Integrated Architectural Solutions
Graduates from this degree program will be able to synthesize a wide range of variables into an comprehensive design proposal that demonstrates the integrative thinking that shapes complex design and technical solutions.

Student learning aspirations include:
A) Synthesizing variables from diverse and complex systems into an integrated architectural solution.

B) Rationalizing environmental stewardship goals across multiple systems for an integrated solution.

C) Evaluating options and reconciling the implications of design decisions across systems and scales.

Assessment Method 1: Integrated Project

Assessment Method Description
Prior to graduation 100% of 4th year students complete coursework in which they are required to develop, design, and present an architectural solution that demonstrates the ability to make design decisions about a single project that demonstrates broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Based on our previous annual assessment, we determined that structurally expanding the coursework over two consecutive semesters (encompassing the full 15 weeks of the fall and the first 5 weeks of the spring) we were better able to utilize focused lectures, seminars and workshops in the delivery of a more robust and technically integrated body of content. During this assessment cycle we submitted the curriculum structure, content delivery method, and resultant student work for external review to the National Council of Architecture Registration Boards (NCARB).

NCARB is the national legislative body tasked primarily with protecting the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for
licensure and credentialing of architects.

Findings
The curriculum structure, content delivery, and resultant student work was recognized by NCARB as one of three programs of study nationally that have "implemented effective new curricular approaches that raise awareness about issues that are central to practice." Furthermore the work was deemed by NCARB to have "a long-term, ongoing impact on architecture students, faculty and curriculum."

How did you use findings for improvement?
With these findings and recognition from NCARB came funding to expand the program with the expressed goals of:

A) Further integrating practice and education.

B) Develop a deeper comprehension of the architect's responsibilities for the public health, safety, and welfare.

c) Bring non-faculty professional practitioners into the academy.

We will meet these goals by developing a series of expanded workshops integrating practicing architects directly into the 4th year Integrated Design Studio. These workshops will specifically address areas of practice not typically considered in the development of a studio project. The invited practitioners and consultants will provide critique and direction to students as they design a small urban hospital. In this case, health, safety and welfare become practical, social and cultural concerns central to the design of a civic health institution. Although we have implemented successful workshops for past healthcare studios, we have not attempted anything this comprehensive. The participating practitioners will return 2 or 3 times during the project, adding a crucial feedback mechanism to evaluate and achieve identified outcomes. This proposal, by modeling the ongoing collaborative nature of practice, also addresses financial and management considerations, especially as they are driven by construction and consultant fees, codes, structure and energy performance.

The workshops are as follows:

workshop 1: PROJECT DEVELOPMENT (1 meeting + follow-up discussions)
Faculty and invited practitioners will develop a comprehensive program, select an appropriate site and identify any potential benefit to a wider audience.

workshop 2: INNOVATIONS in HEALTHCARE (3 studio days--Architect Patrick Davis)
Introduction: Students will present case studies of contemporary hospitals and patient room types to foster a discussion of values that inform design decisions.
Lecture: Rules of thumb for schematic hospital design will help explain the
detailed program.
Feedback: Preliminary massing models with stacking diagrams will be
discussed at a mid-semester review.

workshop 3: LIFE SAFETY and ACCESSIBILITY (3 studio days--Architect James
Scott)
Lecture: Model codes will be introduced as a set of values with practical, social
and financial implications.
Feedback: Preliminary egress diagrams with occupant load calculations will be
discussed at a mid-semester life safety review.

workshop 4: INTEGRATED EXTERIOR ENVELOPE (3 studio days--Architect Ryan
Dagley)
Lecture: The energy performance of exterior envelopes will be explained as an
integration of aesthetic, technological, constructional and financial decisions.
Feedback: A preliminary exterior envelope calculation will be discussed at a
review of wall sections. At a second review, outline specifications will be
discussed in relation to construction sequence.

workshop 5: INTEGRATED STRUCTURE (2 studio days--Architect Ryan Dagley
with Structural Engineer TBD)
Feedback: A preliminary framing plan with lateral support diagram will be
discussed at review of wall sections.

Additional Comments
Our plan for the ongoing assessment and evaluation of the proposed
coursework is centered on a series of meetings and discussions with both
internal and external points of view. In order to determine if the project and
workshops are being implemented properly, we would have a series of
coordinated fourth year faculty meetings as well as coordinated non-faculty
practitioner meetings. The fourth year faculty meetings will be implemented
to make sure students are understanding the information, and the non-faculty
practitioner meetings will determine if our colleagues are receiving appropriate
support. The expected products of the studio would be exposed to both
internal and external review. Shared reviews and coordinated grading
would be one way to evaluate the expected outcomes internally. Presenting
the work to our Advisory Council and the Montgomery Chapter of the AIA or
State AIA would provide appropriate external feedback.

Assessment Method 2: Faculty Peer Review
Assessment Method Description
Student design work from each year-level sequence is evaluated internally
twice annually by the program faculty to determine the level of student
performance relative to the learning objectives of the program. In addition we
also perform an annual survey of recent graduates to gain further insight into
their own perceived effectiveness in the workplace upon graduation. These
combined findings are primary contributors to our annual year-end strategic planning retreat in which we outline our ongoing curriculum development and resource requirements.

**Findings**

Through the faculty peer review process confirmed that through the "modularization" of the 4th year curriculum we were indeed able to capitalize on individual faculty member's core competencies. Through the utilization of targeted lectures, seminars and workshops these core competencies were leveraged to provide a more robust and technically integrated body of content that served to better expose all of the students to these internal areas of specialization. While the recent graduate survey reinforced these findings relative to our internal core competencies, it also illuminated the need for a more broad integration of professional competencies than normally delivered within the context of architectural project development in the academic classroom. Areas determined to need expanded focus include:

**Pre-Design - Project Financing and Funding**

**Project Management - Project Budget Management and Practice Management**

**Marketing and Communications**

**Contract Negotiations**

**How did you use findings for improvement?**

Generally these findings contributed significantly to the expansion of the workshop model described above in the "Integrated Project" description above. Specific to this particular body of expanded content, the proposed workshop model will allow the non-faculty architects an opportunity to make significant contributions to the studio and the student work. Through lectures and case studies, the non-faculty architects will lay out the “rules of thumb” of a particular area of practice. In collaboration with the faculty, exercises will be developed that reinforce the case studies and practice lecture. In this way, the exercises will provide design products that will be meaningful to the overall design process such as stacking diagrams, occupancy loads for a typical floor, or material calculations for a price estimate of the exterior building enclosure. In many ways, the workshops will also model the professional contribution of consultants, in a way that is similar to any office situation. The faculty will be responsible in this scenario for guiding the discussions, incorporating the workshop exercises into studio, channeling student feedback to the non-faculty practitioners, and establishing a schedule for return appointments.

**Additional Comments**