I. Authorization: Master of Science in Architecture

A. Abstract:

The M.S. Architecture is a logical step in the growth of UWM’s Architecture program. It provides new opportunities for students and faculty requiring innovation and inquiry outside traditional professional curricula. The program, built on current resources, extends our tradition of degree programs that respond to local and societal needs.

B. Program Identification:

1. Institution: University of Wisconsin – Milwaukee
2. Program: Master of Science in Architecture (M.S. Arch.)
3. Degree: M.S. Arch (with subtitled major)
4. Delivery: On-site and some on-line of delivery
5. Single institution
6. Projected enrollment by year five of the program: 16 full time students
7. Tuition structure: standard tuition
8. Department: Department of Architecture (DAR)
9. School: School of Architecture and Urban Planning (SARUP)
10. Proposed date of implementation: Spring 2013

C. Introduction:

1. Why is the program being proposed? What is its relation to the institution’s mission?
   • Mission
   
   SARUP’s mission includes a broad range of issues regarding the academic, professional, and the urban communities in which SARUP operates. The M.S. Arch. program will allow us to further fulfill our mission in all of these arenas:
   
   ✓ The education of a new generation of architectural specialists with skills and tools enabling them to respond to the ever changing and complex professional and academic challenges.
   
   ✓ The education of advanced students for employment in diverse practice settings involving collaboration, interaction and communication with a variety of professionals, researchers, and specialized building-related disciplines.
   
   ✓ The education of returning professionals, and graduate students by providing an academic track directed toward research and scholarship.
   
   • Basis in Historical Growth
The Master of Science in Architecture (M.S. Arch.) is a logical next step in the development of programs in the School of Architecture and Urban Planning. The architectural program began in the early 1970s with a Bachelor of Science in Architectural Studies (non-professional degree) and a Master of Architecture (professional degree). The college expanded the degree offerings within a few years by adding a graduate program for a Master of Urban Planning. This led, in turn, to a joint (trans-disciplinary) dual professional degree program in architecture and planning – one of the largest in the nation. Within another decade SARUP added a Ph.D. program in architecture (one of the first of such programs – today there are 29). Next, SARUP created three concentrations in architecture (specializing respectively in ecological design, preservation studies, and real estate development). The Ph.D. program, which began with one emphasis in environment-behavior studies, also expanded to three tracks addressing, respectively environment-design, research, buildings-landscape-culture studies, and sustainability.

2. How does it fit into the institution’s overall strategic plan?

For the student community, the MS degree in Architecture will further our educational strategy by creating a new educational platform for developing new areas of study. We will be able to more efficiently respond to the needs and desires of the changing population of graduate and post-graduate students. The program will also facilitate the education of returning professionals, and graduate students who are interested in an academic track directed toward research and scholarship.

Within the profession, the M.S. Arch. program will allow students and faculty to further specialize in subjects that have direct impacts on the practice of architecture. Today, the architecture profession is undergoing a major structural transformation due not only to the recent economic recession, but also to changes in digital technology, shifts within the allied professions of planning and engineering, global changes in society, and changes in development practice. SARUP (and our students and programs) must make corresponding transformations to remain relevant.

3. Do current students need or want the program?

The program responds to the needs of three types of students:

• students continuing in architecture after their BSAS who are motivated to work in more specialized and cross-disciplinary areas (other than those requiring professional licensure)

• students who have established work in architecture or related disciplines (such as engineering, planning, landscape architecture, business) and wish to expand their professional credential in ways that are directly related to architecture
• students who may wish to begin careers in academia and research who view the M.S. Arch. as a first step to doctoral programs and/or positions in research institutions.

4. Does market research indicate demand?

• Minimal competition from other programs:

At least 30 Universities in the U.S. are currently offering an M.S. in Architecture. The list of these programs was included in the previous “Entitlement to Plan” document. In that list, the only three nearby comparable programs might compete geographically: University of Michigan, Iowa State University, and the University of Nebraska. The program at University of Illinois - Chicago is a post-professional degree and would, therefore, have a much more limited appeal and demand.

The M.S. degree program in architecture at the University of Minnesota is more specialized and offers only limited options with much less flexibility. The key to success of the proposed UWM program will be the ability to craft customized programs of study which are highly disciplined but, at the same time, offer ongoing responsiveness to a professional content that changes rapidly.

• Employment opportunities

Employment opportunities should be strong for this group of students. Throughout the architecture profession there is an increasing trend to offer customized, specialized skills and knowledge area to compete with an increasing trend of commoditization in the building industry. Many individuals, upon entering the field of architecture or its allied disciplines (such as property development, construction management, engineering, landscape architecture, and the broader building industry), discover that there are specialized subjects which, if more fully explored, would provide a unique advantage to that individual in seeking either (a) advancement within their current place of business or (b) opportunities to work in more specialized, customized fields.

While no agencies have specifically stated the need for an MS in Architecture, businesses and industry need highly trained and educated employees in the latest technologies for new development.

• Student attraction

New students are seeking ways to “make a difference.” The next generation of architectural school graduates will be substantially different in outlook, values, goals, and career decisions. While SARUP has always accommodated such student attitudes, the time has arrived to do this in a more formal and effective way. The M.S. Arch. program provides this direction. As the only school of Architecture in Wisconsin, we have a special obligation to provide students with the leading edge knowledge and skills required in the discipline of today, and the future.
The M.S. degree is intended for graduate students and returning mid-career professionals who want to develop a personalized and specialized program of architectural study—one that is centered on applied practice and not the design studio. The successful graduate will bring specialized knowledge to diverse professional settings that involve collaboration, interaction and communication with other professionals.

In addition, the proposed program may serve as a recruitment method for our existing Ph.D. program. That is, a portion of our current student body, as well as new graduate students, may be attracted toward research and scholarly endeavors, rather than the design studio experience.

5. How does the program represent emerging knowledge, or new directions in professions and disciplines?

The last two decades have seen rapid growth in the complexity of buildings and the development of specialized knowledge for their design and operation. The building professions now require a wider range of expertise in design, operation, and management than was required in the past, and new types of professional specialists have emerged to provide this expertise. Often these experts are educated outside of traditional architectural programs, frequently through studies in other disciplines. The M.S. Arch. offers the opportunity for advanced research in the ever-broadening and increasingly complex subfields within architecture.

In the academic community, the M.S. Arch. program will allow students and faculty to further specialize in areas of research and practice that have direct impacts on the knowledge-base within architecture. While students in the M. Arch program are oriented primarily to design practice as licensed professionals, there are many students (and faculty) who view the broader mission of architectural scholarship and research as extending far beyond conventional practice. Currently these academic issues can be explored only in our doctoral program. The M.S. Arch. program provides a critical intermediate level of research and scholarship.

D. Description of Program:

1. Describe the general structure of the program, including:

   a. The ways in which the program fits into the institutional program array and academic plan.

   The M.S. Arch. will reside within the Department of Architecture. It will rely on existing faculty, administrative resources, and current courses. Internal faculty regulation of the program (admissions, monitoring, advising) will be conducted by a faculty committee (as are the other DAR degree programs). The program fills a niche for new growth within the existing set of degree programs in SARUP including:
   - B.S.A.S. – Bachelor of Science in Architectural Studies
   - M.Arch.-Maser of Architecture (professional degree)
   - Ph.D. in Architecture (with multiple sub-programs)
• M.U.P.- Master of Urban Planning (professional degree)
• Joint M.Arch./M.U.P.
• Certificate programs in historic preservation, real estate, and sustainability.

As the M.S. Arch. program evolves it will also allow many faculty to broaden their opportunities to teach students interested in an array of specializations.

b. The extent to which the program is duplicative of existing programs in the University of Wisconsin System.

The M.S. Arch. does not duplicate any programs in the UW System (or in Wisconsin)

c. The collaborative nature of the program, if appropriate, including specific institutional responsibilities.

While there are no other programs in Wisconsin that could offer this program, there are opportunities for collaboration on a case-by-case basis (rather than program-wide basis) would occur.

Each student’s program of study will require working with a diverse set of faculty and practitioners, both inside and outside of SARUP. This approach follows the path of several SARUP programs that now require collaboration including the coordinated degree program in architecture and planning, the doctoral program area of buildings-landscape culture, and the certificate program in real estate.

Currently the DAR offers courses in research methods, sustainability, historic preservation, interior architecture, community development, digital representation, real estate, and a variety of other specialized fields of study. In addition, the DAR has links to other departments at UWM and UW Madison including urban planning, history, art history, business and engineering. All of these links offer opportunities for students to engage in trans-disciplinary work.

d. The ways in which the program prepares students through diverse elements in the curriculum for an integrated and multicultural society (may include inclusion of diversity issues in the curriculum or other approaches).

SARUP has a long-term reputation for outreach activities in the city, region and state. The work of students in the M.S. program will allow for, and in some cases, emphasize research and projects undertaken by students that directly impact local communities (e.g., a study of techniques to improve use of digital communications techniques in the architecture of elementary schools; use of grey water techniques in architectural construction). It is also anticipated that students in this program may work in conjunction with projects through SARUP’s outreach efforts through Community Design Solutions (CDS), the Institute for Ecological Design
(I4ED), as well as the numerous funded research efforts throughout the program.

The M.S. Arch. degree will be able to attract and serve graduate students from a broader and more diverse population. The program will accommodate focus areas that will relate to the interests of more diverse population groups (such as housing, community development, health care) and links to other professions and programs that have a more diverse population base.

The types of students recruited will include persons who meet the criteria for diversity – especially those persons working in the field who may wish to enter the realm of architectural practice, not as licensed architects, but as specialists with unique sets of skills and expertise.

2. Explain briefly program’s plan for assessing student learning outcomes, including:

In general, there will be a program review after the first 3 years to determine the performance of the program and its relationship to the objectives stated previously. Some of the measures that will be used include:

- Selection of topics and areas of focus: diversity of areas, research methods and techniques
- Number of students by category: continuing BSAS students, returning architecture students who have practiced for two or more years; undergraduates and graduates from other disciplines; students who are initiating careers in teaching and research.
- The number and diversity of practice settings in which students work after their graduation
- The size and diversity of funding sources that are used to finance student’s education

a. Specifying what students will know and be able to do as a result of completing the program.

The M.S. Arch. will serve students seeking additional opportunities for specialization (this will include students with, and without, prior professional degrees in architecture and related disciplines). Students might include, for example, those who wish to specialize in the development of digital representational techniques in architecture, the relationship of architecture to community development, unique aspects of technology and use of resources (e.g., use of water resources), historic preservation, specialized building types (such as schools, senior housing, mixed-use development, libraries, and health care facilities).

The M.S. Arch. provides a missing opportunity to our undergraduates who are not interested in obtaining a professional licensure (for which the M.
Arch is needed), but rather seek more focused skills and knowledge in
areas that qualify them for newly emerging roles in practice.

The M.S. Arch. also provides an opportunity for students from allied
disciplines and programs to seek a graduate education in architecture that
focuses on a specialized area. For example, students with undergraduate
(or graduate) degrees in history, science, planning, engineering, and
business, may wish to explore special skills sets and expertise that cannot
be easily developed within the stricter curriculum requirements of the
design studio-based M. Arch. degree program.

b. How the program will continuously assess (using both direct and indirect
assessment measures) the extent to which the learning outcomes are
accomplished.

Due to the academic flexibility of this program (necessitated by the
objectives and professional needs) it will be essential to maintain high
standards for research and student projects as follows:

• settings standards for thesis work (in addition to Graduate School
requirements) which will include, but not be limited to a statement of
objectives, research methods/techniques, expected relevance of
outcomes, statements of how the outcomes will be used in practice.

• annual reviews will be conducted by the faculty committee overseeing
this degree program (Ph.D./M.S. committee) that will examine the
students’ courses and performance (with options for requesting
remedial improvements for poor performance)

3. Describe the programmatic curriculum, including:

a. How the curriculum is structured (include web links to courses,
prerequisites, and other programmatic components).

1) Introduction

To serve this diverse set of students, the program will be highly
flexible in terms of its content but disciplined in terms of requiring a
clear course of study with defined objectives and outcomes. This
proposed course of study will be considered as an essential component
of the student’s entrance requirements. In contrast to the M. Arch.
Program, the M.S. Arch. will be a more flexible, inclusive curriculum,
not based on design studios. The proposed degree program will also
be integrated with faculty members (and courses) from other
departments, centers, and institutes at UWM as well as other
universities.

2) Entrance Requirements

a) Submission of portfolio with work products, projects, built work,
and/or papers. The portfolio should include statements as to the
relationship of the work to the proposed course of study
b) Submission, review, and approval (by the M.S. Arch. committee or its equivalent) of a proposed area of study including: issues to be investigated, relevance to practice, intended outcome, contacts with potential faculty advisors and the profession.

c) GRE General Test: Preferred scores above the 50%-ile in each category.
   • GPA minimum 3.0
   • Letters of recommendation? If so, how many?

3) Curriculum
   a) Minimum total of 30 credits of which 18 must be in graduate only courses.
   b) Distribution by department:
      • At least 21 credits in the Department of Architecture
      • At least 9 credits in other departments at UWM or in courses from other academic programs approved by the student’s advisor and which are transferrable to UWM
   c) Content areas:
      • Research methods and techniques: at least 6 credits of approved courses regarding research methods and techniques
      • Applied Practice: at least 6 credits related directly to the application of the a student’s area of specialization to practical applications in architecture and/or related disciplines. Examples of different tracks and programs of study were included in the previous “Entitlement to Plan” document.
      • Independent work
        ✓ 6 to 9 thesis credits in an approved Graduate School Master’s Thesis
        ✓ 3 to 6 credits of independent studies in DAR related to the student’s area of specialization

2) Enrollment projections

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<td>8</td>
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</tr>
</tbody>
</table>

b. Projected time to degree: 1.5 semesters

4. Summarize the program review process, including:
   a. How and when the program will be reviewed by the institution.
The program will be reviewed by the committee overseeing the program, in concert with other appointees from within SARUP. This will be done after the first three years and thereafter on a 5-year cycle.

b. A discussion of what aspects will be evaluated to determine the quality of the program.
   - Aspects of the program to be evaluated will include, but not be limited too:
     - Student performance (grades and thesis quality)
     - Diversity of studies (range of issues and courses taken by students)
     - Student evaluations of the faculty and program
     - Diversity of participation in the program from different types of students and career objectives
     - Outside observations from persons involved in the field of architecture (but not necessarily professional architects)

c. How the review will provide consideration to equity and inclusive excellence, as appropriate.

The review will examine the range of issues addressed by students, the background of students who enter the program and the types of jobs and activities in which students engage after completing the program. All three of these factors will be examined in terms of social equity and inclusiveness of excellence.

d. Need for external accreditation: None.

E. Institutional Commitment (separate)
II. **Resources Master of Science in Architecture**

**Faculty**
Currently we have approximately 24 faculty who are eligible to serve as faculty advisers. All of them could potentially serve as advisers for new M.S. Arch. students. Most faculty teach non-studio courses which have unused capacity and which can be accessed by new M.S. students.

For the M.S. program, during one academic year, there will be 16 enrollees, each taking 15 credits which produce a demand of 240 credits per year. Of these, 96 credits are thesis and independent studies which will produce an annual workload demand of .25 faculty. Another 120 credit hours will be distributed across our current offerings at the graduate level. These will be absorbed by the existing capacity of current courses. Essentially the workload requirements for thesis and courses will produce no more than a .33 FTE load or less than 2% of our current FTE capacity. Additional credit hours will be distributed campus-wide in courses where the M.S. Arch. students are absorbed by programs and faculty outside DAR.

**Academic staff**
Current academic staff, especially long-term adjuncts in specialty areas, may also provide assistance in the form of independent studies and thesis advising.

The advising process will follow the model currently used for our doctoral program. In this model, individual students are assigned to an individual faculty advisor. General administrative records for admissions, program progress, and degree completion, are processed through our graduate advising office.

**Classified staff**
No additional classified staff persons are needed.

**Student services**
Students will have access to the same services as all other students in the DAR. SARUP’s current programs provides for individuals with disabilities. The same provisions will apply to this program.

**Capital resources**
No additional capital resources are needed.

**Annual student support**
A modest increase of $45,000 for student support is requested in lieu of any additional faculty workload which will include thesis assignments and program committee oversight. Applicants, students, and faculty will also seek support from local businesses, industry, and grants from government agencies.