# Articulation Agreement 02/28/2024

**Introduction**
The goal of this articulation agreement is to produce a streamlined, pre-approved path for BS in Architecture at Keene State College to continue into the M Arch program at UMass Amherst. Essentially this becomes a 4+2, BS/M Arch degree program.

**Application and Enrollment**
Upon satisfactory completion of the BS degree at KSC, accepted students would be granted advanced standing into the (second year of the three year program) of the M.Arch. program.

**Scholarships**
NA – Students will be able to apply for assistantships across campus and externships within our department upon acceptance into the program.

**Accepted Students** – Defined as students who apply for and are accepted through the UMass Architecture graduate application process, meets the prerequisites listed below, and have taken KSC Required Courses listed in the chart below.

**Review and Continuation**
This agreement shall be reviewed periodically, and adjustments made as deemed appropriate. This agreement is in effect until cancelled by either party. Either college may independently cancel this agreement by notifying the partner college of this intent, in writing, no less than six months before the intended date of cancellation. Programmatic changes that affect this agreement shall be communicated immediately in writing to the other party. Changes to the agreement may then be required.

**Curriculum Analysis Overview**
The following table illustrates the M.Arch (3-year program) first year courses and the corresponding KSC courses that constitute their equivalent. Students must have a **B average overall** among the courses listed in the chart below.

| **First Year Courses** (credits) | **KSC Required Courses** (credits) |
|---|---|
| ARCH 540 - A & R I (4) | *IAART 103 Three-Dimensional Design or *IA ART 100 Foundations of Design<br>*ARCH 120 Arch Visual/Communication |
| ARCH 541 - A & R II (4) | ARCH 180 Introduction to Architectural Design<br>*ARCH 220 Architectural Representation |
| ARCH 643 – 20th Century Architectural History (3) | ARCH 355 Architectural History II |
| ARCH 500 – Grad Studio I (6) | ARCH 230 Architectural Design I<br>ARCH 280 Architectural Design II |
| ARCH 501 – Grad Studio II (6) | ARCH 330 Architectural Design III<br>ARCH 480 Senior Capstone Project |
| ARCH 550 – Tectonics I (3) | ARCH 270 Commercial Construction<br>ARCH 275 Residential Construction |
| ARCH 520 - Building Physics I (3) | ARCH 260 – Sust. Bldg. Science I<br>*ARCH 360 – Sust. Bldg. Science II |
| * = Elective courses in the BS in Architecture at KSC | |

**Additional prerequisite courses to enter the 2-year track:**

- 1 semester calculus (c or better)
- 1 semester physics (c or better)

**Accepted calculus and physics courses:**

- 1 semester calculus (c or better)
- 1 semester physics (c or better)
    - High School Calculus - **Students** who **score** 4 or 5 on the AP test

- High School Physics - **Students** who **score** 3, 4 or 5 on the AP test
- Online Courses with certificate and grade of C or higher
- College Course with grade of C or higher

The prerequisite requirements are more than satisfied with required courses from the KSC BS program as shown in the following table.

| **Prerequisite Course Requirements** | **KSC Required Courses** |
|---|---|
| College level Math (one required) Calculus 131 | MATH 120 Applied Algebra and Trigonometry (or any higher level MATH) Must be Calculus |
| College level Science (one required) Intro to Physics 131 | KSC Integrative Studies Science requirement (1 of 3 courses) Must be Physics |

Course descriptions may be found in Appendix A

Signed,

DocuSigned by:
Stephen Schreiber
AEBA7D66DAC24C7...
05/03/2025

Stephen Schreiber, Department of Architecture, UMass Amherst

DocuSigned by:
Fernando Del Ama Gonzalo
3A017F9908AA437...
05/03/2025

Fernando Del Ama Gonzalo, Department of Sustainable Product Design and Architecture, Keene State College.

Dr. Kirsti Sandy, Provost, Keene State College.

**APPENDIX A**

**Individual Course Comparisons**

| **Graduate Program** | **Keene State College** |
|---|---|
| | **ARCH 180 Introduction to Architectural Design** Introduction to the principles of architectural design through lectures and short design exercises. Emphasis is placed on developing visual communication skills necessary and related to architectural presentation including drawing, drafting, and model making techniques. A final design project provides the framework for investigating and understanding the fundamental elements, design principles, and processes necessary to explore the creation of architectural spaces. Fall, Spring.<br>**IAART 103 Three-Dimensional Design** A comprehensive exploration of the properties of natural and human-made volumes and spaces. Projects involve sculptural objects, and architectural and environmental design. Studio projects are completed outside of class. Fall, Spring. |

| | |
|---|---|
| | **IAART 100 Foundations of Design**<br>Study of primary visual design through series of lectures and projects that explore two and three dimensional design, and the language of color. Emphasis is on the interaction of these elements in relation to composition and the development of visual literacy. Not open to students who have completed. Fall, Spring. |
| **Course Learning Outcomes** | |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting,<br>2. (180) understand basic architectural design principles,<br>3. (180) understand site plans and the issues involved in locating a small building on a site,<br>1. (103) Identify the formal elements and design principles used in three-dimensional design.<br>2. (103) Visually communicate themes or ideas using different art techniques. |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting,<br>2. (180) understand basic architectural design principles, |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting,<br>2. (180) understand basic architectural design principles, |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting,<br>2. (180) understand basic architectural design principles, |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting,<br>2. (180) understand basic architectural design principles, |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 180 Introduction to Architectural Design**<br>Introduction to the principles of architectural design through lectures and short design exercises. Emphasis is placed on developing visual communication skills necessary and related to architectural presentation including drawing, drafting, and model making techniques. A final design project provides the framework for investigating and understanding the fundamental elements, design principles, and processes necessary to explore the creation of architectural spaces. Fall, Spring.<br><br>**ARCH 220 Architectural Representation**<br>Development of digital technology skills using 3d modeling software/applications for architectural design, representation, fundamentals of tectonic assemblies, construction details and documents. Building Information Modeling (BIM) software is applied as a tool for design investigations and the generation of digital representations of physical, functional, and performance characteristics of buildings. Fall, Spring. |
| **Course Learning Outcomes** | |
| | 1. (220) Use Building Information Modeling software to create 3 dimensional models of a simple building. |
| | 3. (220) Ability to work in a 3-dimensional CAD / BIM environment and create 3D models of construction assemblies and buildings. |
| | 3. (220) Ability to work in a 3-dimensional CAD / BIM environment and create 3D models of construction assemblies and buildings. |
| | 2. (220) Use Building Information Modeling to create 2-dimensional construction and presentation documents. |
| | 1. (180) be able to communicate design ideas through freehand sketching; model making; hardline drawing and architectural drafting, |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 350 Architectural History I**<br>An introduction to the history of architecture and the design concepts that are the building blocks of architectural history from prehistory to the Gothic period. The course surveys the traditional or "canonical" architectural works of Western Europe, the United States, Asia, and the Middle East. Fall. |
| **Course Learning Outcomes** | |
| | |
| 1. | 1. Identify canonical works of Western architecture from pre-historic forms through the 13th century. |
| 2. | 3. Discuss major architects and architectural styles.<br>4. Compare the morphology of the architecture of the various civilizations in terms of materials, structural systems, construction technology, primary elements, ordering principles and properties of form. |
| 5. | 4. Compare the morphology of the architecture of the various civilizations in terms of materials, structural systems, construction technology, primary elements, ordering principles and properties of form. |
| 5. | 2. Evaluate and interpret works of architecture in their various contexts, as a product of time and place -- political, social, economic, religious, artistic, technological, and environmental factors. |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 355 Architectural History II**<br>Survey of architectural history, including built form, design theories, construction technologies, and social, political, religious influences from the Gothic period through 1960s. Examines the architecture of Western and non-Western civilizations. Lectures, exams, written reports and oral presentations serve as methods for learning about evolution of design in architectural history. Prerequisite: ARCH 350. Spring. |
| **Course Learning Outcomes** | |
| | |
| 1. | 1. Identify canonical works of western architecture from the Renaissance through the late 20th century. |
| 2. | 2. Evaluate and interpret works of architecture in their various contexts, as a product of time and place -- political, social, economic, religious, artistic, technological, and environmental. |
| 3. | 3. Discuss major architects and architectural styles of the last five centuries. |
| 4. | 4. Compare the morphology of the architecture of the various civilizations in terms of materials, structural |

| | |
|---|---|
| | systems, construction technology, primary elements, ordering principles and properties of form. |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 230 Architectural Design I**<br>Studio investigations of fundamental design concepts, principles, and elements. Projects and exercises focus on the creation of abstract architectural forms and spaces through an exploration of shape, hierarchy, organization, scale, proportion, materials, and light. Studio Design courses should be taken in sequence. Prerequisite: ARCH 180 or permission of instructor. Fall.<br>**ARCH 280 Architectural Design II**<br>Collaborative project-based studio design course emphasizing a team approach to solving real world architectural problems in the community for clients with social, environmental, and civic design needs. Students engage in service to their communities, embracing inclusiveness and understanding of diverse views, through bi-weekly meetings with the clients. Prerequisite: ARCH 230. Spring. |
| **Course Learning Outcomes** | |
| 1. | 280.1 Apply organizing principles to create abstract three-dimensional forms and basic programmed spaces in terms of shape, size, and degree of enclosure, configuration, depth, and density of spaces.<br>280.3 Analyze and research the social, cultural and historical site context of their building project. |
| 2. | 280.2 Use learned principles, individual ideas and associations to transform a rough "parti" into an architectural form/object and a perceptible space. |
| 3. | 230.1 Apply organizing principles to create abstract three-dimensional forms and basic programmed spaces in terms of shape, size, and degree of enclosure, configuration, depth, and density of spaces. |
| 4. | 230.2 Use learned design principles and individual ideas and associations, to transform a rough "parti" into an architectural design located on a site. |
| 5. | 230.4 Utilize 2d and 3d hand-sketching and drafting, 3d digital modeling (SketchUp), and physical models to effectively communicate their ideas. |
| 6. | 230.4 Utilize 2d and 3d hand-sketching and drafting, 3d digital modeling (SketchUp), and physical models to effectively communicate their ideas. |
| 7. | 230.4 Utilize 2d and 3d hand-sketching and drafting, 3d digital modeling (SketchUp), and physical models to effectively communicate their ideas. |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 330 Architectural Design III**<br>Studio investigations of fundamental design concepts, principles, and processes. Projects focus on the creation of both abstract and programmed architectural forms and spaces with an emphasis on formal and aesthetic values and the development of a visual vocabulary. The exercises are oriented toward the achievement of creative individual expression. Prerequisite: ARCH 280. Fall only<br>**ARCH 480 Senior Design Project**<br>Culminating course in the architecture program where each senior defines and develops a complete design and set of drawings for a real client and site. The course emphasizes group interaction, peer review, and evaluation by independent architects. Prerequisite: ARCH 280 or permission of instructor. Spring. |
| **Course Learning Outcomes** | |
| 1. | 330.4 To help students improve their process skills in collaborative problem solving.<br>300 course approach. applying architectural design and consulting services to socially beneficial community projects, such as affordable housing and facilities for non-profit organizations. |
| 2.<br><br><br>3. | 330.4 To help students improve their process skills in collaborative problem solving.<br>330.6 To reinforce, enrich, and extend prior classroom learning through the application to real-world problems.<br>330 Course approach. Students will apply their knowledge of architectural design, building science, sustainable design, and construction |
| 4. | 330.5 To provide students with a working environment consisting of customary professional standards for quality work. |
| 5. | 480.1 experience, discussed, and evaluated working with or for potential clients, and improved their abilities in this area,<br>480.2 manage a potentially real project on their own, with support from the class and outside professionals and guest speakers, and have significantly improved their project management capabilities, |

| Graduate Program | Keene State College |
|---|---|
| | **ARCH 270 Commercial Construction**<br>Introduction of the processes of commercial building, including environmental and regulatory factors and analysis of foundation components and structural and enclosure building systems. Lectures, site visits, and projects present students with an array of technical challenges in building design. Focus is on analyzing and designing architectural details for a variety of building materials. Prerequisite: ARCH 260. Spring.<br>**ARCH 370 Architectural Systems**<br>Designing mechanical and electrical systems in the context of high-performance buildings. Course applies scientific principles in designing water-supply systems, heating, cooling, electrical services, lighting, and sound control, extending the understanding of healthy buildings design. Emphasizes the principles and concepts to help students design a variety of systems while creating healthy buildings. Prerequisite: ARCH 260 or permission of instructor. Fall. |
| **Course Learning Outcomes** | |
| 1. | 370. 1 understand the scientific principles which provide the foundation of environmental systems in high-performance buildings.<br>370.5 understand the principles of whole building design and the integral relationships among shape, mass, orientation, envelopes, and mechanical systems. |
| 2. | 270.1 To read, interpret, and develop construction details for a variety of building systems, including the foundation, structure, enclosure (cladding and roofing).<br>270.2 Have analyzed and created several architectural details in steel, concrete, and masonry.<br>270.3 Utilize conventional and/or state of the art digital technology to graphically represent architectural details. |
| 3. | 370.2 understand the types of systems commonly used in energy efficient buildings for achieving excellence in Sustainable Design.<br>370.6 be able to evaluate plans and designs of systems for existing commercial buildings and to understand the new developments that relate to high-performance building design and Zero Net Energy buildings. |