The Hashemite University
Faculty of Engineering, Department of Architectural Engineering
Zarqa, Jordan

2021 Visiting Team Report
Visit Three for NAAB International Certification
November 1-3, 2021

Bachelor of Science in Architectural Engineering (5 years, 172 credit hours)

The National Architectural Accrediting Board

Date of last visit: December 14-16, 2020

Vision: The NAAB aspires to be the leader in establishing educational quality assurance standards to enhance the value, relevance, and effectiveness of the architectural profession.

Mission: The NAAB develops and maintains a system of accreditation in professional architecture education that is responsive to the needs of society and allows institutions with varying resources and circumstances to evolve according to their individual needs.

Contents

I. Summary of Visit……..01

II. Compliance with the 2019 Conditions for International Certification……05

Part One: Institutional Support and Commitment to Continuous Improvement……..05

Part Two: Educational Outcomes and Curriculum……...15

Appendix 1: Conditions Met with Distinction…….29

Appendix 2: Team SPC Matrix……31

Appendix 3: Visiting Team Roster……..32

Report Signatures…… 33

I. Summary of Visit

a. Acknowledgments and Observations

The NAAB visiting team wishes to extend our sincere gratitude to members and students at Hashemite University's Department of Architectural Engineering for all their work in preparing for our visit and for their gracious participation during our three-day virtual visit with them.

The chairperson of the department, Dr. Ahmad A. Alhusban was most gracious during the entire duration of our interactions, beginning well in advance of our actual visit, as preparation of the program's exhibits began and continuing through the culmination of our visit time. We found the exhibits to be well organized and complete. When the team had questions, he was always available to provide additional information or simply meet with us to work through them. His time and effort cannot be overlooked in assessing the success of our time with the University. His engagement, on a continuous basis, is evidence of his commitment to the department and the work they are performing on behalf of the university and its students. In similar fashion, the team must also acknowledge the commitment, passion and engagement of faculty and staff to deliver the quality education necessary to provide the foundation for their student's success.

Most importantly, the result of that commitment is expressed in the achievements of their students. Student work is well organized, thorough, and rich in content. The expression of that work is of the highest quality and clearly conveys that they are prepared for "the future of architectural practice and ready to meet the environmental, social, political and cultural challenges that fact the local, regional, and international contexts for the benefit of society," fulfilling the stated mission of the department.

The team also recognizes that the department is founded on the support of university administration. To that end, we also acknowledge the commitment of the President of Hashemite University, Professor Fawwaz Al-Abed Al-Haq, the Dean of Academic Development and Outreach, Professor Adnan Abu Surra and the Dean of the Faculty of Engineering Professor Awni Itrada, all of whom are equally dedicated to the success of the Architectural Engineering program and whose support and advice are instrumental in their success. All three were very gracious in sharing their time with the team and helped us tremendously to understand not only the present state of the Department of Architectural Engineering at Hashemite University but also their aspirations for its future, as embodied in plans to create a separate Faculty of Architecture and Interior Design.

The team found all the faculty, staff, and students we met to be open, responsive to our questions and freely sharing of their views. The time we spent in meetings with each group benefitted our understanding of the program. All involved share a mutual respect and admiration for the roles and accomplishments of each other.

Unfortunately, due to continuing limitations related to the current health environment and the limitations of virtual environments, the visiting team was only able to spend time with a limited number of students and did not have the ability to freely wander the campus and facilities. However, the HU tour video, provided as part of visit materials, did give the team a comprehensive introduction and overview of the campus along with a detailed tour of the department's building and related facilities.

Finally, some comments shared with the team during meetings, related to facilities and access to them seemed contrary to what we were experienced through the evidence presented. During the last year and a half, all of us, including the university, the department and the students have dealt with ever-changing requirements and restrictions brought on by the COVID-19 pandemic. While the department dealt efficiently and effectively with these conditions, the university is just recently returning to on campus learning – with most social distancing and other contact limiting protocols still in place. Having worked in this "modified" environment for some time, it became apparent to the team that, among other factors, the newness of the department's facilities means that most of the people involved with it have spent only limited time adapting to the new building and making it their own. In fact, it is possible that some of the earlier year students may not have ever engaged with each other in person, in the new building. As a team, we understand and believe that the comments expressed related to facility access are, in significant part, a result of these conditions and strongly believe that they will be resolved as the department returns to a more robust in person educational setting, where everyone becomes comfortable with the learning environment.

Finally, as reported by the Visit Two team, and in the Program Self-Evaluation Report (PSER) for this visit, the department continues to evolve its proposal to remove itself from the Faculty of Engineering and create a new Faculty of Architecture and Interior Design. The proposal has been presented to the administration and we found full support from those we met with. At this point, the program continues with detailed planning for the transition and eventual establishment of the new Faculty is still on track for the 2023 timeframe.

b. Conditions/Student Performance Criteria Not Achieved

Conditions Not Described or Demonstrated	Conditions Not Met	SPC Not Met
None	None	B.6 Environmental Systems B.10 Financial Considerations

c. Items to Address

None

d. Progress Since the Previous Visit

I.2.4 Information Resources: The program must demonstrate that all students, faculty, and staff have convenient, equitable access to literature and information, as well as appropriate visual and digital resources that support professional education in the field of architecture. Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual-resource professionals who provide information services that teach and develop the research, evaluative, and critical thinking skills necessary for professional practice and lifelong learning.

2020 Visiting Team Assessment of I.2.4 Not Met: This was an area of concern in the prior reports from the NAAB visiting team. We found little to no change in the situation. The program provided a list of 200 titles waiting for purchase, but shelves in the libraries remained primarily empty of books and resources and the library access showed some titles are available online. The library currently lists only 1,200 titles related to the discipline of architecture (PSER, p. 85). The digital and online references do not support either the preparation of course materials or student and faculty research efforts. Conversations with faculty and students indicate that the university relies on a larger university system within the country to support the research and study needs of students and for course preparation. In addition, students suggest that the online electronic library resources are inadequate for the needs of the students at this time, leading them to rely on each other and resources outside the university for their work. This is apparent in the low quality of images in slide presentations as well as case studies and other research presented in the course materials (Faculty: Meeting #4; Students: Meetings #5 and #10; and Staff: Meeting #9). The architectural engineering program has created a disciplinary library within its building and is waiting on relief from quarantine restrictions in order to begin the transfer of books and resources from the main library to the architectural engineering library. During our visit, we were not able to meet with the Library Liaison due to a poor internet connection.

2021 Visiting Team Assessment:
X [condition/criterion] is **Met**
The program's library is most conveniently accessible to students, housed on the fourth floor of the program's building, and currently contains over 1,200 titles, an increase of 200 since the last visit in December 2020. New equipment has also been added, offering more utility to students and librarians. A second librarian is planned to be hired sometime within the next calendar year, if approved by the governmental and university departments responsible for facilitating the new hire process.

Most equipment remains at the main library, 200m away. However, a transfer of all architectural engineering titles to the program library was initiated and completed this year to consolidated

resources where students would have more immediate access. Faculty members also engage in regular updates and suggestions of new titles to add to the collection.

Students are introduced to library resources through coursework and research assignments, often assigned as required reading in course syllabi. Concern had been expressed during Visit Two over the low number of titles in circulation related to architectural study and project documentation, causing issues for students attempting to gather physical and digital resources and information for research and studio use. However, current growth seems to indicate the library is slowly being established and increasing in resources as the program grows, and delays in growth and access can also be attributed to certain pandemic limitations.

B.3 Codes and Regulations: Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations and include the principles of local life-safety and accessibility standards.

2020 Visiting Team Assessment of B.3 Not Met: Although codes were listed as a topic in ARCH 463, no evidence was found that students had an ability to design according to codes and regulations, or that they understood which codes and regulations would apply in various locations, for example, the International Building Code which is used in the United States. The team was guided to look in ARCH 423 Working Drawings and ARCH 463 Urban Planning and Design, and although site design was well covered, the team did not find evidence of ability to design facilities and systems using building codes and regulations that meet the B.3 criteria.

2021 Visiting Team Assessment:
X [condition/criterion] is **Met**
Site design, facilities, and systems were well covered in course lectures and objectives, and students showed a strong awareness of site and context in coursework for ARCH 221 and 222. Student work prepared for ARCH 336: Building Finishing, ARCH 542: Graduate Project 1, and ARCH 521: Graduate Project 2 showed application of codes and regulations to projects, including identifying the authority having jurisdiction, parking regulations, zoning, accessibility, clearances, and site design. This progress is exemplary in showcasing a resolution to the previously Not Met criterion.

B.10 Financial Considerations: Understanding of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs.

2020 Visiting Team Assessment of B.10 Not Met: Evidence of student achievement at the prescribed level for construction cost estimating and construction scheduling was found in student work prepared for ARCH 452: Quantity Surveying. However, no evidence of student achievement was found for project financing, feasibility, operational costs or life-cycle costs.

2021 Visiting Team Assessment:
X [condition/criterion] is Not Met
The program has established a solid response to this condition that includes both short and long-term solutions, the latter through the creation of a new course ARCH 552 Project Management and Financial Considerations. This course is expected to enroll students for the first time in theacademic year 2024-2025 or 2025-2026. In the interim, the program's short-term response includes the addition of relevant materials to three existing courses, ARCH 451 Specifications and Contracts, ARCH 452 Quantity Surveying, and ARCH 551 Professional Practice. The team found course material to be robust in most topics, however, was not able to find evidence of student achievement related to life-cycle costs.

The team also noted that the concept, while indicated within the new course description, is not reflected in the proposed goals & objectives, or learning outcomes indicated in the syllabus. The

team is satisfied with progress made since the last visit and is confident that, with a bit more clarity on the requirement for life-cycle costs, the criterion will be satisfied in short order.

C.3 Integrative Design: Ability to make design decisions within a complex architecture project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

2020 Visiting Team Assessment of C.3 Not Met: The technical courses provide the students with in-depth knowledge of site selection, building materials, and systems. However, student work does not show evidence of the ability to integrate the different technical aspects such as plumbing systems, electrical systems, mechanical systems, life safety, and environmental systems into a cohesive design solution.

2021 Visiting Team Assessment:
X [condition/criterion] is **Met**

Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 542: Graduation Project 1, and ARCH 521: Graduation Project 2.

D.1 Stakeholder Roles in Architecture: Understanding of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs.

2020 Visiting Team Assessment of D.1 Not Met: Evidence of student achievement at the prescribed level was not found.

2021 Visiting Team Assessment:
X [condition/criterion] is **Met**
Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 451 Specifications and Contracts, and ARCH 551 Professional Practice.

D.2 Project Management: Understanding of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

2020 Visiting Team Assessment of D.2 Not Met: Evidence of student achievement at the prescribed level was not found.

2021 Visiting Team Assessment:
X [condition/criterion] is **Met**
Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 551: Professional Practice and ARCH 451: Specifications and Contracts.

II. COMPLIANCE WITH THE 2019 CONDITIONS FOR NAAB INTERNATIONAL CERTIFICATION

Part One: Institutional Support and Commitment to Continuous Improvement
This part addresses the commitment of the institution, and its faculty, staff, and students to the development and evolution of the program over time.

Part One (I): Section 1—Identity and Self-Assessment

I.1.1 History and Mission: The program must describe its history, mission, and culture and how that history, mission, and culture shape the program's pedagogy and development.

- Programs that exist within a larger educational institution must also describe the history and mission of the institution and how that shapes or influences the program.
- The program must describe its active role and relationship within its academic context and university community. This includes the program's benefits to the institutional setting, and how the program as a unit and/or individual faculty members participate in university-wide initiatives and the university's academic plan. This also includes how the program as a unit develops multi-disciplinary relationships and leverages opportunities that are uniquely defined within the university and its local context in the surrounding community.

[X] Described

***2021 Analysis/Review of I.1.1*:** The history and mission are cascaded down from the institution (Hashemite University) to the College of Engineering then to the Architectural Department, where the program of Architectural Engineering is delivered. As mentioned in the PSER (p.10): "The Architectural Engineering Department was established to prepare qualified scientific and professional graduates who would be specialists in architectural engineering and the built environment. This Department, upon its formation, was awarded a Bachelor of Science degree in Architectural Engineering".

The PSER document also states that graduates of this program will be qualified to hold positions in the architectural engineering field as architects, project managers, and supervisors in both the public and private sectors.

The program vision, mission, core values and educational objectives align with the hierarchical pyramidal structure of the department, college and the university.

Detailed highlights on the collaboration initiatives and participation of faculty members of the department/program are mentioned. It also provides descriptions of several activities and endeavors undertaken by the department team members in connection to the university and other international institutions and events (pgs.13-18).

I.1.2 Learning Culture: The program must demonstrate that it provides a positive and respectful learning environment that encourages optimism, respect, engagement, and innovation between and among the members of its faculty, student body, administration, and staff in all learning environments, both traditional and non-traditional.

- The program must describe how faculty, staff, and students have been able to participate in the development of policies related to learning culture and the ongoing assessment and evaluation of those policies.
- The program must describe the ways in which students and faculty are encouraged to learn both inside and outside the classroom through individual and collective learning opportunities that include, but are not limited to, participation in field trips, professional societies and organizations, honor societies, and other program-specific or campus-wide and community-wide activities.

[X] Described

2021 Analysis/Review of I.1.2: Learning Culture of the PSER begins by stating that the design studio space and curriculum are central to learning in the program. Critical discourse, collaboration, and creativity are fostered in the studio. In meetings with both faculty and students, the emphasis on teaching and learning in the studio setting was noted.

Respect for diverse backgrounds of students and faculty is emphasized in many sections of the PSER. The program's studio culture policy was developed by students, administrators, and faculty over a multi-year period, with the goal of creating a positive studio culture that includes a focus on values such as mutual respect, professionalism, and collaboration. The policy focuses on personal and collective responsibilities in the school community and personal care and growth including health and wellbeing. In the meeting with students, it was clear that they are familiar with the studio culture policy.

The department has an AIAS chapter which serves as a voice for students, and the department has one student representative on the Hashemite University student council. In the student meeting, it was noted that there is not a clear avenue for conflict resolution or the addressing of student concerns related to administrative and resource needs with program administration. Students also noted the desire to collaborate more intentionally with other students in the program outside of scheduled class time, but difficulty identifying space within the program for both casual and formal collaborative activities and meetings. This, in addition to long commutes, has made certain collaborative efforts outside the classroom difficult.

Some specific examples of how faculty and students are engaged in co-curricular activities are included in I.1.4 Defining Perspectives. These include students participating in school-based service such as welcoming prospective and new students and in teams on competitions and work as teams to engage in community service. The department connects with the professional community through the Jordanian Engineering Association and construction and architecture firms and with an annual Job Fair. Through coursework, faculty and students have served the university, participating in design studies for a number of units on the campus. Extracurricular field trips to engage in community service projects are carried out in collaboration with non-profit organizations focused on serving communities.

The team is not unaware that the current environment related to the pandemic must certainly have an effect on these activities as well as on the student's desire for additional collaboration amongst themselves but felt the need to highlight these desires for reference by future visit teams.

I.1.3 Social Equity: The program must describe how social equity is defined within the context of the institution or the country in which it is located.

- The program must describe its approach to providing faculty, students, and staff with a culturally rich educational environment in which each person is equitably able to learn, teach, and work.
- The program must describe how its graduates have been prepared to be sensitive to differences in gender, culture, and customs, and be encouraged to assume responsibility as professionals in society.

[X] Described

2021 Analysis/Review of I.1.3: The PSER section I.1.3 Social Equity begins with the statement that Hashemite University is committed to eliminating discrimination in education and also committed to the provision of equal opportunity at all levels in education, and that this is in compliance with Jordanian laws and regulation. The university non-discrimination policy covers admissions and access to programs and activities including financial aid, educational services and employment, rates of pay and selection for training. The student body includes first year and transfer students from diverse backgrounds and non-Jordanian students. The PSER states, 'as long as a student of either gender or any national or social

rank has been accepted and enrolled in the architecture program, the candidate holds equity with all others in academic and social terms.

In 2018-19 the HU student body was 52% female and 48% male. In the architecture program in 2020-21, the focus on equity is especially apparent in the percentage of female students: 87% female AND 13% male. International students are included in these numbers; international students in architecture in 2020-21 are Palestinian and Kuwaiti. The faculty composition is parallel the student body with 77% female and 23% male faculty. In order for faculty to reflect the student body, recent faculty hires have been mostly women. The eighteen full time faculty represent a range of professional areas of expertise and include faculty with advanced education in the UK and US.

I.1.4 Defining Perspectives: The program must describe how it is responsive to the following perspectives or forces that affect the education and development of professional architects. The response to each perspective must further identify how these perspectives will continue to be addressed as part of the program's long-range planning activities.

A. Collaboration and Leadership. The program must describe its culture for successful individual and team dynamics, collaborative experiences, and opportunities for leadership roles.

[X] Described

2021 Analysis/Review of I.1.4: Collaboration and Leadership attributes have been identified over the diverse engagement of the architectural program staff, alumni and graduates over leadership roles and positions to the university, the profession, and the community. The program also offers its students a multitude of opportunities and endeavors to develop their leadership skills and elaborate collaborative initiatives.

These opportunities can be traced over the pedagogical stream such as core (ARCH 111 and Design Studios) and elective courses as well as. The collaboration is triggered and nurtured with local professional practice and industry.

The department also promotes associative opportunities to further build collaborative and leadership skills, such as support for AIAS activities, the student magazine, as well as students involvement in the University Council.

B. Design. The program must describe its approach to developing graduates with an understanding of design as a multidimensional process involving problem resolution and the discovery of new opportunities that will create value.

[X] Described

2021 Analysis/Review of I.1.4: The Hashemite architecture program centers the curriculum on the design studios in each semester of the program. All full-time faculty teach in the design studios. Across the five years and ten studio courses, the projects integrate and build design knowledge and incorporate an understanding of modes of representation, the iterative process of design, and scales of inquiry.

The culminating studios (two final semesters), Arch 542 and Arch 521 result in a comprehensive design process in two parts – theoretical and practical. The students are required to complete a period in practice, taking Arch 450 Practical Training for a minimum of eight weeks at some point after completing 90 of 172 total credit hours and prior to graduation.

Students are encouraged to apply what they learn in extracurricular activities such as participating in design competitions and workshops – the manual rendering workshop and the

weekly Open Studio where more advanced students mentor other students with their design projects.

C. Professional Opportunity. The program must describe its approach to educating students on the breadth of professional opportunities and career paths, including the transition to internship and licensure.

[X] Described

2021 Analysis/Review of I.1.4: The fundamental goal of the Department is *"to provide students with the intellectual and operational skills necessary to assume leadership roles in the architectural profession."* To accomplish this, students are provided a wide range of opportunities to engage with the profession and establish both short and long-term relationships through active participation by local professionals with the program. This is accomplished through coursework as well as through job fairs, "open days" critiques, juries, and workshops with participation with those local professionals.

All design studios parallel professional practice work, several required courses offer essential knowledge of working drawings, specifications, and contracts as well as surveying and professional practice. The program invites professional architects to provide guest lectures, give class lectures and provide informal workshops as well as to review student work in courses through critiques. The department maintains a strong relationship with the Jordanian Engineering Association, whose different activities provide additional resources to support architecture students at HU.

The annual Job Fair is used as another means to connect students with professional opportunities and regularly help place several students in summer internships as well as part-time employment during the academic year. In addition to these opportunities, architecture students are required to complete eight weeks of professional training and practice prior to graduation.

During our meeting with students, we listened to some student's concern over the design focus of the program to the exclusion of other non-traditional architectural roles. In this instance, the team understands "design focus" to mean the program's emphasis on design, production and traditional practice roles and the concern was towards being provided exposure and opportunities to know of and possibly investigate non-traditional roles in practice.

D. Stewardship of the Environment. The program must describe its approach to developing graduates who are prepared to both understand and take responsibility for stewardship of the environment and natural resources.

[X] Described

2021 Analysis/Review of I.1.4: The Hashemite University operates under a comprehensive environmental management strategy focused on creation of a green campus and on mitigating climate change. As such, it provides an incredible canvas for the Department to use in developing graduates that understand and live the responsibility as stewards of the environment. The university has a Renewable Energy Center and an Environmental Studies Center as well as a Sustainability Club, on campus.

These all serve to support the Department's attention to environmental stewardship, concepts which the students welcome and even request more focus on. The Department of Architecture is working to strengthen connections with the Engineering Projects Department in an effort to increase its student's environmental literacy and awareness.

Students are exposed to principles, strategies, and practices for the reduction of negative environmental impact and for connection of people with their natural environment. The program addresses these impacts in all design studios as well as coursework related to building materials, construction processes and environmental systems. Other courses contextualize environmental stewardship into their subject matter where relevant. The department also offers electives which allow students opportunities for more in-depth study and analysis of sustainability principles.

E. Community and Social Responsibility. The program must describe its approach to developing graduates who are prepared to be active, engaged citizens able to understand what it means to be professional members of society and to act ethically on that understanding.

[X] Described

2021 Analysis/Review of I.1.4: ARCH 551: Professional Practice addresses the general ethics and health, safety, and welfare responsibilities of graduates of the program through learning objectives including "ethical and legal professional responsibilities & liabilities" to show understanding of these concepts and preparation to act in professional settings post-graduation. This course also models the professionalism and ethical obligations expected of architecture graduates in real-world business settings, when handling client and real projects in simulated exercises. Conservation is also an important value imparted as a civic responsibility and highlighted in ARCH 551 as well as design courses, highlighting the rich architectural history and landscapes of Jordan and the value of architects in protecting and preserving them.

Civic responsibility is modeled and encouraged in design courses through projects the program terms "community design studio projects," which engage real-life stakeholders in campus construction projects and community-based studio projects that engage with the public. The specifics of these projects - length, student engagement, stakeholders, outcomes - vary, but students are exposed to these ideals and course goals across several contexts. Studio projects demonstrate an awareness of spatial and social engagement with the community and site while designing theoretical projects.

I.1.5 Long-Range Planning: An International Certification degree program must demonstrate that it has a planning process for continuous improvement that identifies multiyear objectives within the context of the institutional and program mission and culture. In addition, the program must describe its process for collecting data and using the data to inform its plan for continuous improvement.

[X] Described

2021 Analysis/Review of I.1.5: Guided by the program's mission and vision, long range planning focuses on continuous improvement with particular attention to program growth and students' needs. This is a core value of the department and college strategic plans and present in a process to evaluate student learning objectives of courses in the program. The college strategic plan is updated every four years and includes an assessment of full-time faculty hiring needs to align with teaching and research goals. Key issues of the department strategic plan include increased student success, resource management and academic quality alongside program growth, and increased outreach and engagement. The department is focused on curricular development across the program and has used the requirements for student learning outcomes and student performance of the Higher Education Accreditation Commission of Jordan (HEACJ) and the NAAB student performance criteria to guide the process.

As a relatively new program in Jordan, connection with alumni has been an important part of the department's institution building process. This includes understanding post-graduation professional pathways. The program also consults regularly with its advisory board to address the relationship between the academic experience and future professional needs of graduates.

As the program grows, the growth of the program faculty is a core part of the strategic plan. This includes the awarding of scholarships for architects to pursue advanced degrees in order to prepare for joining the full-time faculty. There are currently 18 faculty members, four scholarship students seeking doctorates, and a plan to hire three new faculty members in the next four years and offer three additional scholarships for students to pursue doctorates in key areas of curricular growth including interior design. The plan is to provide a total of eight scholarships. There is also a plan for the department to move from the Faculty of Engineering into a newly planned Faculty of Architecture and Interior Design. The current goal is for the new faculty to be established in 2023.

I.1.6 Assessment:

A. Program Self-Assessment Procedures: The program must demonstrate that it regularly assesses the following:

- How well the program is progressing toward its mission and stated objectives.
- Progress against its defined multiyear objectives.
- Strengths, challenges, and opportunities faced by the program while continuously improving learning opportunities.

The program must also demonstrate that results of self-assessments are regularly used to advise and encourage changes and adjustments to promote student success.

B. Curricular Assessment and Development: The program must demonstrate a well-reasoned process for curricular assessment and adjustments and must identify 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.

[X] Described

2021 Analysis/Review of I.1.6: The program adopts a rigorous multi-layered quality assurance and self-assessment protocol. It adopts complex procedures intended to evaluate and measure the outcome of students' learning outcomes in terms of knowledge acquired, understanding developed, and skills or abilities gained.

The Program Self-Assessment Procedures are linked to several long-term planning procedures as mentioned in Section I.1.10. These tasks and procedures also serve as the self-assessment protocols and processes in the department. The later ones can be summarized as: the accreditation review, curricular review and development, pedagogy retreats, and faculty discussion at regular faculty meetings provide regular, formal self-assessment opportunities.

The assessment procedures are undertaken at different layers, constituting a cyclic process and adopts circular assessment design. The below contains the listing of most relevant items:

(i)Assessment of Studio Work and Student Progress; (ii) Student Self-Assessment of their Design Work; (iii) Students Small Group Discussions and Student Peer-Assessment of Design Work; (iv) Jury Assessment of Students Design Work; (v) Evaluating Student Performance in Regular Courses; (vi) Faculty and Staff Meetings; (vii) Department Committees; (viii) Assessment Contributions Made by Students and Student Organizations; (ix) Student Evaluations of Teaching; (x) Peer Evaluations of Teaching; (xi) Faculty Course Self-Assessment; (xii) circular assessment and development stage/section.

The program has also successfully mapped the university's requirements for academic assessment, aligning them with the 2019 International Certification Conditions and Procedures for quality assurance.

While all procedures and related processes are well-defined and rigorous, "informal" discussions provide further flexibility and contextual adaptation to the assessment process. This is considered an important and valuable attribute, that needs to be objective and linked to the learning outcomes. Processes pertaining to curricular changes involve the whole departmental team, and college senior administrators (refer to figure 1- p. 59).

Part One (I): Section 2—Resources

I.2.1 Human Resources and Human Resource Development: The program must demonstrate that it has appropriate human resources to support student learning and achievement. This includes full- and part-time instructional faculty; administrative leadership; and technical, administrative, and other support staff.

- The program must demonstrate that it balances the workloads of all faculty to support a tutorial exchange between the student and the teacher that promotes student achievement.
- The program must demonstrate that faculty and staff have opportunities to pursue professional development that contributes to program improvement.
- The program must describe the support services available to students in the program, including, but not limited to, academic and personal advising, career guidance, and internship or job placement.

[X] Demonstrated

2021 Team Assessment of I.2.1: The Hashemite University Architecture Department has eighteen full time faculty, four of whom are tenured and fourteen on tenure track. One of the tenured faculty is at the rank of full professor and three are at the rank of associate professor. Of the tenure-track faculty, four are assistant professors and ten are lecturers. Faculty at the rank of lecturer have obtained Master of Science degrees while faculty at the rank of assistant professor or above have doctorates. All eighteen full time faculty have professional registration through the Jordan Engineering Association and at least one faculty member (Dr. Shaher Rababeh) has additional certifications.

All full-time faculty teach design studio and other courses in their areas of specialization. The faculty minimum teaching load, between nine and fifteen hours, is in accordance with Hashemite University guidelines. Part time faculty teach no more than six credits. Full time faculty are given release time for administrative work and research.

The college and university's support for research was noted by the faculty to be sufficient. However, during the meeting with faculty, it was noted that because of the studio centered curriculum, the workload was intense in comparison to other faculty in engineering and the intensity was challenging in terms of the teaching / research balance during the academic year.

Tenure and promotion policies and procedures are specified by the university and align with tenure and promotion standards of US institutions. Sabbaticals and opportunities for unpaid leave are available for tenured faculty. Faculty development opportunities are available through the college and university as well as through professional groups and societies, and funds are available to support conference travel, publication, and research. Through an initiative called 'the practicing professor', faculty are encouraged to work in firms and link their teaching with professional experience. The PSER notes that salaries for faculty are competitive with other schools in Jordan.

The strategic plan aligns growth in the full-time faculty with growth of the student body and aims at a faculty to student ratio of 1:15. The Architecture Department awards scholarships (tuition and living expenses) for individuals to obtain doctorates in architecture at international universities. The scholarship recipients sign a contract to join the Architecture Department as tenure track faculty upon graduation. There are currently four individuals in this program. The 2021-24 strategic plan includes three additional scholarships and the hiring of three additional faculty.

The Department of Architecture has an AIAS chapter to support professional development and has strong relationships with industrial partners that benefit students. This includes the yearly event focused on preparation for the job market for graduating students and a yearly career day. Through the department, students have access to temporary jobs in firms while they are students. The students have access to a university career guidance office. Students are supported through co-curricular programming including field trips and workshops and are encouraged to work in teams on architecture competitions. An

important feature of the program is the one-year practical training graduation requirement for students. The program is guided by a supervisor and practical training is carried out at national and international firms.

The department is served by several staff, including three lab supervisors, two technicians, a library supervisor and a department secretary who is supported by undergraduate student workers in the office and graduate assistants in the lab areas. Staff have access to training and development to support their jobs. In the meeting with students, it was expressed that although there are adequate facilities and tools to support their education, the staffing of labs, studios and other areas that housed workspaces, tools, and equipment to aid in their education did not align with student's needs. Students of the architecture programs also have unlimited access to all the workshops of the Faculty of Engineering.

The team noted several items which seem to be contributing to this misalignment. First, is the arduous procedure for hiring staff, described elsewhere in this report, which follows a governmental process of selection, approval and ultimate on-boarding. More importantly, the newness of the building, combined with the timing of the pandemic shutdown of the campus means that some students in the program have had very limited time in the building, while others have not been in the building for regular classes at all. At the time of the visit, the program was still in the process of coming back to campus full-time and social distancing guidelines are still very much in place – meaning that a process of rolling out facility use is still ongoing.

The team feels that, in some ways, this seems to be creating a condition of "not knowing what they don't know," which is likely contributing to the student's sense of misalignment of needs. The team is convinced that these issues will be resolved as all parties return to a more normal, or at least settled, schedule and full use of facilities.

I.2.2 Physical Resources: The program must describe the physical resources available and how they support the pedagogical approach and student achievement.

Physical resources include, but are not limited to, the following:

- Space to support and encourage studio-based learning.
- Space to support and encourage didactic and interactive learning, including labs, shops, and equipment.
- Space to support and encourage the full range of faculty roles and responsibilities, including preparation for teaching, research, mentoring, and student advising.
- Information resources to support all learning formats and pedagogies in use by the program.

If the program's pedagogy does not require some or all of the above physical resources, for example, if online course delivery is employed to complement or supplement on-site learning, then the program must describe the effect (if any) that online, on-site, or hybrid formats have on digital and physical resources.

[X] Demonstrated

2021 Team Assessment of I.2.2: Evidence of the program's facilities was provided within the PSER in the form of plans, diagrams, and narrative descriptions. Facilities are also documented within one of three video presentations prepared for the team.

The Architectural Department is housed within a new, four-story building, first occupied in May of 2018. The building, located in front of the main Faculty of Engineering Building and located in the "Southern Classrooms Complex (Al Hussein Al Albani Building)," adjacent to one of three University Entrances.

Provided within the building are (17) Design Studios, including an Open Studio, (3) Lab spaces, (6) CAD Classrooms, Offices, (3) meeting rooms and the Architecture Library all aligned along double loaded corridors surrounding a four-story atrium space that provides for open engagement and are used for

exhibits and as jury spaces. The Al Hussein Albani complex also provides 3 Amphitheaters, and (32) Classrooms all equipped with smart learning technologies.

In addition to full access to the College of Engineering workshops, the program also provides and operates fully equipped Fabrication, Energy, Acoustical, Lighting, Surveying, and Building Material Labs as well as Engineering Workshops. During our meeting with students, their concern over the availability of these labs to them was raised. They expressed concern over the "misalignment" of their needs to use the facilities with their actual operating times and availability. Because these issues were primarily indicated to be related to lack of staffing, the team has included a full discussion of these concerns within Section I.2.1 Human Resources and Human Resources Development, above.

I.2.3 Financial Resources: The program must demonstrate that it has appropriate financial resources to support student learning and achievement.

[X] Demonstrated

2021 Team Assessment of I.2.3: The main source of revenue for Hashemite University, a state-run university, is student tuition. The university budget is organized in terms of recurrent expenditures (operations), capital expenditures, and scientific research and scholarship.

Annual budget requests are made by the Faculty of Engineering to the university's central budgeting office. The PSER indicates revenue and expenditures for both the college and the department. The largest allocation for the college and department budgets is for faculty salaries. Other budget categories include administrative salaries, scholarships, and costs for labs, computers, and supplies.

Scholarship costs have increased over a three-year period at the department level. Costs for labs, and computers, saw a substantial increase in 2020. According to the information provided, the revenue for both the college and the department varies each year, but the budget is adequate to cover expenditures. There is adequate support available for students with financial need in the form of scholarships and loans.

I.2.4 Information Resources: The program must demonstrate that all students, faculty, and staff have convenient, equitable access to literature and information, as well as appropriate visual and digital resources that support professional education in the field of architecture.

Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual-resource professionals who provide information services that teach and develop the research, evaluative, and critical thinking skills necessary for professional practice and lifelong learning.

[X] Demonstrated

2021 Team Assessment of I.2.4: Hashemite University library and the architectural engineering program library both support the needs of faculty and students with different offerings. The program library is most conveniently accessible to students, housed on the fourth floor of the program's building, and currently contains over 1,200, an increase of 200 titles since the last visit in December 2020. New equipment has also been added, offering more utility to students and librarians. A second librarian is planned to be hired, if approved by the governmental and university departments responsible for facilitating the new hire process, with no specific timeframe.

Most equipment remains at the main library, 200m away. However, a transfer of all architectural engineering titles to the program library was initiated this year to consolidate resources where students would have more immediate access and has been completed. Faculty members also engage in regular updates and suggestions of new titles to add to the collection. Students are introduced to library resources through coursework and research assignments, often assigned as required reading in course syllabi.

In student meetings, the Architectural Engineering Library resources were identified as lacking specific support for early design student research and resources, mostly compounded by the reality of pandemic distance learning limiting access to the library over the past academic semesters. Concern had been expressed during Visit Two over the low number of titles in circulation related to architectural study and project documentation, causing issues for students attempting to gather physical and digital resources and information for research and studio use. Current growth seems to indicate the library is slowly being established and increasing in resources as the program grows, and delays in growth and access can also be attributed to certain pandemic limitations.

I.2.5 Administrative Structure and Governance

- **Administrative Structure:** The program must describe its administrative structure and identify key personnel within the context of the program and the school, college, and institution.
- **Governance:** The program must describe the role of faculty, staff, and students in both program and institutional governance structures. The program must describe the relationship of these structures to the governance structures of the academic unit and the institution.

[X] Demonstrated

2021 Team Assessment of I.2.5: The administrative structure of Hashemite University is described in the PSER and confirmed in subsequent meetings with the administration and staff (PSER pp.92 - 99). Currently, the program is chaired by the department chair, Dr. Ahmad Al Husban and exists within the Engineering Faculty under the Dean, Professor Awni Itradat, to whom the department chair reports directly. The Dean, with guidance from the Faculty Council, directs college operations, is responsible for developing and implementing college-wide policies, and reports directly to the Vice President for Academic and Administrative Affairs (Prof Khalid Al Hyari).

The department chair oversees all staff and faculty within the program itself. Faculty and staff from the department participate in department governance through participation in the numerous working committees, including department committees and the department council. The various department committees report to the higher department council, which makes and informs all department policies with these inputs. The Architecture Department Chair is responsible for supervising the facilities, hiring faculty, scheduling academic offerings, administering academic and institutional policies, coordinating with the registrar, and overseeing aspects of the academic program and student advising. The department chair collaborates effectively with the college dean to make decisions around resource allocation on more complex matters but is mostly autonomous.

This administrative structure will be evaluated as the program moves to become independent of the engineering faculty, beginning in 2023. The aspirational goal is to have a greater and more visible leadership role as a discipline in university partnerships and on campus construction and planning once an independent Architectural Engineering faculty has been established.

Students are involved in governance at the university level through the Hashemite University Student Council (HUSC) and at the program level through the Engineering College Student Council, which has student representation from each department, including architectural engineering. In student meetings, concern was expressed over the ability to resolve conflict or address physical and learning culture needs in partnership with administration. Students felt that there were very few structured expectations for seeking resolution, and administration lacked accountability in addressing repeated requests.

PART TWO (II): EDUCATIONAL OUTCOMES AND CURRICULUM

This part has four sections that address the following:

- **Student Performance**. This section includes the Student Performance Criteria (SPC). Internationally certified degree programs must demonstrate that graduates are learning at the level of achievement defined for each of the SPC listed in this part. Compliance will be evaluated through the review of student work.
- **Curricular Framework**. This section addresses institutional quality assurance and national authorization, credit hour requirements, general education, and access to optional studies.
- **Evaluation of Preparatory Education**. The NAAB recognizes that students entering a professional degree program from a preprofessional program and those entering from a non-preprofessional degree program have different needs, aptitudes, and knowledge bases. In this section, programs are required to demonstrate the process by which incoming students are evaluated and to document that the SPC expected to have been met in educational experiences at other institutions have indeed been met.
- **Public Information**. The NAAB expects internationally certified degree programs to provide information to the public about International Certification activities and the relationship between the program and the NAAB, admissions and advising, and career information.

Programs demonstrate their compliance with Part Two in four ways:

- A narrative report that briefly responds to each request to “describe, document, or demonstrate.”
- A review of evidence, artifacts, and observations by the visiting team, as well as through interviews conducted during the visit.
- A review of student work that demonstrates student achievement of the SPC at the required level of learning.
- A review of websites, URLs, and other electronic materials.

Part II, Section 1: Student Performance—Education Realms and Student Performance Criteria

II.1.1 Student Performance Criteria: The SPC are organized into realms to more easily understand the relationships between individual criteria.

Realm A: Critical Thinking and Representation: Graduates from NAAB-accredited programs must be able to build abstract relationships and understand the impact of ideas based on the research and analysis of multiple theoretical, social, political, economic, cultural, and environmental contexts. This includes using a diverse range of media to think about and convey architectural ideas, including writing, investigative skills, speaking, drawing, and model making.

Student learning aspirations for this realm include:

- Being broadly educated.
- Valuing lifelong inquisitiveness.
- Communicating graphically in a range of media.
- Assessing evidence.
- Comprehending people, place, and context.
- Recognizing the disparate needs of client, community, and society.

A.1 Professional Communication Skills: *Ability* to write and speak effectively and use appropriate representational media for both, within the profession and with the public.

[X] Met

2021 Team Assessment of A.1: Evidence of student achievement at the prescribed level was found in student work prepared for several communications courses: ARCH 101 Architectural Drawing, ARCH 102 Computer Applications in Architectural Design, ARCH 111 Free Hand Drawing, ARCH 112 Architectural Communications and Presentations, ARCH 201 Computer Applications for Architectural Design, ARCH 213 Architectural Communications and Presentations, and ENGI 203 Ethics and Communications Skills.

A.2 Design Thinking Skills: *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.

[X] Met

2021 Team Assessment of A.2: Evidence of student achievement at the prescribed level was found in student work prepared for the graphic communication and foundation courses and one elective course ARCH 111: Free Hand Drawing, Arch 122: Basic Design (2), Arch 213: Architectural Communications and presentation (2).

A.3 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.

[X] Met

2021 Team Assessment of A.3: Evidence of student achievement at the prescribed level was found in student work prepared for Arch 221 Architectural Design 1.

A.4 Architectural Design Skills: *Ability* to effectively use basic formal, organizational, and environmental principles, and the capacity of each to inform two- and three-dimensional design.

[X] Met

2021 Team Assessment of A.4: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 122: Basic Design (2), ARCH 221: Architectural Design 1, and ARCH 213: Architectural Communications and Presentation (2).

A.5 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.

[X] Met

2021 Team Assessment of A.5: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 121: Basic Design (1), Arch 122: Basic Design (2), ARCH 342: Islamic Architecture, ARCH 422: Architectural Design (6).

A.6 Use of Precedents: *Ability* to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices regarding the incorporation of such principles into architecture and urban design projects.

[X] Met

2021 Team Assessment of A.6: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 222: Architectural Design (2), ARCH 345: Theory and Methods of Architectural Design, ARCH 563: Landscape Design; ARCH 343: Theory of Modern Architecture.

A.7 History and Culture: *Understanding* of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, and technological factors.

[X] Met with Distinction

2021 Team Assessment of A.7: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 241: History and Theory of Architecture; ARCH 341: History and Theory of Architecture 2; ARCH 456: Conservation of Architectural Heritage; ARCH 463: Urban Design and Planning; and ARCH 465: Housing. The team has determined that this criterion is Met with Distinction on the basis of the program's exemplary handling of history at every level and its broad look at a variety of cultures and traditions throughout all work.

A.8 Cultural Diversity and Social Equity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to buildings and structures.

[X] Met with Distinction

2021 Team Assessment of A.8: Evidence of student achievement at the prescribed level was found in student work prepared for the following courses: ARCH 241: History and Theory of Architecture; ARCH 341: History and Theory of Architecture 2; ARCH 345: Theory and Methods of Architectural Design; ARCH 342: Islamic Architecture, ARCH 343: Theory of Modern Architecture; ARCH 456: Conservation of Architectural Heritage; and ARCH 465: Housing. The team has determined that this criterion is Met with Distinction on the basis of the program's exemplary handling of cultural diversity and equity at every level and its broad look at a variety of cultures and traditions throughout all work.

Realm A. General Team Commentary: Student achievement in Realm A was strong and provides a broad foundation of knowledge for students to build on, based on a review of student work as evidence. History and Theory continues to be a strong area for the program, as well as strengths in idea clarity and communication. Cultural Diversity and Social Equity is also broadly woven into curriculum and stands out for its consistency and sensitivity to cultural context. The dominant stream of the program is based on the strength of Realm A and dimensions of humanities and liberal arts.

A7: History and Culture and A8: Cultural Diversity and Social Equity are noted as Met with Distinction for exemplary handling of history and theory at every level and their broad look at a variety of cultures and traditions.

Realm B: Building Practices, Technical Skills and Knowledge: Graduates from internationally certified degree programs must be able to comprehend the technical aspects of design, systems, and materials and be able to apply that comprehension to architectural solutions. In addition, the impact of such decisions on the environment must be well considered.

Student learning aspirations for this realm include:

- Creating building designs with well-integrated systems.
- Comprehending constructability.
- Integrating the principles of environmental stewardship.
- Conveying technical information accurately.

B.1 Pre-Design: *Ability* to prepare a comprehensive program for an architectural project, which must include an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.

[X] Met

2021 Team Assessment of B.1: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 321 Architectural Design and ARCH 542 Graduation Project.

B.2 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.

[X] Met

2021 Team Assessment of B.2: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 222: Architectural Design (2), ARCH 422: Architectural Design (6).

B.3 Codes and Regulations: *Ability* to design sites, facilities, and systems that are responsive to relevant codes and regulations and include the principles of local life-safety and accessibility standards.

[X] Met

2021 Team Assessment of B.3: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 336: Building Finishing, ARCH 542: Graduation Project 1, and ARCH 521: Graduation Project 2.

B.4 Technical Documentation: *Ability* to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

[X] Met

2021 Team Assessment of B.4: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 423 Working Drawings and ARCH 451: Specifications & Contracts.

B.5 Structural Systems: *Ability* to demonstrate the basic principles of structural systems and their ability to withstand gravity, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

[X] Met

2021 Team Assessment of B.5: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH335 Building Construction Systems, CIVL 214 Engineering Mechanics, CIVL 313 Structural Analysis for Architecture Students, and CIVL 324 Concrete & Steel Structures for Architecture Students.

B.6 Environmental Systems: *Ability* to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.

[X] Not Met

2021 Team Assessment of B.6: Evidence of student achievement at the prescribed level related to the understanding of the principles of environmental systems was found in student work prepared for ARCH 321: Architectural design (3), ARCH 322: Architectural Design (4), ARCH 563: Landscape Design, ARCH 471: Lighting and Acoustics. However, there was no robust and consistent evidence showing adequate inclusion and applications, rising to the level of ability, of active and passive heating and cooling, daylighting, and indoor air quality in related design processes.

B.7 Building Envelope Systems and Assemblies: *Understanding* of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

[X] Met

2021 Team Assessment of B.7: Evidence of student achievement at the prescribed level was found in student work prepared for Arch 322 Architectural Design 4, and Arch 336 Building Finishing.

B.8 Building Materials and Assemblies: *Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

[X] Met

2021 Team Assessment of B.8: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 232: Building Materials; ENGB 101: Engineering Workshop; ARCH 336: Building Finishing; MECH 450: Electro-Mechanical Systems for Architecture Students, ARCH 452: Quantity Surveying, and ARCH 551: Professional Practice.

B.9 Building Service Systems: *Understanding* of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems.

[X] Met

2021 Team Assessment of B.9: Evidence of student achievement at the prescribed level related to lighting, mechanical, plumbing and electrical systems was found in student work prepared for ARCH 471 Lighting & Acoustics, MECH 450 Electro-mechanical Systems for Architecture Students, and ENGB 101 Engineering Workshop.

B.10 Financial Considerations: *Understanding* of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs.

[X] Not Met

2021 Team Assessment of B.10: While the team found evidence of achievement on most topics within ARCH 451 Specifications and Contracts, ARCH 452 Quantity Surveying, and ARCH 551 Professional Practice, we were unable to find evidence of student achievement related to life-cycle costs.

Realm B. General Team Commentary: Realm B reveals strength in consistent documentation and analysis across the curriculum, revealing student decision-making and iterative design processes. This builds on the strengths of pre-design in Realm A, particularly technical documentation as well as codes and regulations. Structural systems were a point of distinction in student work, as well as building materials, finishes, and assemblies.

Realm C: Integrated Architectural Solutions.

Graduates from internationally certified degree programs must be able to demonstrate that they have the ability to synthesize a wide range of variables into an integrated design solution.

Student learning aspirations for this realm include

- Comprehending the importance of research pursuits to inform the design process.
- Evaluating options and reconciling the implications of design decisions across systems and scales.
- Synthesizing variables from diverse and complex systems into an integrated architectural solution.
- Responding to environmental stewardship goals across multiple systems for an integrated solution.
- Knowing societal and professional responsibilities

The internationally certified degree program must demonstrate that each graduate possesses skills in the following areas:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

[X] Met

2021 Team Assessment of C.1: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 542: Graduation Project (1)

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

[X] Met with Distinction

2021 Team Assessment of C.2: Evidence of student achievement at the prescribed level was found in student work prepared for Arch 421 Architectural Design 5 and Arch 521 Graduation Project 2. The team was impressed with the depth of research and of the methodology for informing design processes which were exhibited by student work. The criterion is noted as Met with Distinction for those reasons and also because this strength is exhibited consistently throughout project work.

C.3 Integrative Design: *Ability* to make design decisions within a complex architecture project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

[X] Met

2021 Team Assessment of C.3: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 542: Graduation Project 1, and ARCH 521: Graduation Project 2.

Realm C. General Team Commentary: Realm C is a broad and complex area of integrated and cumulative student performance criteria, and the program has taken steps since the last visit to improve both their delivery of learning outcomes as well as clarity in documenting student ability through new and revised curricular assignments. In particular, the Graduation Project courses present a strong cumulative, integrated design solution in the final year of assessment across both low and high pass examples.

The team felt C.2: Integrated Evaluations and Decision-Making Design Process was Met with Distinction due to the consistency and quality of student work documenting process, iteration, and progression through design decisions and concepts. This builds on fundamental strengths noted in Realm A.

Realm D: Professional Practice.

Graduates from internationally certified degree programs must understand business principles for the practice of architecture, including management, advocacy, and the need to act legally, ethically, and critically for the good of the client, society, and the public.

Student learning aspirations for this realm include

- Comprehending the business of architecture and construction.
- Discerning the valuable roles and key players in related disciplines.
- Understanding a professional code of ethics, as well as legal and professional responsibilities.

The internationally certified degree program must demonstrate that each graduate possesses skills in the following areas:

D.1 Stakeholder Roles in Architecture: *Understanding* of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs.

[X] Met

2021 Team Assessment of D.1: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 551 Professional Practice and ARCH 451 Specifications and Contracts.

D.2 Project Management: *Understanding* of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

[X] Met with Distinction

2021 Team Assessment of D.2: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 551: Professional Practice and ARCH 451: Specifications and Contracts. Concepts of Project Management are delivered at a depth and breadth across the program that is exemplary. The team feels that the entirety of Realm D is presented with commendable thoroughness and chose this particular criterion to be Met with Distinction because it is in this criterion that all of the elements of Realm D seem to come together in the most complete way.

D.3 Business Practices: *Understanding* of the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship.

[X] Met

2021 Team Assessment of D.3: Evidence of student achievement at the prescribed level was found in student work prepared for Arch 551 Professional Practice.

D.4 Legal Responsibilities: *Understanding* of the architect's responsibility to the public and the client as determined by local regulations and legal considerations involving the practice of architecture and professional service contracts.

[X] Met

2021 Team Assessment D.4: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 451: Specification and Contracts.

D.5 Professional Conduct: *Understanding* of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of local rules of conduct and ethical practice.

[X] Met

2021 Team Assessment D.5: Evidence of student achievement at the prescribed level was found in student work prepared for ARCH 551: Professional Practice and ARCH 451: Specifications and Contracts.

Realm D. General Team Commentary: The program handles this entire realm with detail and commendable excellence. The team also noted that the various elements of Realm D were incorporated into the project work of courses beyond this realm.

The team chose to single out D.2 Project Management as being Met with Distinction, because it is in this criterion that the elements of practice and ethics within Realm D seem to come together in the most complete way. The thoroughness of content is covered across multiple courses, but especially within ARCH 451: Specifications and Contracts and ARCH 551: Professional Practice. Content presented for this SPC was rigorous and prepares students well for professional practice, as well as effective application to student work in studio courses.

Part II, Section 2: Curricular Framework

II.2.1 National Authorization and Institutional Quality Assurance: The institution offering the internationally certified degree program must be or be part of an institution that has been duly authorized to offer higher education in the country in which it is located. Such authorization may come from a government ministry or other type of agency.

The institution must have explicit, written permission from all applicable national education authorities in that program's country or region. At least one of the agencies granting permission must have a system of institutional quality assurance and review which the institution is subject to and which includes periodic evaluation.

[X] Met

2021 Team Assessment of II.2.1: The program is administrated by the Architectural Department, an academic department hosted by Hashemite University, which is duly certified on a three-year cycle by the Accreditation & Quality Assurance Commission for Higher Education Institutions (AQACHEI) in Jordan.

The Commission was established in 2007 according to Law No. (20) by the name of Higher Education Accreditation Commission (HEAC) (Under the umbrella of the minister of Higher Education and Scientific Research). In 2009, the Law was modified such that the HEAC was fully independent. (Under the umbrella of Prime Ministry). In 2016, the Commission was expanded to include "Quality Assurance" in its mission (AQACHEI).

AQACHEI aims to advance quality and equity in higher education in Jordan, whether in assessment, ranking, or conducting valid, reliable, and unbiased testing services. It also strives to improve the status of higher education in the Kingdom; assuring its quality, motivating higher education institutions to open up to and interact with universities, scientific research institutions, and international accreditation and quality control commissions; and developing higher education by employing internationally comparable standards. AQACHEI will contribute to quality assurance of Jordanian higher education institutions in providing consultations, expertise, and technical support in areas of qualitative assessment of learning outcomes, testing and measurement, evaluation tools, software and techniques, and professional training of faculty and employees through conducting specialized workshops and seminars.

As per AQACHI, the minimum requirements to obtain a bachelor's degree in Architectural Engineering are (165) credit hours. The program exceeds the requirements by choice.

II.2.2 Professional Degrees and Curriculum:

For International Certification, the NAAB requires degree programs in architecture to demonstrate that the program is comparable in all significant aspects to a program offered by a U.S. institution. Further, the program must demonstrate that the degree awarded at the conclusion of this program of study entitles the graduate to practice architecture in his/her home country, subject to meeting any requirements for experience and/or examination. Internationally Certified degree programs must include (or otherwise acknowledge) general studies, professional studies, and electives.

Curricular requirements are defined as follows:

- **General Studies**. A professional degree program must include general studies in the arts, humanities, and sciences, either as an admission requirement or as part of the curriculum. It must ensure that students have the prerequisite general studies to undertake professional studies. The curriculum leading to the architecture degree must include a course of study comparable to 1.5 years of study or 30% of the total number of credits for an undergraduate degree. These courses must be outside architectural studies either as general studies or as electives with content other than architecture.

Nota Bene: If this education is acquired prior to university-level education, the program must describe the system for general studies education in the local context, and how it is substantially equivalent to the requirement stated above.

- **Professional Studies**. The core of a professional degree program consists of the required courses that satisfy the NAAB Student Performance Criteria (SPC). The professional degree program has the discretion to require additional courses including electives to address its mission or institutional context.

- **Electives**. A professional degree program must allow students to pursue their special interests. The curriculum must be flexible enough to allow students to complete minors or develop areas of concentration, inside or outside the program.

[X] Met

2021 Team Assessment of II.2.2: The 172-credit curriculum is described in detail on pages 110-112 of the PSER and includes course descriptions for all required courses on pages 171-217. Students attend the program over five years and the curriculum incorporates 103 credits of architecture required courses and 15 credits of architecture electives. The course descriptions indicate a range of topics covered in the professional architecture curriculum.

The PSER (pgs. 218-221) has course descriptions for twelve architecture electives listed across a range of subject area: human behavior, historic and local architecture, sustainability and building technology, interiors, to name a few. The college of engineering requires 27 credits including science and mathematics, computer programming and applications, communications, and ethics. There are also 12 credits of university requirements and 15 credits of university electives. These include English and Arabic language courses taken in the first year alongside most of the college level requirements.

The curriculum is professionally focused to fulfill the requirements of a Bachelor of Engineering degree, the standard for architecture in Jordan. In our meeting with faculty, we confirmed what is evidenced in the course work: an emphasis on cultural diversity and social equity that is integrated into the architecture curriculum.

Most of the architecture and university elective courses are slotted in the final two years of the curriculum. Having the electives in the final two years provides a way for students to explore areas of interest that parallel their professional studies. The department is a member of the Tuning Middle East and North Africa (T-MEDA grant program), described on pages 221-224 and seeks to modernize curricula to focus on learning outcomes and competencies in architecture. Hashemite has implemented the pilot program in their professional curriculum.

Part II, Section 3: Evaluation of Preparatory Education

The program must demonstrate that it has a thorough and equitable process for evaluating the preparatory or preprofessional education of individuals admitted to the International Certification degree program.

- Programs must document their processes for evaluating a student's prior academic course work related to satisfying NAAB student performance criteria when a student is admitted to the professional degree program.
- In the event a program relies on the preparatory educational experience to ensure that admitted students have met certain SPC, the program must demonstrate it has established standards for ensuring these SPC are met and for determining whether any gaps exist.

[X] Not Applicable

2021 Team Assessment: The condition is not applicable, Hashemite University is subject to national Student Admissions policies administered by a state-run agency which handles all admissions, the Unified Admission Coordination Unit (UACU). As such, the University itself does not have a role in the evaluation of preparatory education or in any other admission decisions. Students are admitted in one of three categories: regular, parallel, or international.

Regular students are those of Jordanian Nationality and are accepted based on a nationwide ranking of their GPA in their secondary school. A GPA of 80% or more in the scientific realm is required for admission in any engineering or architecture program.

Parallel students are those who have been excluded on the basis of their ranking, are allowed to enroll in the same academic programs as the regular students, as long as their GPA is above 80%, and pay a considerably higher tuition.

International students are those of non-Jordanian Nationality and are admitted based on special requirements established by the UACU, which include a minimum high school degree, equivalent GPA and other requirements.

Part Two (II): Section 4 – Public Information

The NAAB expects programs to be transparent and accountable in the information provided to students, faculty, and the public. As a result, the following conditions require all International Certification degree programs to make certain information publicly available online.

II.4.1 Statement on International Certification of Degrees: In order to promote an understanding of the internationally certified degree by prospective students, parents, and the public, programs being reviewed for the International Certification designation must include in catalogs and promotional media the *exact language* found in the *Procedures for NAAB International Certification*, Appendix 5A.

[X] Met

2021 Team Assessment of II.4.1: The program requires the required statement on their website under the "NAAB" tab which is located in the "Accreditation" tab from the Department's landing page. Evidence by way of a link was provided within the PSER.

II.4.2 Access to Conditions and Procedures for NAAB International Certification: In order to assist parents, students, and others as they seek to develop an understanding of the body of knowledge and skills that constitute a professional education in architecture, the school must make the following documents available online and accessible by all students, parents, and faculty:

- *2019 Conditions for NAAB International Certification*
- *Procedures for NAAB International Certification* (edition currently in effect)

[X] Met

2021 Team Assessment of II.4.2: The program provides links to both the Conditions and Procedures on their website under the "NAAB" tab which is located in the "Accreditation" tab from the Department's landing page. Evidence by way of a link was provided within the PSER.

II.4.3 Access to Career Development Information: In order to assist students, parents, and others as they seek to develop an understanding of the larger context for architecture education and the career pathways available to graduates of internationally certified degree programs, the program must make appropriate resources related to a career in architecture available to all students, parents, staff, and faculty.

[X] Met

2021 Team Assessment of II.4.3: A link to the required information is located on their website under the "NAAB" tab which is located in the "Accreditation" tab from the Department's landing page. Evidence by way of a link was provided within the PSER.

II.4.4 Public Access to Program Self-Evaluation Reports and Visiting Team Reports: In order to promote transparency in the process of International Certification in architecture education, the program is required to make the following documents available to the public:

- Most recent decision letter from the NAAB (received after the last visit)
- The most recent Program Self-Evaluation[1] Report (PSER prepared for visit 2)
- The final edition of the most recent Visiting Team Report, including attachments and addenda

These documents must be housed together and accessible to all. Programs are required to make these documents available electronically from their websites.

[X] Met

2021 Team Assessment of II.4.4: A link to the required information is located on their website under the "NAAB" tab which is located in the "Accreditation" tab from the Department's landing page. Evidence by way of a link was provided within the PSER.

II.4.5. Admissions and Advising: The program must publicly document all policies and procedures that govern how applicants to the program being reviewed for International Certification are evaluated for admission. These procedures must include first-time, first-year students as well as transfers within and from outside the institution.

This documentation must include the following:

- Application forms and instructions
- Admissions requirements, admissions decisions procedures, including policies and processes for evaluation of transcripts and portfolios (where required), and decisions regarding remediation and advanced standing
- Forms and a description of the process for the evaluation of degree content
- Requirements and forms for applying for financial aid and scholarships

[1] This is understood to be the Program Self-Evaluation Report from the previous visit (if applicable), not the Program Self-Evaluation for the visit currently in process.

- Student diversity initiatives

[X] Not Applicable

2021 Team Assessment of II.4.5: The information is not applicable. Hashemite University is subject to national Student Admissions policies administered by a state-run agency which handles all admissions. The University itself does not have a role in admission decisions nor do they have any records related to the admissions process. Due to the rigidity of the curriculum, advising is not necessary and as part of the university's policy, they do not keep such records. The process was explained in the PSER, in Section II.4.5 and within Part II, Section 3 - Evaluation of Preparatory Education.

Appendix 1: Conditions Met with Distinction

A.7 History and Culture

The curriculum includes several history courses which delve into the history and culture of the region as well as outside the region, in the modern world. The coursework includes the study of historic structures as a means of understanding why they were designed and built in specific ways, who was responsible for their construction and the roles societal roles they played within their communities. Students are then asked to use this knowledge as a foundation of their design work and incorporate these references in their project work. The results of their investigation are then represented by the students in their design work, through the use of models and other presentation techniques. The team was impressed by the thoroughness and breadth of study as well as the level at which it is present throughout all coursework.

A.8 Cultural Diversity and Social Equity

As in the work of criterion A.7, the team was impressed with the breadth of student investigation into cultures and societies not only within their region but also outside and at a global scale. The breadth of this study is evident within the history-based courses as well as throughout the research and preparatory study that underpins all design studio work. Cultural Diversity and Social Equity are handled in an exemplary manner by the program, at every level. The team was also impressed by the clarity with which this study is conveyed within project work and the manner in which it is used to inform design decisions.

C.2 Integrated Evaluations and Decision-Making Design Process

A strength of the program is in the way students are trained in research methodology. As with history, culture and social topics, students conduct similar depth of research into topics of sustainability, community and site context, as well as issues particular to building/project typology. Beyond the depth of this investigation, what the team finds commendable is the manner in which the information developed by these studies is used to inform design decisions throughout the projects and clarity with which it is documented and incorporated into final design work.

D.2 Project Management

Instruction of all practice related topics is thorough and presented across numerous courses in Realm D. Discussions of these topics go beyond the theoretical and into practical examples and exercises aimed at presenting near-life experiences of practice, generally. The program uses detailed lectures to engage students in discussion of topics and case studies or other exercises to elicit responses that illustrate their abilities. As noted in other sections of this report, the team finds the entirety of the practice realm (D) to be presented in a commendable manner but chose to elevate this particular criterion to Met with Distinction because it is within it where all the other elements of related study seem to come together in the most complete way.

Appendix 2: Team SPC Matrix

The program is required to provide the team with a blank matrix that identifies courses by number and title on the *y* axis and the NAAB SPC on the *x* axis. This matrix is to be completed in Excel and converted to Adobe PDF and then added to the final VTR

The team is required to complete an SPC matrix that identifies the course(s) in which student work demonstrated the program's compliance with Part II, Section 1.

II.1.1 NAAB Student Performance Criteria (SPC) Matrix

The Hashemite University, Architectural Engineering Department Bachelor of Architectural Engineering SPCs A: Ability or U: Understanding	REALM A: Critical Thinking and Representation								REALM B: Integrated Building Practices, Technical Skills, and Knowledge										Integrated Architectural Solution			Professional Practice				
	Professional Communication Skill	Design Thinking Skills	Investigative Skills	Architectural Design Skills	Ordering Systems	Use of Precedents	Historical and Global Culture	Culture Diversity and Social Equity	Pre-Design	Site Design	Codes and Regulations	Technical Documentation	Structural Systems	Environmental Systems	Building Envelope Systems and Assemblies	Building Materials and Assemblies	Building Service Systems	Financial Considerations	Research	Integrated Evaluation and Decision-Making	Integrative Design	Stakeholder Roles in Architecture	Project Management	Business Practices	Legal Responsibilities	Professional Conduct
	A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	C1	C2	C3	D1	D2	D3	D4	D5
COURSE NAME																										
ARCH 101: Architectural Drawing	●																									
ARCH 121: Basic Design (1)					●																					
ARCH 111: Free Hand Drawing	●	●																								
ARCH 102: Computer Applications In Architectural Design (1)	●																									
Arch 122: Basic Design (2)		●		●	●																					
Arch 112: Architectural Communications and presentation (1)	●																									
ENGI 203: Ethics and Communication Skills	●																									
ARCH 221: Architectural Design (1)			●	●																						
Arch 213: Architectural Communications and presentation (2)	●	●		●																						
ARCH 241: History and Theory of Architecture (1)							●	●																		
ARCH 232: Building Materials																●										
CIVL 214: Engineering Mechanics													●													
ARCH 201: Computer Applications In Architectural Design (2)	●																									
ARCH 222: Architectural Design (2)						●				●																
ARCH 341: History and Theory of Architecture (2)								●																		
ARCH 335: Building Construction Systems													●													
CIVL 313: Structural Analysis for Architectural Students													●													
CIVL 369: Surveying and Building Documentation																										
ARCH 321: Architectural design (3)							●		●					●												
ARCH 345: Theory and Methods of Architectural Design						●																				
ARCH 342: Islamic Architecture								●																		
ENGB 101: Engineering Workshop								●								●	●									
ARCH 336: Building Finishing											●				●	●										
CIVL 324: Concrete and Steel Structure for Arch. Students													●													
ARCH 322: Architectural Design (4)														●	●											
ARCH 563: Landscape Design						●								●												
ARCH 343: Theory of Modern Architecture						●		●																		
ARCH 423: Working Drawing												●														
ARCH 421: Architectural Design (5)																				●						
ARCH 471: Lighting and Acoustics														●			●									
MECH 450: Electro-Mechanical Systems for Arch. Students																●	●									
ARCH 422: Architectural Design (6)					●					●																
ARCH 456: Conservation of Architectural Heritage							●	●																		
ARCH 463: Urban Design and Planning							●	●																		
ARCH 465: Housing																										
ARCH 451: Specification and contracts												●						●				●	●		●	●
ARCH 542: Graduation Project (1)									●		●								●		●					
ARCH 452: Quantity Surveying																●		●								
ARCH 521: Graduation Project (2)											●									●	●	●	●	●		●
ARCH 551: Professional Practice																●		●								
ARCH 470: Practical Training																										
ARCH 423: Ancient Building Technologies (Elective)																										
ARCH 444: Local Contemporary Architecture (Elective)																										
ARCH 472: Desert Habitation (Elective)																										
ARCH 473: Building and Energy (Elective)																										
ARCH 523: Special Topics in Architecture (Elective)																										
ARCH 541: Human Behavior in Architecture (Elective)																										
ARCH 562: Architecture and Identity (Elective)																										
ARCH 571: Green Architecture (Elective)																										

Appendix 3: Visiting Team Roster

Team chair
Miguel A. Rodriguez, FAIA
Rodriguez Architects, Inc.
Coral Gables, FL
miker@rodriguezarchitects.com

Team member
Kate Wingert-Playdon
Temple University, Tyler School of Art and Architecture
Philadelphia, PA
mwingert@temple.edu

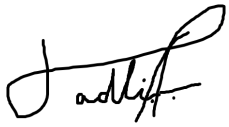
Team member
Sarah Killingsworth, AIA
Houston, TX
sgkillin@gmail.com

Team member
Fodil Fadli, Ph.D.
Qatar University, College of Engineering
Department of Architecture & Urban Planning
Doha, Qatar
fodilf@gmail.com / f.fadli@qu.edu.qa

Report Signatures

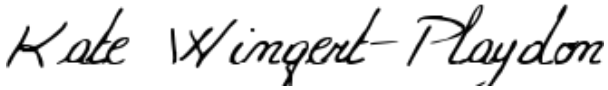
Submitted by

Miguel A. Rodriguez, FAIA, team *chair*



Fodil Fadli, Ph.D., *team member*

Sarah, Killingsworth, AIA, NCARB, *team member*



Kate Wingert-Playdon, *team member*