management system by each course instructor. The compiled results enable us to view and evaluate our overall performance in all areas. Note that the results of our internal assessment are thoroughly detailed in each of the PC and SC sections of this APR.

As an example, PC.4 History and Theory asks schools to demonstrate “How the program ensures that students understand the histories and theories of architecture and urbanism, framed by diverse social, cultural, economic, and political forces, nationally and globally.” To evaluate PC.4, we separated the requirement into two criteria, based on the wording of the PC and its connection to the very useful 2014 NAAB Content Areas (A.7: History and Global Culture and A.8: Cultural Diversity and Social Equity). This resulted in “History and Global Culture” as one area of the History and Theory assessment, and “Theory” as another. The entire architecture faculty then participated in an Assessment Day exercise that assigned NAAB PCs and SCs to individual courses. At that time, we also coded each PC or SC according to whether it occurred at the level of “Introduce” (I), “Reinforce” (R), or “Emphasize” (E), to conform with the LTU internal Assessment requirements. The results of this exercise generated our NAAB Matrix.

To evaluate PC.4, the faculty then assigned the two criteria to five CoAD courses: Introduction to Design, History of the Designed Environment I, History of the Designed Environment II, 20th Century Architecture & Theory, and Design Theory. To evaluate student performance in each of these classes, we created a rubric of appropriate questions designed to gauge students’ performance in five “History and Culture” areas and three “Theory” areas. The “history and global culture” questions are, “geographic and temporal conditions,” “material and technological strategies,” “economic and political forces,” “ecological conditions and concerns,” and “social and cultural conditions.” The “Theory” questions measure the ability to 1) identify, 2) apply, and 3) critique appropriate theoretical knowledge.

The CoAD Learning Objectives have now been assessed for four semesters under the new NAAB 2020 conditions, with each of the courses covered at least once. Preliminary benchmarks have provided a basis for evaluation and improvement. Assessment results and suggested improvement are summarized in the individual PC and SC sections of this APR for each Learning Objective as it contributes to overall performance. (Refer to the Appendix for assessment documents.

Fine Grain Review



For the last ten years, at the end of the fall and spring semesters, the department chair has selected a small subset of that semester’s courses for assessment in consultation with the faculty. On the day of the review, faculty for each course explain the course content and NAAB criteria and provide examples of student work for comment and critique by all department faculty. The courses presented in the Fine Grain Review rotate every semester. For example, this table illustrates the courses evaluated in the past three years of Fine Grain Review:

Undergrad	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Undergrad
Vis Com							Vis Com
IMS							IMS
PF							PF
CS1-2							CS1-2
Structures							Structures
HVAC							HVAC
Acoustics							Acoustics
ID1							ID1
ID2							ID2
ID3							ID3
ID4							ID4
ID5							ID5
Comp Design							Comp Design
HDE 1-2							HDE 1-2
20th Century							20th Century
Graduate							Graduate
Vis Com							Vis Com
BIM							BIM
Crit Prax							Crit Prax
Res Methods							Res Methods
Design Theory							Design Theory
Eco Issues							Eco Issues
ADS 1-2							ADS 1-2
AFS 1-3							AFS 1-3
AFS 2-4							AFS 2-4
Prac Portfolio							Prac Portfolio
Pro Practice							Pro Practice
Thesis							Thesis
SimPro							SimPro

Fine Grain Faculty Course Reviews 2019 to 2022

LTU Assessment Day

The faculty of the university dedicate one day, each fall semester, to university-wide, college, and department assessment activities. The program uses Assessment Day to develop Learning Objectives and benchmarks and perform curricular mapping exercises. The effort is coordinated by the Office of the Provost and Academic Affairs Assessment Committee:

https://www.ltu.edu/provosts_office/committee_members.asp

Other Assessment Activities

In addition to the activities described above, the design studio coordinators meet with the department chair regularly during the academic year to discuss current studio performance and potential adjustments as determined in conversation and from our several assessment sources. Finally, the architecture program is required by the university to participate in the Academic Program Planning and Review (APPR) process, in which each academic program is reviewed on a rotating basis. The APPR is a collaborative process involving a department self-study, a review by the Provost's Office, and a planning discussion between the Provost's Office, Dean's Office, department chair, and program director. The Master of Architecture program's most recent APPR report was filed in 2019, with the next one due in fall 2023.

https://www.ltu.edu/provosts_office/appr.asp

5.3 Curricular Development

The program must demonstrate a well-reasoned process for assessing its curriculum and making adjustments based on the outcome of the assessment.

Programs must also identify the frequency for assessing all or part of its curriculum.



Program Response:

The architecture program and the CoAD have established a rigorous self-assessment program that has been in place for two years, as described in the previous section. This assessment scheme combines both NAAB and LTU assessment requirements, and is ongoing, with course evaluations, rubric and benchmark creation and adjustment, and Fine Grain Reviews occurring every semester.

As mentioned, for the NAAB assessment of student evaluations, the architecture faculty has assigned PCs and SCs to individual courses. Each PC or SC is broken down into learning objectives, which are then entered into a rubric to be completed by the faculty and collated into graphic summaries for our assessment.

We have also qualified each PC and SC according to three expected levels of student performance: “Introduce” (I), “Reinforce” (R), or “Emphasize” (E), to comply with LTU internal assessment requirements. The result of this exercise is translated into our NAAB Matrix.

We have assessed Learning Objectives paired with NAAB 2020 criteria for four semesters, covering the relevant courses at least once. Benchmarks provide a preliminary baseline for evaluation and improvement. Results and necessary actions are summarized for each Learning Objective in the PC and SC sections of this report. See also the various self-assessment materials in the Appendix.

5.3.1 The relationship between course assessment and curricular development, including NAAB program and student criteria.

Program Response:

The CoAD’s extensive assessment scheme leads directly to curricular development. As described in Section 5.2, our internal assessment program combines both NAAB and LTU assessments and focuses on the individual courses that make up the curriculum.

Student Course Evaluations

Student course and faculty evaluations occur every mid-semester and at the end of each semester. The surveys are managed by LTU Institutional Research, with survey results compiled and sent to faculty and the administration for review.

NAAB Learning Objective Rubrics

As explained in Section 5.2.5, we have developed rubrics for each Learning Objective in our courses, so that we can easily evaluate our performance according to pre-established goals. Each year during Assessment Day the full-time architecture faculty assess our benchmarks and Learning Objectives as a group and adjust where necessary.

Fine Grain Semester Reviews

The CoAD runs a “Fine Grain Review” of student work at the end of every semester, wherein the entire department faculty gathers to consider methods and outcomes from the curriculum. This review is explained in Section 5.2.5 above.



5.3.2 The roles and responsibilities of the personnel and committees involved in setting curricular agendas and initiatives, including the curriculum committee, program coordinators, and department chairs or directors.

Program Response:

The department chair has primary administrative responsibility for the academic programs in the architecture program. Responsibilities include faculty coordination, establishing teaching assignments, writing annual performance evaluations, and directing the overall execution of the architecture curriculum.

The chair is assisted in many of these duties by the area coordinators and the CoAD Faculty Council, consisting of five voting members of the CoAD faculty. The Faculty Council is concerned with issues relating to and directly affecting the content and quality of all academic programs in the College. Proposals for changes, additions, deletions, to the curriculum are reviewed by the Curriculum Committee and recommendations are made to the Faculty Council, which forwards its conclusions to the department chair; approval by the full-time faculty of the architecture program is necessary for most curriculum changes. Any full-time CoAD faculty member may propose a curriculum change.

In 2021, the architecture program instituted the most recent changes to the curriculum. These changes were intended to:

1. Clarify existing curricular tracks for Master of Architecture students of differing backgrounds.
2. Better serve the curricular needs of students in Track III, who enter the program with no background in design.
3. Define a new track for students with undergraduate degrees in allied design disciplines.
4. Ensure consistency in satisfaction of NAAB accreditation criteria for all Master of Architecture students, regardless of track.
5. Respond to PC and SC deficiencies among Track II applicants with undergraduate degrees in architecture from other schools.

To make these changes, we removed ARC 6833 Practice Portfolio from the curriculum, made ARC 5824 Advanced Design Studio 2 an elective rather than a required course, and added DES 5112 Design Leadership for every graduate student. One elective credit hour was added to the Track III curriculum to complete its total credit hour requirement. We also created a new degree path, Track IV, for incoming students with bachelor's degrees in interior design, landscape architecture, or other design fields outside of architecture, and a new class (ARC 5044 Architectural Foundation Studio 4) to give our Track III students an additional studio experience. All of these changes were made based on information obtained from our course evaluations, department and studio coordinator meetings, and Fine Grain Review activities.

A number of revisions and refinements were also made in 2017.

- New certificates were developed for GIS, Public Interest Design, and Design Thinking.
- We developed new minors in graphic design, game design, and interaction design.
- Ten existing on-ground classes transitioned to online delivery and were added to the Track III program.



- We removed the physics prerequisites to the Acoustical, Electrical & Illumination Systems and HVAC and Water Systems courses.
- Basic Design and Visual Communications courses were restructured.
- The title of Art and Design Awareness was changed to Introduction to Design and its syllabus completely reworked.

5.4 Human Resources and Human Resource Development

The program must demonstrate that it has appropriate and adequately funded human resources to support student learning and achievement. Human resources include full- and part-time instructional faculty, administrative leadership, and technical, administrative, and other support staff. The program must:

5.4.1 Demonstrate that it balances the workloads of all faculty in a way that promotes student and faculty achievement.

Program Response:

Faculty workloads are intended to balance the teaching-scholarship-service requirements of the university in a manner that equally promotes student and faculty achievement. Faculty assignments are determined by university policies as articulated in the *Faculty Handbook* and as interpreted by the College. The university has established standard workload assignments for tenured, tenure-track, and non-tenured faculty. The following table illustrates the workload balance requirements:

Rank	Teaching	Scholarship	Service
Tenured	60%	30% or 20%	10% or 20%
Tenured pre-2005	80%	None or 10%	20% or none
Tenure-Track	60%	30%	10%
Non-Tenured	80%	20% or 10%	None or 10%
Non-Tenured Instructor	100%	None	None

Most faculty are subject to these preset standards: faculty members adopt their model in consultation with the department chair. Every faculty member has an annual performance review based on their performance within the workload model adopted. These reviews are conducted in the fall semester and include the faculty member's self-reported activities through the Faculty180 Reporting System, written comments by the chair and dean, and an in-person meeting with the chair and dean.

The workload assignment allocations promote the College's strength as a teaching institution and secure adequate time for one-on-one conversations with students. To encourage these opportunities, the program's facilities include spaces for small group instruction, independent



studies, and directed studies in addition to faculty offices. (See Section 5.6). All faculty members post and maintain office hours and are available for student advising and consultation.

5.4.2 Demonstrate that it has an Architect Licensing Advisor who is actively performing the duties defined in the NCARB position description. These duties include attending the biannual NCARB Licensing Advisor Summit and/or other training opportunities to stay up-to-date on the requirements for licensure and ensure that students have resources to make informed decisions on their path to licensure.

Program Response:

Prof. Eric Ward has performed the duties of the NCARB Architect Licensing Advisor for LTU since 2016, and has been our Integrated Path to Architectural Licensure (IPAL) Coordinator for the same period.

5.4.3 Demonstrate that faculty and staff have opportunities to pursue professional development that contributes to program improvement

Program Response:

The CoAD has established policies and practices to support research, scholarship, and creative activities among faculty. The college supports faculty design and research labs, as well as outreach activities including financial and in-kind support, incentives, recognition, and the assignment of time to undertake these activities. In addition to encouraging scholarship and creative practice, the architecture program encourages faculty to offer peer workshops on aspects of technical or professional issues in which they have expertise. Further, every faculty member is eligible for travel funding for disseminating work in professional venues: \$2,500 each year for tenured faculty, \$4,000 for tenure-track faculty, and \$1,500 for non-tenure-track faculty. The college also funds two internal faculty grants through a competitive application process. The “Seed IN Grant” supports multidisciplinary innovation in education, teaching, and learning related to the topics of design, technology, and practice; projects are expected to influence an existing course, create a new course proposal, and/or directly lead to curriculum revisions. The “Seed OUT Grant” funds work informed by strategic industry or design practitioners that leads to potential peer-reviewed dissemination in venues such as design awards, juried exhibitions, or peer-reviewed paper presentations. Each of these two annual grants have a \$5,000 cap and include up to \$5,000 of funded student assistance. Additionally, the college offers equipment and space for pursuing individual projects (See Section 5.6), as well as student research assistants and teaching assistants for scholarly, creative, and teaching support.

CoAD Scholarly and Creative Activity Policy:

https://www.ltu.edu/external_attach/pdf/CoAD%20Research%20and%20Creative%20Activity.pdf

Faculty members are active members of professional organizations, scholars, practicing architects and designers, researchers, and contributors to community groups and civic planning and development organizations, as well as teachers. The college maintains memberships in the ACSA, AIAS, and ARCC to support the professional development of our faculty.

The CoAD faculty’s professional development is further supported by the university, which provides a \$6,000 research stipend to new faculty after their first year of service. Tenured and



tenure-track faculty members with six or more years of continuous service are eligible to apply for sabbatical leave for professional development, research, government or community service, skill training, or academic improvement, as outlined in the *Faculty Handbook*. Sabbatical proposals are submitted to the dean and the CoAD Faculty Council; the council submits a recommendation report to the dean and ranks the proposals if there are more than one. The university-wide Faculty Senate then reviews and ranks the proposals from all of the colleges, and makes its recommendations to the Provost. Faculty members may reapply for sabbatical leave six or more years of service after the previous sabbatical.

LTU's Center for Teaching and Learning helps faculty create, share, and discover methods and technological tools for effective teaching, communication, and assessment. The Office of Sponsored Research and Institutional Grants is organizationally responsible for support of externally-restricted funding for research and other sponsor-funded activities. The office supports faculty proposal development and administration of funded projects.

Center for Teaching and Learning: <https://www.ltu.edu/ctl/>

Office of Sponsored Research and Institutional Grants: <https://www.ltu.edu/sponsored-research/>

Finally, the university's Tuition Waiver program allows faculty to further their professional development within the university. Full-time employees receive a 50% tuition waiver on university courses after their first year of service and 100% after two years of service. Part-time employees are eligible for a tuition waiver after five years of service.

5.4.4 Describe the support services available to students in the program, including but not limited to academic and personal advising, mental well-being, career guidance, internship, and job placement.

Program Response:

All full-time CoAD faculty are academic advisors, except for those who are hired as full-time Instructors (no service obligation). The department chairs assign academic advisors in consultation with the dean based on information sent by the University Advising Center. Undergraduate students are required to meet with their academic advisor at least once in the fall and spring semesters to discuss their progress and upcoming schedule; advisors then release the Advising Hold placed on each student's registration by the University Advising Center. Students who are on academic probation meet with their department chair for advising. Graduate students may contact Alice McHard, the college's Graduate Student Services Coordinator, with questions at any time, in addition to their assigned academic advisor. As a result of recent student feedback, meetings with the academic advisor each semester may become mandatory for graduate students rather than optional. On campus, students are additionally and informally advised by the chairs and deans.

University Advising Center: <https://www.ltu.edu/advising/>.

Mental Health and Disability Accommodations

Faculty and staff in the CoAD are attuned to the mental well-being of the students and act in cooperation with the university's Clinical Counseling Service, which offers individual counseling, diagnostic screening, crisis intervention, and referral services for students, and educational



outreach for the university community. CoAD faculty and staff who have concerns are encouraged to contact Clinical Counseling Services. We also work with LTU's Disability Services, which makes reasonable accommodations to permit students with disabilities to fulfill academic requirements and provides effective auxiliary aids to ensure that they are not excluded from programs because of their disabilities.

Clinical Counseling Service: https://www.ltu.edu/student_affairs/student-counseling.asp

Disability Services: <https://www.ltu.edu/current-students/disability.asp>.

Career Guidance, Internship, and Job Placement

LTU's Office of Career Services offers a range of resources for students, from advice on job searches to employment negotiations. Career Services provides all students with a free Handshake app account for job searching, researching, and connecting with potential employers, and making appointments with career advisors. LTU Alumni and Staff are also eligible to open a Handshake account. Every fall semester, Career Services organizes and runs a Career Fair (on campus and virtually) and an Internship/Co-op Fair (on campus and virtually) for students in all majors and alumni. In the spring semester, Career Services works with the CoAD to offer a Career Fair tailored specifically to our students. The architecture program encourages faculty members to use their roles as academics to impart informal career guidance whenever possible.

Office of Career Services: https://www.ltu.edu/career_services/

The CoAD has participated in the Integrated Path to Architectural Licensure (IPAL) initiative since its inception in 2016. This initiative provides selected students with the opportunity to complete the requirements for licensure while earning their degree. Further, all students are required to take Professional Practice (ARC 5913), which addresses NAAB standards for a professional degree program, NCARB standards including the Architectural Experience Program (AXP), and state laws governing requirements for licensure and professional practice.

5.5 Social Equity, Diversity, and Inclusion

The program must demonstrate its commitment to diversity and inclusion among current and prospective faculty, staff, and students. The program must:

5.5.1 Describe how this commitment is reflected in the distribution of its human, physical, and financial resources.

Program Response:

From its inception, LTU has made its programs available to people who might not otherwise have access to a quality, higher education. LTU was established to offer workers in Henry Ford's plant access to education. It was among the first schools to establish degree programs that could be completed primarily at night so that working students might have access to education. Today, LTU continues that commitment, offering degree programs to working students with evening courses; the opportunity to work through a program at a pace appropriate to the individual student; and an understanding of the best practices of online education so that students who could not otherwise pursue a degree might be able to do so. The university works with the Office of Diversity, Equity, and Inclusion, the four colleges, and their faculty, staff and students—as well as with outside organizations when appropriate.



Human Resources

As described in Section 2, Shared Values: Equity, Diversity and Inclusion, the CoAD has several faculty and administrators who are dedicated to DEI-related initiatives, including representation within the Office of Diversity, Equity, and Inclusion's Advisory Council; the Student Success, Equity, and Inclusion Committee; and a new associate dean who is dedicated to developing and supporting CoAD DEI Initiatives. The Office of Diversity, Equity and Inclusion is a two-year-old entity that supports DEI-related challenges faced by CoAD students, faculty, and staff. This includes resources and support for the LGBTQ+ community, international students, and BIPOC communities. The Office of Diversity Equity and Inclusion collaborates with the Dean of Students, administration, faculty, staff, and students.

Dedicated Administrator

In 2022, the CoAD appointed a new associate dean, adding a female voice to the college's administration. One of her tasks is to support and develop DEI-related initiatives in CoAD. A first step in this role was organizing a listening session for CoAD students, particularly those who identify as BIPOC, LGBTQ+, those with disabilities, and allies, to better understand their various needs and challenges. The listening session was moderated by Dr. Caryn Reed-Hendon, the Director of DEI. Based on students' comments, action was taken to develop adequate training for Resident Assistants in areas of sexual harassment and transphobia, greater support for the LGBTQIA2S+ community by enabling a pronoun feature on Canvas at the university level, providing students with more information about their rights when assuming new names, and addressing individual circumstances with the Dean of Students. The listening session also revealed that better communication was necessary to inform students about their ability to report incidents through the Office of DEI's Student Behavior and Bias Incident Reporting Form, an online portal for reporting incidents of harassment and/or discrimination. Listening sessions will continue.

The new associate dean will partner with the Diversity in Design (DID) Collaborative to develop strategies and support for CoAD's Black student population. The Diversity in Design (DID) Collaborative was initiated in June 2021 to foster systemic change. This is particularly significant given LTU's proximity to Detroit, whose population is over 77% Black. The associate dean will also collaborate with the CoAD Director of Development to seek external funding to hire a staff mentor for CoAD's Black students.

Diversity in Design Collaborative: <https://diversityindesign.com/>.

CoAD Lecture Series

CoAD has acted to include diverse voices and perspectives within the CoAD Lecture series. In the 2021-22 academic year, of 12 lecturers, 6 were female and 2 were minorities. Saundra Little, a Black female architect and alumna was awarded the CoAD's Distinguished Alumni Award in 2021, and was one of the speakers in the CoAD 2021-22 lecture series. The CoAD also invited Sadie Red Wing, a Lakota designer, to speak in our 2022-23 lecture series about visual sovereignty in design.

Physical Resources

LTU students have access to several physical resources that support a diverse learning environment. The Maibach Interfaith Lounge is located in the University Technology and Learning



Center (UTLC), which houses most of the architecture courses. The lounge is open to students for quiet reflection, personal meditation and/or prayer. The university also has private space in the Office of the Dean of Students for counseling services. In terms of accessibility, the LTU campus is deemed accessible for those with physical disabilities. LTU has a transportation service, Tech Transit, that provides students who may not have their own means of transportation to essential services like the grocery store and pharmacies.

Financial Resources

Faculty DEI Training

The CoAD recently dedicated financial resources to DEI-related faculty training. The CoAD invited Dr. Sally Burton-Hoyle to speak with CoAD faculty about how to best support and interact with students who are neurodivergent, and Kristen Renn to speak with all CoAD faculty about issues related to the LGBTQIA2S+ community. The CoAD plans to offer faculty antiracism training in 2023. Starting in fall 2022, the Office of Diversity, Equity, and Inclusion will be offering two training and development opportunities for faculty.

Faculty Research Fellowship - DEI Theme

In the 2021-22 academic year, LTU started a Faculty Research Fellowship program. Financial resources include \$4,500 of direct funding and honoraria for each fellow. One of the themes for the inaugural 2021-2022 year was dedicated to diversity, equity, and inclusion innovations in STEM curriculum and instruction. The team that worked under the DEI theme submitted a National Endowment for the Humanities - Humanities at Colleges and Universities grant proposal called "A Place-Based Framework for Fostering Environmental Education Across the Curriculum," intended to reimagine areas of the curriculum to create a more inclusive experience for minority students of any major by creating a minor that focuses on environmental justice. The focus on environmental justice through the lived experiences of BIPOC communities will broaden the scope of environmental education. The DEI team is also in the process of developing a National Endowment for the Humanities Connections Grant (up to \$35,000 for planning, up to \$150,000 for implementation) proposal for a related initiative.

Scholarships

In 2020, an anonymous donor gave \$15,000 to CoAD in honor of George Floyd, to be used to support Black freshman architecture students. The CoAD webpage publishes a list of scholarships, including external scholarships that are dedicated to minority students:

https://www.ltu.edu/architecture_and_design/scholarship.asp

Outreach Activities

LTU invests financial resources into outreach activities that provide educational opportunities to K-12 students in disadvantaged school districts. These include the Dual Enrollment Program, Summer Technological Camps, and Early Middle College programming, all of which overlap with CoAD programs.

LTU Dual Enrollment: <https://www.ltu.edu/futurestudents/freshman/hsdual.asp>

Early Middle College: <https://www.ltu.edu/futurestudents/middle-college.asp>

5.5.2 Describe its plan for maintaining or increasing the diversity of its faculty and staff since the last accreditation cycle, how it has implemented the plan, and what it intends to do during



the next accreditation cycle. Also, compare the program's faculty and staff demographics with that of the program's students and other benchmarks the program deems relevant.

Program Response:

Female Architecture Faculty

The CoAD is dedicated to increasing the number of female faculty in the architecture program. Due to personnel changes since the last NAAB accreditation, the CoAD lost several full-time female architecture faculty members (through retirement and attrition). The percentage of full-time female faculty members was just 3/19 (16%) in 2021. In response, since 2020, all three tenure-track faculty hires in the architecture program have been female. There is slightly better representation of female faculty among our adjunct instructors, 14/42 (33%) in 2021. Dean Daubmann has stipulated that if the candidate pool in CoAD faculty searches does not have balanced gender representation, then the search should be considered unsuccessful. Recent tenure-track searches in the architecture program are described below.

The College's most recent architecture faculty search in 2020-21 resulted in the hiring of two female assistant professors. The initial advertisement was for the position of a tenured faculty (associate or full professor), which resulted in 26 initial applications with a gender distribution of 1:5.5 (4 female applicants to 22 male). On review, the committee determined that there was not a critical mass of candidates suitable to be considered tenured faculty and that the gender distribution was imbalanced. The CoAD administration decided to reissue the call for a position and updated the advertisement to an open rank position. The updated advertisement led to 34 additional applicants with greater gender distribution (10 female applicants to 24 male) as well as higher diversity in background, professional experience, and area of scholarship. The committee consolidated all of the applicants into a single pool of candidates for consideration. This consolidated pool of candidates included a total of 60 applications with a gender distribution of 1:3.3 (14 female applicants to 46 male). In the later phase of the search, the committee interviewed five candidates with a gender distribution of 3:1 (4 female and 1 male).

The College also ran a search for a tenure-track architecture position in 2019-2020, which resulted in a female hire. The initial pool of candidates included 48 applicants with a gender distribution of 1:4.3 (9 female applicants to 39 male). This initial pool was reduced to 30 based on technical requirements of the position as reported in the advertisement with a gender distribution of 1:2.3 (9 female to 21 male). From those 30, the committee long-listed 10 highly qualified individuals (6 female and 5 male). A final shortlist was developed of 5 candidates (4 female and 1 male).

The CoAD recognizes that, while we have recruited exceptional female faculty members and helped rebalance gender representation among the full-time faculty members, retention needs improvement. In 2022, the 2019-20 female tenure-track faculty member resigned. The College is exploring further opportunities for faculty mentorship and potentially hiring multiple full-time faculty members at the same time to build a strong peer cohort. The Department Chair and Dean provide mentorship for junior faculty and the CoAD Faculty Council last year, reinstated the faculty mentorship program intended to support tenure-track faculty members.

BIPOC Architecture Faculty

CoAD recognizes that there is an imbalance of BIPOC representation among architecture faculty, and is committed to trying to recruit more diverse faculty. Representation of BIPOC full-time



architecture faculty has shown slight fluctuations over recent years, and representation of BIPOC adjunct architecture faculty has shown a gradual decrease. It is worth noting that according to the National Center for Educational Statistics, fall 2020 demographics show that nearly three-quarters of full-time faculty in all degree-granting postsecondary institutions were White; the statistics below are therefore comparable, but slightly below, the national average.

Year	Non-White Full-Time Arch Faculty	Non-White Adjunct Arch Faculty
2021	3/19 (16%)	7/42 (17%)
2020	4/20 (20%)	11/46 (24%)
2019	3/20 (15%)	19/52 (37%)
2018	3/21 (14%)	20/54 (37%)

(“Non-White” includes American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Black or African American, Hispanic/Latinx, Two or more races, Race and ethnicity unknown)

Faculty Searches

There is an opportunity for more diverse hires with faculty searches occurring in the 2022-2023 academic year for up to three new full-time positions in the architecture program. The advertisements for these positions will encourage both female and BIPOC faculty to apply, and the search committee(s) will strategically consider where the advertisements are placed and where they might recruit from, to ensure they reach more diverse candidates.

Staff

There is slightly higher female representation among CoAD staff, with 56% being female. BIPOC representation is low, with 7 reporting White non-Hispanic, 1 not Hispanic, and 1 not listed.

5.5.3 Describe its plan for maintaining or increasing the diversity of its students since the last accreditation cycle, how it has implemented the plan, and what it intends to do during the next accreditation cycle. Also, compare the program’s student demographics with that of the institution and other benchmarks the program deems relevant.

Program Response:

Student Demographics

Enrollment of non-White architecture students is steady with a gradual increase among graduate students and slight fluctuations among undergraduate students.

Year	Non-White MArch Majors	Non-White Pre-Professional Arch Majors



2021	36/141 (26%)	57/278 (21%)
2020	29/119 (24%)	53/294 (18%)
2019	21/88 (24%)	59/301 (20%)
2018	8/58 (14%)	59/319 (18%)

(“Non-White” includes American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Black or African American, Hispanic/Latinx, Two or more races, Race and ethnicity unknown)

While we are seeing a steady population of non-White architecture students, retention rates for non-White students tend to be lower than for White students. The CoAD is attempting to better understand the challenges that BIPOC students face in order to develop strategies to support their academic success. This issue will be addressed in the CoAD’s five-year strategic plan, which is currently in development.

The architecture program shows a balance between male and female students, with 46% of all architecture students identifying as female in 2021, 40% in 2020, and 37% in 2019. LTU’s student body as a whole had only 32% of students identifying as female in 2021.

Recruiting Diverse Students

The CoAD and LTU have developed several educational interventions to help recruit diverse students by providing them with exposure to architecture and design, by creating alternative paths into higher education and by offering scholarship support. These programs include middle school and high school exploratory workshops, dual enrollment programs, and early middle college programs—each of which has architecture or architecture-related programming. The LTU dual enrollment program has been in existence for eleven years. During that time, over 6,170 high school students took college courses. Of those students, 93%, or 5,738 students went to a university to pursue a degree.

The CoAD partnered with the ACE Mentorship program in 2018 with the Dean serving on the ACE Mentorship of SE Michigan Board of Directors. ACE’s mission is to introduce high school students to architecture, construction, and engineering through programs and scholarships. In 2020, LTU began offering dual enrolment credits for the content delivered in the ACE annual program, given its contact time and quality. About 20% of the seniors in the program enroll at LTU.

The CoAD has been running high school dual enrollment programs in partnership with the Detroit Public Schools since 2015. The partnership started as a visual communications course at Denby High School and has since grown into a program offered at Randolph Academy that aggregates a number of different high schools for the trade- and discipline-specific nature of the courses. The yield from these courses is about 5%, with the greatest challenge being a lack of scholarships to offset the cost of tuition. LTU is working to increase scholarships and funding to improve the yield and, in so doing, increasing diversity in the college among underrepresented minorities.



LTU's summer technology camps have been in existence for 12 years; 2,225 students have attended the camps with 48% of those students going on to study at a university. LTU has just developed our first early middle college agreement with the Detroit Public Schools Community District, which serves students who are 95%-100% African American. This is part of LTU's growing number of partnerships with area high schools, of which there are now more than forty. LTU intends for this to continue. Any student who interfaces with the university through these programs and chooses to attend LTU to finish their education are eligible to receive the Blue Devil Scholarship that covers half of their tuition over a four-year period.

International Students

International students are an asset to the architecture program; they enrich the learning experience for all students. The MArch program Tracks II, III, and IV support international students by enabling remote study. Faculty use a number of strategies to ensure that there is equity for international students and that they are engaged with fellow classmates and with the course materials: small team projects, grouping students into teams that recognize time zones, flexible class and office hours, project assignments that use local sites and that address local issues. International enrollment has been hindered by domestic politics and the COVID-19 pandemic. While these impediments are easing, LTU is investing in international admission counselors post-pandemic to recruit prospective international students.

Student Organizations

Student organizations, particularly those dedicated to minority students and DEI initiatives, are healthy and active. The CoAD's NOMAS chapter has recently organized events including a design community networking event hosted by LTU architecture students, and has been working to create a peer-to-peer mentoring program to benefit younger students and help them navigate the challenges of architectural school. Dr. Roxana Jafarifi, a recent tenure-track hire in the architecture program, is the current faculty advisor for NOMAS. The 2021-22 NOMAS president, Anusha Varudandi, was recently selected for a NOMA Detroit Fellowship at Skidmore, Owings & Merrill (SOM) in New York. The AIAS chapter has long been involved in Freedom by Design, the national organization's initiative to utilize design expertise to assist people in their communities. Several other student organizations are dedicated to DEI-related initiatives or that honor race, ethnicity, and culture, including the Black Student Union; the Association of Indian Students; Hillel, the Jewish Student Organization; the Muslim Student Association; and the Sexuality and Gender Alliance.

Diversity in Design (DID) Collaborative

As noted, the CoAD joined the Diversity in Design (DID) Collaborative to gain support for developing policies and practices to assist current and prospective Black students. The DID's primary focus is on developing design-related career opportunities for Black youth. Programming includes the focus area of college programs and higher education where the CoAD will be participating. Participants are expected to share resources and practices, and take collective action that will end biased structures.

5.5.4 Document what institutional, college, or program policies are in place to further Equal Employment Opportunity/Affirmative Action (EEO/AA), as well as any other social equity, diversity, and inclusion initiatives at the program, college, or institutional level.

Program Response:



LTU's policies regarding Equal Employment Opportunity and Affirmative Action Plans are outlined in the Employee Handbook, which is available online in section 200, beginning on page 201 of the PDF:

<https://www.ltu.edu/cm/attach/7a3a7a9e-fd70-4719-8fc1-c29e3a9b0d35/Employee-Handbook-Administrators-Faculty-and-Staff-3120v10.0.pdf>. As part of their orientation, new faculty members

are made aware of these policies.

The university policies for sexual harassment and discrimination are outlined on the University Policies website <https://www.ltu.edu/current-students/policies.asp> and in the Student Code of Conduct:

<https://www.ltu.edu/cm/attach/f6843830-5bd4-40b1-87a2-e38692f1611e/student-code-of-conduct.pdf>. Incidents of discrimination and assault may be reported in several ways, including directly to the dean of students and the associate dean of students, LTU Human Resources, LTU Campus Safety, and at a portal on the Office of Diversity Equity and Inclusion website.

The CoAD's *Student Companion*, the college's compendium of policies and responsibilities, aims to further diversity, equity, and inclusion in the studio context. The document outlines student rights and responsibilities and code of conduct with the intention of upholding a respectful and inclusive learning environment:

https://www.ltu.edu/uploads/media/arch-design/PDFs/The_Student_Companion_2021.pdf.

5.5.5 Describe the resources and procedures in place to provide adaptive environments and effective strategies to support faculty, staff, and students with different physical and/or mental abilities

Program Response:

LTU welcomes diversity of all types, including diversity of abilities. To support students with disabilities, LTU's Disability Services, an educational support program, is administered by the Office of the Dean of Students. Disability Services' mission is "to provide superior undergraduate, graduate, and lifelong learning for professional achievement and civic excellence. The University makes reasonable accommodations to permit students with disabilities to fulfill academic requirements and provides effective auxiliary aids to ensure that they are not excluded from programs because of their disabilities."

Students may receive a variety of reasonable accommodations including alternate format textbooks, disability housing accommodations, meal plan accommodations, scribes, word processors, large print exams, and extended time and reduced distraction settings for exams. Students' professors are notified of the agreed-upon accommodations, and Disability Services aids instructors in providing what is needed for student success. Information about these services is accessible at: <https://www.ltu.edu/current-students/disability.asp>.

Resources available to students include external tutoring, organization, time management, reading support, and downloadable study resources. LTU recognizes service animals as defined by the Americans with Disabilities Act and emotional support animals when approved by a qualified mental health professional. The Disability Services website offers resources for the greater LTU community about communication etiquette. This covers, but is not limited to,



communication guidelines for those with physical disabilities, epilepsy, cerebral palsy, Tourette Syndrome, etc. The Office of the Dean of Students oversees the resident assistants in campus housing, and will be offering more extensive training for housing staff, including communication strategies with neurodivergent students and those with mental health challenges.

LTU complies with the Americans with Disabilities Act (ADA) and the Persons With Disabilities Civil Rights Act (PWDCRA). Hiring procedures for disability accommodations are outlined on page 202 of the Employee Handbook:
<https://www.ltu.edu/cm/attach/7a3a7a9e-fd70-4719-8fc1-c29e3a9b0d35/Employee-Handbook-Administrators-Faculty-and-Staff-3120v10.0.pdf>

Counseling

The Office of the Dean of Students offers clinical counseling services, which include individual counseling, crisis intervention, education outreach, and consultation services. It offers counseling in areas of depression, anxiety, stress, relationship issues, cultural adjustment, substance use, family conflict, academic concerns, organizational and time management, grieving and personal loss, and emotional trauma. Information regarding these services is outlined here:
https://www.ltu.edu/student_affairs/student-counseling.asp.

LTU is building a counseling center on campus and adding a second full-time counselor, having realized that there are greater mental health needs due to effects of the pandemic. It is developing new electronic counseling services from the existing virtual counseling app, which will integrate Facetime, phone, email, text messaging, and communication in different languages. These developments are expected to be available in January 2023.

Faculty and staff who are covered under the life insurance plan at LTU are eligible for an Employee Assistance Program (EAP)/Work Life Program, which provides support with various types of life's challenges, including family relationships, marital difficulties, elder care and child care, financial and legal matters, drug and alcohol abuse, depression and loneliness, and other mental health problems. Employees can speak at any time of the day or night with a professional EAP counselor, and they will make referrals for more serious problems when appropriate. Please refer to: https://www.ltu.edu/human_resources/employee_benefits.asp#tab6.

5.6 Physical Resources

The program must describe its physical resources and demonstrate how they safely and equitably support the program's pedagogical approach and student and faculty achievement. Physical resources include but are not limited to the following:

5.6.1 Space to support and encourage studio-based learning.

Program Response:

The CoAD occupies two connected buildings on the LTU campus: the Architecture Building (1962) and the adjacent University Technology and Learning Center (UTLC) (2000). The Architecture Building originally housed the College of Architecture and the University Library, and included classrooms, two wings of studio bays, a multipurpose gathering space, a small lecture room, faculty offices, and the college's administrative suite. The Architecture Building also contains a large auditorium with 200+ seats. The building has been remodeled since its opening, with the Library moving to another location on campus. The multipurpose



gallery/classroom/reception space was recently transformed into an active learning classroom capable of seating eighty students, and the administrative suite was converted to classroom space. It also contains the college's *materialLab*.

The UTLC, commissioned to provide extra space for the college, is the largest academic building at LTU. It was designed by the noted American architecture firm Gwathmey Siegel Kaufman Architects and completed in 2000. It features twenty-two studio bays (each accommodating 16-22 students, depending on desk size and layout), one large and two traditional classrooms, two breakout or small seminar rooms, one active learning classroom for forty students, the Lear Auditorium (129 seats), and the multipurpose University Gallery. The relocated administrative suite, the *printLab* (reproduction services), and the *buildLab* (workshop) are in the UTLC. Also located within the UTLC is the Architectural Engineering Lighting Lab, available to students in the architecture program.

Most of our studio-based education occurs in the UTLC. It contains studio bays in which we run all of our Integrated Design (undergraduate) studios. All design course students are provided with a desk, chair, and storage space for supplies and materials. All studio bays are equipped with at least one large monitor for communal review of digital work. Several of the upper-level studios include 3D printers (both fixed and portable), portable monitors, and stand-up desks. Most studio spaces are daylighted from two sides.

5.6.2 Space to support and encourage didactic and interactive learning, including lecture halls, seminar spaces, small group study rooms, labs, shops, and equipment.

Program Response:

The architecture program utilizes both the Architecture Building and the UTLC for its academic courses. There are eight standard classrooms, four breakout spaces, two active learning classrooms, a clay studio, and a faculty conference room in the Architecture Building, supplemented by three standard classrooms, three breakout spaces, and one active learning classroom in the UTLC. The program also has access to the UTLC's Architectural Engineering Lighting Laboratory. These formal rooms are supplemented by informal spaces for students. At strategic points throughout our two buildings, such as adjacent to the *printLab* or outside the Dean's Office, there are casual groupings of furniture for studying or informal interactions. The Level Gallery consists of wall space opposite the elevators on three levels of the UTLC, and is used for both internal and external exhibitions of architectural work. The architecture program also has access to the university's UTLC Gallery for reviews, lectures, and exhibitions.

Students and faculty in the architecture program are supported by and have access to the following facilities:

buildLab

The *buildLab* (workshop) in the UTLC provides students and faculty of the CoAD with the expertise, training, and equipment necessary to experiment with materials and execute creative work. The *buildLab* offers a 2600 square-foot shop for the processing and assembly of wood and plastics. Analog, digital, CNC, robotic, vacuum forming, and laser cutting equipment are available; a 250 square-foot spray room is provided for the safe and proper application of paints, adhesives, and stains; a 630 square-foot casting room is available for the use of plaster, concrete, and hydrocal; and a hot wire cutter is available for cutting foam for formwork. The *buildLab* is



equipped with essential woodworking equipment for models, furniture, and sculpture projects, and includes a table saw, miter saw, band saw, jointer, router table, stationary sanders, scroll saw, vacuum press, air compressor, surface sander, laser cutter, and a two-stage dust collector. In addition to handheld power tools such as drills, sanders, routers, jig saws, and a plate jointer, the shop has hand tools and supplies, such as clamps, fasteners, chisels, files, and planes. A stationary industrial robot arm and 4 mobile table top robot arms extend the impact of digital design and production coursework. All tools are kept in the shop and are available to students and faculty. Workbenches equipped provide work areas for sixteen students at a time. Managed by a full-time staff member, the *buildLab* offers training to faculty and students in the following areas: shop safety and etiquette; hand tools and small equipment; woodworking and plastic production tools; and digital fabrication.

buildLab: https://www.ltu.edu/architecture_and_design/coad_shop.asp

printLab

The CoAD *printLab* is a research, reproduction, and production space dedicated to the physical realization of digital media objects. Together with the *buildLab*, its mission is to provide students and faculty the machine technologies used to plot surfaces, extrude sections, and tool solids. The *printLab* is managed by a full-time staff member and offers training related to physical media output, including file formatting, color calibration, material qualities, machine setup, and hand-finishing techniques. Students and faculty are provided with an array of services, ranging from wide-format and three-dimensional printing and support studio spaces that support trimming and assembly, screen printing, and bookmaking projects.

printLab: https://www.ltu.edu/architecture_and_design/print-lab.asp

materialLab

The Material Resource Library (*materialLab*) consists of a large collection of catalogs of contract furniture, as well as samples of fabrics, floor coverings, wall coverings, paint, mica, wood, stone, tile, metals, and other materials.

Recent Changes

The CoAD has made considerable changes to its campus facilities in the past few years. The most extensive change has been to relocate the Dean's Office from the basement of the Architecture Building to the entry to the UTLC. The new Dean's Office is an open office for administrators and staff, and includes a conference room and a small meeting room. The printing facilities were moved to a studio bay on the second floor of the UTLC and reconfigured as the *printLab*.

More recent physical changes include remodeling the former Freshman Wing of the Architecture Building to create four classrooms/studio bays of various sizes with four adjacent breakout spaces; changing the Architecture Building Gallery (an open multipurpose space used for reviews, meetings, dinners, and circulation) into an active learning classroom capable of holding ninety students; converting the former *makeLab* (digital fabrication) into the Tenure-Track Faculty Research Space; removing the walls between two adjacent classrooms to make an active learning classroom in the UTLC; and remodeling the North Wing of the Architecture Building to make studio and classroom spaces for the Design Department.



Off Campus

The CoAD has closed the Detroit Center for Design + Technology in downtown Detroit, which contained studio and exhibition space and housed the LTU Detroit Studio. LTU continues to own and the college continues to manage the Frank Lloyd Wright-designed Gregor S. and Elizabeth B. Affleck House (1941), which is used as an educational resource and serves as a site for select business and educational events and private tours.

The Affleck House: https://www.ltu.edu/architecture_and_design/places_affleck_house.asp

5.6.3 Space to support and encourage the full range of faculty roles and responsibilities, including preparation for teaching, research, mentoring, and student advising.

Program Response:

Every full-time, non-administrative faculty member of the CoAD, whether tenured, tenure-track, or not, is assigned to an office in either the Architecture Building or the UTLC. There are thirteen faculty offices in the Architecture Building and six faculty offices (including one for the emeritus professors) in the UTLC. Each office includes a desk and storage. Recently we removed the telephones from faculty offices since campus numbers are rarely used; in the event that faculty need to make telephone calls, the College reimburses them. Faculty are expected to be available for office hours a minimum of two hours per week, and we encourage them to meet students in their office or in one of the many informal gathering areas in the two buildings. Administrators occupy the open-plan Dean's Office instead of a standard faculty office.

In addition to full-time offices, the two buildings include other spaces dedicated to supporting faculty roles and responsibilities. The Architecture Building has a large room with worktable and coffee for adjunct instructors (including an adjunct office for meeting with students). There is also a Faculty Conference Room for small meetings or gatherings, and the Tenure-Track Faculty Research Space.

5.6.4 Resources to support all learning formats and pedagogies in use by the program.

Program Response:

Faculty in the architecture program have access to a wide variety of equipment, software, electronic resources, and support for help in creating and delivering their classes.

In addition to all of the equipment available in the *buildLab* and *printLab* and listed in Section 5.6.2, the architecture program provides faculty with access to the following to support their teaching: portable monitors, extra laptop computers, portable 3D printers, a drone, 3D handheld scanner, Leica 3D imaging laser scanner an industrial robot, 4 desktop robot arms, 360 VR camera, thermal camera, and VR headsets.

Additionally, all full-time faculty and CoAD students are eligible, through the university's Laptop Computer Program, to receive a computer with software specifically selected to support the curriculum. Faculty from the architecture program annually review new laptop software and hardware options provided by the university. CoAD faculty currently receive an HP ZBook x360 with a 15.6" LED 4k Touch Screen, loaded with an array of programs, including the Adobe



Creative Suite, Rhino 7, Sketchup Pro 2021, Microsoft Office 2019, and Autodesk 2021. Support for both hardware and software are provided by the university's *eHelp* personnel.

LTU uses Canvas as its online Learning Management System and the architecture program encourages the use of Canvas course pages; the university's eLearning Services provides technical support. For the 2022-23 academic year, the CoAD will experiment with a small group of Canvas templates to support the consistent and effective use of the delivery system.

If the program's pedagogy does not require some or all of the above physical resources, the program must describe the effect (if any) that online, off-site, or hybrid formats have on digital and physical resources.

Program Response:

The online MArch program (Tracks II, III, and IV) incorporates all of the CoAD's digital resources and has no impact on its physical resources.

5.7 Financial Resources

The program must demonstrate that it has the appropriate institutional support and financial resources to support student learning and achievement during the next term of accreditation.

Program Response:

Budget

The CoAD and Architecture Department have access to institutional and financial resources appropriate and necessary to support student learning and achievement. During the spring semester of each year, the College submits a budget proposal to the university for the following fiscal year to support ongoing activities, changes in enrollment, and for new initiatives. These changes may require additional faculty, staff, or resources to maintain and improve the student experience. Operating funds are budgeted to support the direct expenses incurred in providing a design education that includes instruction, digital fabrication and output, community and industry engagement, and domestic and international travel. The chair of the Department of Architecture has a discretionary budget that is allocated to support program and faculty needs.

As of fiscal 2023, CoAD maintains a \$4.76 million dollar budget funded by the university with an additional \$200,000 allocated by the university to the college for capital expenditures. The CoAD budget covers all college payroll expenses, including seventeen full-time faculty and additional adjunct faculty. Additional funds come from other sources as will be described below.

The Department of Architecture receives a share of the College-designated revenue budget, allocated approximately in proportion to its share of the total College enrollment, and this comprises its operating budget. Undergraduate and graduate enrollment in the architecture program comprises 71% of college enrollment while its direct expenses (payroll and operations) are supported with 61% of total budgeted college funds.

The CoAD has demonstrated a financial responsibility related to projecting budgets and managing them. This positive track record results in a close and collaborative working relationship between college administration and the university finance team.

In addition to the CoAD allocation, the department also receives funding provided by other supporting units, such as the University Advising Center, the Office of Admissions, the Office of



Marketing and Public Affairs, the (computer) Help Desk, and the Office of Career Services. The CoAD *printLab* and *buildLab* (fabrication shop) support student needs at rates discounted when compared to retail and fabrication services; funds realized after operating costs are reinvested in the College and provide opportunities for improvements, activities, facilities, technology, travel, and etc.

The LTU Office of Philanthropy and Engagement recently assigned a Director of Development to the CoAD. The Director works out of the CoAD administrative office; his sole responsibility is alumni engagement and fundraising. This may come in the form of unrestricted funds to support the student experience or scholarships. Annual discretionary funding provided by alumni and philanthropic support has been between \$100-200,000 per year.

Scholarships

In addition to funds allocated directly and indirectly from the University, the college benefits from endowed scholarships and discounts for students. For incoming freshmen and transfer students, the college offers a mixed media competition each year, called the Five Images Scholarship Competition. During fiscal year 2022, \$62,000 in scholarship funding was awarded. The CoAD also offers a Portfolio Scholarship for the undergraduate students in the architecture program totaling \$25,000 in scholarship dollars. Further, LTU offers merit-based scholarships to all students at the University. The students in the CoAD receive on average a 25% discount rate against tuition provided by LTU with additional tuition reductions possible with external scholarships. The college maintains a scholarship database on the CoAD website to support students seeking additional financial support.

Upcoming Fundraising and Capital Campaigns

The University experienced leadership turnover in the philanthropic unit over the last five years. Under a new president, fundraising is getting an overhaul with the creation of ambitious goals to be raising about \$10M per year by 2027. There are no capital campaigns planned yet until the organizational changes are complete. From a number of philanthropic sources, the College expects to have the financial support to continue the renovation of classrooms and the expansion of shop / lab spaces. The University has already committed \$200K for this work from the general fund with additional funds being pursued from donors and foundations.

5.8 Information Resources

The program must demonstrate that all students, faculty, and staff have convenient and equitable access to architecture literature and information, as well as appropriate visual and digital resources that support professional education in architecture.

Program Response:

CoAD is, intentionally, an information-rich environment. As we have stated elsewhere in this document, our approach to architecture and design is based on information: evidence of human needs, forces to be addressed, and an appreciation of technology. We encourage investigation, consideration, analysis, and understanding as a foundation for design. We rely on information resources and, fortunately, LTU provides support for this through our University Library, eLearning Services, Information Technology Services, the Computer Help Desk, and Media Services. In fact, it has just been determined that the five separate departments that have served LTU's technology needs for some years will now be combined and coordinated into the Office of Technology and Instructional Innovation and directed by a colleague with a PhD in instructional



design. We also consider our faculty colleagues with an array of academic interests and professional expertise to be valuable sources of information.

The University Library

The University Library is located at the center of campus, on the lower level of the Buell Management Building, a short walk from the CoAD. The library was formally established in 1937 and is in its fifth location at LTU. The current location was established in 1982 and recently renovated to freshen the look, improve comfort, and create a more inviting space for students.

The library collection is broad in its scope, with about 20% of the books and bound volumes dedicated to architecture. The total library holdings consist of more than 1,200,000 print or electronic items. In addition, there are 1,029 unique online architecture journal titles and 165 print titles in bound volumes. Subscriptions include the majority of standard items included in Association of Architecture School Librarians (AASL) Core List.

Within the library is a separate special collection, the 3,000-book personal library of the celebrated early twentieth-century architect Albert Kahn. The collection is housed in a room that recreates Kahn's Library as it appeared when he worked at his office in Detroit. These materials are included in the library catalog and are available for student and faculty use.

The library maintains print copies of the Master of Architecture theses from the College of Architecture; these are cataloged in WorldCat and may be discovered worldwide. The library has also instituted a campus institutional repository also that works from architecture faculty and students may be shared with the community.

The Library subscribes online to the two major indexing services for architecture, the Avery Index to Architectural Periodicals and the Art Source (Art and Architecture Abstracts). It also has a major finding tool, WorldCat Discovery, which covers a variety of disciplines and item types, including full-text online. WorldCat Discovery, known as "TechCat+," is the Library's main online catalog. All online resources are available to faculty and students both on and off-campus. There are more than 187 individual databases available for students and faculty with architectural information available in a variety of them. The number of databases grows annually, including services that provide full-text access, which is a benefit for regular students working off-campus as well as online students. Some unusual online databases include Materials Connection, MADCAD (codes and standards), and ASHRAE Handbooks and standards.

The library is currently digitizing its substantial videotape collection of lectures by prominent American architects presented at LTU over the last several decades.

The Library offers a variety of ways to extend access to resources and assure that students and faculty can get what they seek, almost always without charge. These include:

1. MelCat: Approximately 400 libraries in Michigan share holdings information and ship books to the student or faculty member on request.
2. InterLibrary Loan: The LTU Library may obtain materials for students and faculty from libraries throughout North America and, on occasion, from overseas. Books or articles may be ordered directly through TechCat+ online.
3. Reciprocal Borrowing: LTU students and faculty automatically gain borrowing privileges in many academic and public libraries locally and statewide.



eLearning Services

LTU eLearning Services supports the colleges and academic departments in the use of digital technologies and strategies for teaching and learning. eLearning assists faculty in the design and development of online degree programs as well as the implementation of technology enhanced learning environments on the LTU campus: <https://www.ltu.edu/elearning/>.

Computer Help Desk

The Help Desk distributes and maintains laptop computers and assists with the provision of software. It serves as a central campus location for instruction and documentation to help faculty, students, and staff navigate the computing environment at Lawrence Tech. LTU Help Desk: <https://www.ltu.edu/ehelp/>

Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual resource professionals who provide discipline-relevant information services that support teaching and research.

Program Response:

The university and college are currently engaged in a reexamination of the role of libraries and resources centers in contemporary academia. Until this academic year, the Architecture Building housed the Architecture Resource Center, which was associated with the University Library and intended to address the architecture and design research and teaching needs of students and faculty. The Center housed course reserve materials and audio-visual equipment, including photographic equipment with a small photo studio space and building performance instrumentation. The Center held a small collection of books and journals for convenient reference as well as the Drawing Collection, College Archives, and the Video Collection, which includes recordings of public lectures held in the college over the years; it was the repository for the entire CoAD collection of 35mm slides. All of these materials and services have been taken over by the University Library. This allows students and faculty to have much greater access to the equipment, given the university library's more extensive hours of operation.

The CoAD Digital Projects Librarian managed the Resource Center and its staff of library assistants, including students. The librarian provided research assistance to students and faculty, organized the Center's holdings, and directed Center assistants. While the position no longer exists, the person who occupied it continues to work with the university library as the architecture representative, and is in charge of maintaining a dialogue with the architecture program about its latest resource needs.

The CoAD does not have a dedicated visual resource professional within the university library, but its Labs Director, Jeffrey Evergreen, has an MFA in Print Media and has a BFA in Studio Art. Mr. Evergreen is responsible for coordinating Lab resources and providing training and support for technology within the CoAD. This includes an ongoing role managing the CoAD *printLab* and offering digital fabrication support for the CoAD *buildLab*.



6—Public Information

The NAAB expects accredited degree programs to provide information to the public about accreditation activities and the relationship between the program and the NAAB, admissions and advising, and career information, as well as accurate public information about accredited and non-accredited architecture programs. The NAAB expects programs to be transparent and accountable in the information provided to students, faculty, and the public. As a result, all NAAB-accredited programs are required to ensure that the following information is posted online and is easily available to the public.

6.1 Statement on NAAB-Accredited Degrees

All institutions offering a NAAB-accredited degree program or any candidacy program must include the exact language found in the NAAB Conditions for Accreditation, 2020 Edition, Appendix 2, in catalogs and promotional media, including the program's website.

Program Response:

The language found in the NAAB Conditions for Accreditation, 2020 Edition, Appendix 2, Statement on NAAB-Accredited Degrees, is provided in its entirety in the following locations:

CoAD website at: https://www.ltu.edu/architecture_and_design/accreditation.asp

LTU Undergraduate Catalog at: <https://www.ltu.edu/academicsandmajors/undergrad-cat.asp>

LTU Graduate Catalog at: <https://www.ltu.edu/academicsandmajors/grad-cat.asp>

6.2 Access to NAAB Conditions and Procedures

The program must make the following documents available to all students, faculty, and the public, via the program's website:

- a) Conditions for Accreditation, 2020 Edition
- b) Conditions for Accreditation in effect at the time of the last visit (2009 or 2014, depending on the date of the last visit)
- c) Procedures for Accreditation, 2020 Edition
- d) Procedures for Accreditation in effect at the time of the last visit (2012 or 2015, depending on the date of the last visit)

Program Response:

The CoAD website accreditation page (https://www.ltu.edu/architecture_and_design/accreditation.asp) provides links to the following NAAB publications:

NAAB Conditions for Accreditation, 2020 Edition
NAAB Procedures for Accreditation, 2020 Edition
NAAB Conditions for Accreditation, 2014 Edition
NAAB Procedures for Accreditation, 2014 Edition

Student and Program Criteria are listed and defined on all course syllabi. The syllabi also include lists of course learning objectives linked to specific NAAB Student and Program Criteria.



6.3 Access to Career Development Information

The program must demonstrate that students and graduates have access to career development and placement services that help them develop, evaluate, and implement career, education, and employment plans.

Program Response:

As a professionally-oriented architecture school, our program benefits from its strong connections with local practitioners, including LTU alumni, who are leaders in the local professional community. Practicing architects participate in the education of LTU students both as studio instructors and invited reviewers, bringing their perspectives and experiences directly to our students. Student organizations promote tours of local offices and students participate (through the CoAD) in large-scale networking events such as career fairs, the Detroit Month of Design (<https://designcore.org/month-of-design/>), and the annual AIA Michigan Design Retreat (<https://aiamichigan.wildapricot.org/DesignRetreat>).

In partnership with the LTU Office of Career Services, the CoAD provides resources and opportunities to assist students, parents, and others develop an understanding of the larger context for architecture education and the career paths available to graduates of accredited degree programs.

Employment opportunities for students are posted through “Handshake for Students,” software managed by the LTU Office of Career Services and accessible on the LTU website at: https://www.ltu.edu/career_services/careerquest-student.asp

Information on the CoAD’s participation in the NCARB’s Integrated Path to Architectural Licensure (IPAL) initiative is found on the CoAD website at: https://www.ltu.edu/architecture_and_design/architecture/archlicensure.asp

Access to additional career and professional organization online resources are found on the ‘Helpful Links’ tab of the IPAL page:

<https://www.archcareersguide.com/>

<https://www.ncarb.org/>

<https://www.aia.org/>

<https://www.aiaa.org/>

<https://www.acsa-arch.org/>

<https://www.noma.net/>

In the 2022-23 academic year, the CoAD will completely reconfigure the Career Resources portion of the college website to better serve students in all of its professional design programs.

6.4 Public Access to Accreditation Reports and Related Documents

To promote transparency in the process of accreditation in architecture education, the program must make the following documents available to all students, faculty, and the public, via the program’s website:



- a) All Interim Progress Reports and narratives of Program Annual Reports submitted since the last team visit
- b) All NAAB responses to any Plan to Correct and any NAAB responses to the Program Annual Reports since the last team visit
- c) The most recent decision letter from the NAAB
- d) The Architecture Program Report submitted for the last visit
- e) The final edition of the most recent Visiting Team Report, including attachments and addenda
- f) The program's optional response to the Visiting Team Report
- g) Plan to Correct (if applicable)
- h) NCARB ARE pass rates
- i) Statements and/or policies on learning and teaching culture
- j) Statements and/or policies on diversity, equity, and inclusion

Program Response:

In order to promote transparency in the process of accreditation in architectural education, LTU makes all Annual Reports, including the narrative, all NAAB responses to the Annual Report, the final decision letter from the NAAB, the most recent APR, and the final edition of the most recent Visiting Team Report:

Items (a) through (h) are available through the CoAD website accreditation page at: https://www.ltu.edu/architecture_and_design/accreditation.asp

Statements and policies on learning and teaching culture are found in *The Student Companion*, available on the CoAD website at: https://www.ltu.edu/architecture_and_design/student_resources.asp

Diversity, Equality, and Inclusion

The LTU Office of Diversity, Equity, and Inclusion provides the campus community with links to resources regarding LGBTQ+ resources, international students, student life, the Inter-Faith Lounge, diversity statistics, and the DEI Advisory Council, and other issues. One may also report incidents of harassment, violence, discrimination, bias, or a threat on the DEI office website. Please see <https://www.ltu.edu/dei/>. Please also refer to our statement on Diversity, Equality, and Inclusion in Section 5.5 of this document.

6.5 Admissions and Advising

The program must publicly document all policies and procedures that govern the evaluation of applicants for admission to the accredited program. These procedures must include first-time, first-year students as well as transfers from within and outside the institution. This documentation must include the following:

- a) Application forms and instructions
- b) Admissions requirements; admissions-decisions procedures, including policies and processes for evaluation of transcripts and portfolios (when required); and decisions regarding remediation and advanced standing
- c) Forms and a description of the process for evaluating the content of non-accredited degrees
- d) Requirements and forms for applying for financial aid and scholarships
- e) Explanation of how student diversity goals affect admission procedures

Program Response:



Admissions

The website for the architecture program can be found here::

https://www.ltu.edu/architecture_and_design/architecture/

The LTU admissions requirements are available at this site:

<https://www.ltu.edu/futurestudents/apply.asp>. Further information on the program's admissions procedures can be found in Sections 4.2.5, 4.3.1, and 4.3.2.

For the evaluation of non-accredited degrees, please see the description in Section 4.3.2.

Financial Aid and Scholarships information is available from the Office of Financial Aid:

https://www.ltu.edu/financial_aid/

LTU's admissions process is blind to diversity criteria or geographical data when admitting students. Students are admitted based on academic performance, and LTU is also test-optional.

Advising

The University's Office of Academic Advising oversees academic advising, including the training of faculty and adjunct instructor advisors. Advisors help students with academic planning, course selection, academic majors and minors, career objectives, employment and graduate schools, and in seeking University support services. Advising takes into account all University options open to the student, including alternative programs for those interested in changing academic majors or concentrations. Undergraduate students are required to have an advising session before the fall and spring semesters registrations begin. In addition, the Director of the LTU University Advising Center and the Administrator of Student Services in the College are available for walk-in advising.

All LTU students are assigned to an academic advisor. The University Advising Center schedules the student advising period each semester and makes initial academic advisor assignments, which are then adjusted by the department chairs. The University Advising Center's website is <https://www.ltu.edu/advising/>. The CoAD also maintains a Student Advising webpage for its students, which includes a link to the university advising center, lists of elective courses for each semester, curriculum flowcharts, and various university forms:

https://www.ltu.edu/architecture_and_design/student_advising.asp

6.6 Student Financial Information

6.6.1 The program must demonstrate that students have access to current resources and advice for making decisions about financial aid.

Program Response:

The CoAD provides students with appropriate information about financial aid. The college provides a link on its webpage to student scholarships, including a current list of 88 opportunities, searchable by category (high school, undergraduate, graduate, internship, and minority). The page, which also provides examples from past winners of our Five Images Scholarship, can be found here: https://www.ltu.edu/architecture_and_design/scholarship.asp



Students can find general information about financial aid and schedule a meeting with a financial aid counselor on the university's Financial Aid website: https://www.ltu.edu/financial_aid/

Students are also encouraged to discuss financial aid options with their academic advisors.

6.6.2 The program must demonstrate that students have access to an initial estimate for all tuition, fees, books, general supplies, and specialized materials that may be required during the full course of study for completing the NAAB-accredited degree program.

Program Response:

The college provides information on tuition and fees to potential students upon request, along with admission material on the college's website. Incoming students are provided with details of general supplies needed during orientation. The university maintains a website with up-to-date information on tuition and fees at <https://www.ltu.edu/futurestudents/tuition.asp>