

Assessment Plan for the Master of Architecture degree April 2008

The Master of Architecture is a new degree replacing the Bachelor of Architecture. The first students will receive the M.Arch in May 2008, and the old degree will be phased out by 2011. The most significant external assessment of the Master of Architecture degree program occurs in response to requirements set by the *National Architectural Accrediting Board (NAAB)*. The Master of Architecture degree program at Kansas State University is a five-year non-baccalaureate professional NAAB accredited graduate program. The Bachelor of Architecture has been fully accredited since the 1960s and this accreditation has been transferred to the new M.Arch.

Like all accredited degree programs across North America, the K-State architecture program is reviewed by a NAAB team every six years. The department must respond to the interests of the five constituencies that make up the NAAB: educators (ACSA), members of the practicing profession (AIA), students (AIAS), registration board members (NCARB), and public members. Together these constituencies, each of which brings specific concerns to the accreditation process, comprise the broad range of perspectives that frame professional education in architecture.

The accrediting process for professional architecture programs includes a structured sequence of events consisting of visit preparation, the site visit, and visit follow-up. The visit preparation begins with the writing of the department's self-evaluation, the *Architecture Program Report (APR)*. The NAAB accepts and reviews the report and eventually sends an accreditation team to the campus.

In preparation for the visit, a comprehensive exhibit is mounted, including examples of student work from all courses offered such as studio projects, exams and papers, as well as course syllabi and problem statements with learning objectives, for review by the accreditation team. The department maintains an ongoing archive of student work that can be used for accreditation visits. The team spends three days examining the student projects and instructional materials in light of the learning outcomes required by the NAAB for accreditation of professional architecture programs. At present there are 34 learning outcomes described below.

Team members evaluate the exhibited materials and report their findings in the *Visiting Team Report (VTR)*, indicating perceived strengths and weaknesses of the program. Subsequently, the NAAB makes an accreditation decision. The architecture program submits *Annual Reports (ARs)*, reporting the progress made toward remedying weaknesses in the program that the team may have perceived, thus maintaining accreditation until the next NAAB team visit.

NAAB Student Learning Outcomes follows:

Student Performance Criteria

The accredited degree program must ensure that each graduate possesses the knowledge and skills defined by the criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice.

The school must provide evidence that its graduates have satisfied each criterion through required coursework. If credits are granted for courses taken at other institutions, evidence must be provided that the courses are comparable to those offered in the accredited degree program.

The criteria encompass two levels of accomplishment:

Understanding—means the assimilation and comprehension of information without necessarily being able to see its full implication.

Ability—means the skill in using specific information to accomplish a task, in correctly selecting the appropriate information, and in applying it to the solution of a specific problem.

The NAAB establishes performance criteria to help accredited degree programs prepare students for the profession while encouraging educational practices suited to the individual degree program. In addition to assessing whether student performance meets the professional criteria, the visiting team will assess performance in relation to the school's stated curricular goals and content. While the NAAB stipulates the student performance criteria that must be met, it specifies neither the educational format nor the form of student work that may serve as evidence of having met these criteria. Programs are encouraged to develop unique learning and teaching strategies, methods, and materials to satisfy these criteria. The NAAB will consider innovative methods for satisfying the criteria, provided the school has a formal evaluation process for assessing student achievement of these criteria and documents the results.

The *APR* must include the following information:
An overview of the school's curricular goals and content.

A matrix cross-referencing each required course with the performance criteria it fulfills. For each criterion, the school must highlight the cell on the matrix that points to the greatest evidence of achievement. For the purpose of accreditation, graduating students must demonstrate *understanding* or *ability* in the following areas:

1. Speaking and Writing Skills

Ability to read, write, listen, and speak effectively

2. Critical 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 them against relevant criteria and standards

3. Graphics Skills

Ability to use appropriate representational media, including freehand drawing and computer technology, to convey essential formal elements at each stage of the programming and design process

4. Research Skills

Ability to gather, assess, record, and apply relevant information in architectural coursework.

5. Formal Ordering Systems

Understanding of the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design, architectural composition, and urban design

6. Fundamental Design Skills

Ability to use basic architectural principles in the design of buildings, interior spaces, and sites

7. Collaborative Skills

Ability to recognize the varied talent found in interdisciplinary design project teams in professional practice and work in collaboration with other students as members of a design team

8. Western Traditions

Understanding of the Western architectural canons and traditions in architecture, landscape and urban design, as well as the climatic, technological, socioeconomic, and other cultural factors that have shaped and sustained them

9. Non-Western Traditions

Understanding of parallel and divergent canons and traditions of architecture and urban design in the non-Western world

10. National and Regional Traditions

Understanding of national traditions and the local regional heritage in architecture, landscape design and urban design, including the vernacular

tradition

11. Use of Precedents

Ability to incorporate relevant precedents into architecture and urban design Projects

12. Human Behavior

Understanding of the theories and methods of inquiry that seek to clarify the relationship between human behavior and the physical environment

13. Human Diversity

Understanding of the diverse needs, values, behavioral norms, physical ability, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity for the societal roles and responsibilities of architects

14. Accessibility

Ability to design both site and building to accommodate individuals with varying physical abilities

15. Sustainable Design

Understanding of the principles of sustainability in making architecture and urban design decisions that conserve natural and built resources, including culturally important buildings and sites, and in the creation of healthful buildings and communities

16. Program Preparation

Ability to prepare a comprehensive program for an architectural project, including assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and assessment of their implication for the project, and a definition of site selection and design assessment criteria

17. Site Conditions

Ability to respond to natural and built site characteristics in the development of a program and the design of a project

18. Structural Systems

Understanding of principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems

19. Environmental Systems

Understanding of the basic principles and appropriate application and performance of environmental systems, including acoustical, lighting, and climate modification systems, and energy use, integrated with the building envelope

20. Life Safety

Understanding of the basic principles of life-safety systems with an emphasis on egress

21. Building Envelope Systems

Understanding of the basic principles and appropriate application and performance of building envelope materials and assemblies

22. Building Service Systems

Understanding of the basic principles and appropriate application and performance of plumbing, electrical, vertical transportation, communication, security, and fire protection systems

23. Building Systems Integration

Ability to assess, select, and conceptually integrate structural systems, building envelope systems, environmental systems, life-safety systems, and building service systems into building design

24. Building Materials and Assemblies

Understanding of the basic principles and appropriate application and performance of construction materials, products, components, and assemblies, including their environmental impact and reuse

25. Construction Cost Control

Understanding of the fundamentals of building cost, life-cycle cost, and construction estimating

26. Technical Documentation

Ability to make technically precise drawings and write outline specifications for a proposed design

27. Client Role in Architecture

Understanding of the responsibility of the architect to elicit, understand, and resolve the needs of the client, owner, and user

28. Comprehensive Design

Ability to produce a comprehensive architectural project based on a building program and site that includes development of programmed spaces demonstrating an understanding of structural and environmental systems, building envelope systems, life-safety provisions, wall sections and building assemblies and the principles of sustainability

29. Architect's Administrative Roles

Understanding of obtaining commissions and negotiating contracts, managing personnel and selecting consultants, recommending project delivery methods, and forms of service contracts

30. Architectural Practice

Understanding of the basic principles and legal aspects of practice organization, financial management, business planning, time and project management, risk mitigation, and mediation and arbitration as well as an understanding of trends that affect practice, such as globalization, outsourcing, project delivery, expanding practice settings, diversity, and others

31. Professional Development

Understanding of the role of internship in obtaining licensure and registration and the mutual rights and responsibilities of interns and employers

32. Leadership

Understanding of the need for architects to provide leadership in the building design and construction process and on issues of growth, development, and aesthetics in their communities

33. Legal Responsibilities

Understanding of the architect's responsibility as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, historic preservation laws, and accessibility laws

34. Ethics and Professional Judgment

Understanding of the ethical issues involved in the formation of professional judgment in architectural design and practice.

These learning outcomes are assessed in one or more courses within the curriculum, as shown in the attached matrix.

These NAAB criteria also include the University SLOs. Critical thinking is the NAAB criteria #2, Communication is addressed in criteria 1 and 3, Diversity in 13, and Academic and professional integrity in 34. All other criteria address knowledge necessary for the profession of architecture.

Other External Measures for the Assessment of Student Learning Outcomes

- survey of graduates by the K-State Office of Career Development
- survey of leading architectural firms in the nation by *Design Intelligence Magazine*: the K-State B.ARCH. program recently placed eighth of 110 programs in North America
- number of graduates earning their licensure five years after graduation
- number of graduates passing requirements registration with the *National Council of Architectural Registration Boards (NCARB)*

Internal Assessment of Student Learning Outcomes: Three Year Plan

As part of their responsibilities, faculty members of the Department of Architecture are regularly and actively engaged in evaluating student learning as well as in deliberating about, and implementing, curricular changes toward improving student learning outcomes. Currently, the faculty is pursuing the following goal. The major curricular change to take place with the transition from a B. Arch to an M. Arch was to incorporate a writing component into ARCH 807, Architectural Design Studio VIII, the final studio in a five year sequence. This was to address areas of weakness identified during the last accreditation visit. The department will be assessing the performance of students in this course in relation to the following NAAB learning outcomes:

1. Speaking and Writing Skills

Ability to read, write, listen, and speak effectively

2. Critical 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 them against relevant criteria and standards

4. Research Skills

Ability to gather, assess, record, and apply relevant information in architectural coursework.

At the end of each spring semester each student will be evaluated by the faculty teaching each of six sections of the course, using the attached matrix (rubric). Results will be tabulated and retained in the departmental office. The faculty teaching fifth-year studios will discuss the results at the end of each spring semester

and recommend adjustments to faculty teaching the course the coming year accordingly. After three years the results will be discussed by the entire faculty and decisions made relative to any changes to ARCH 807 or elsewhere in the curriculum in order to ensure adequate student performance in these areas. At the next accreditation visit NAAB will assess progress towards meeting these learning objectives as well.

Section:

Student:

EXCEPTIONAL	STRONG	AVERAGE	BELOW AVERAGE	UNACCEPTABLE
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EFFECTIVE WRITING & SPEAKING

The ability to communicate verbally and in writing using appropriate grammar and syntax, to understand and deploy technical language appropriately, and to convey concepts and ideas synthetically and coherently.

Comments				

CRITICAL THINKING

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

Comments				

RESEARCH SKILLS

The ability to gather, assess, record, and apply relevant information.

Comments				

PROJECT SYNTHESIS

The ability to bring together writing skills, critical thinking and research into a coherent project proposal in written material that enhances and assesses the other media utilized.

Comments				