

Name of Institution

Clemson University

Name of Program (include concentrations, options, and tracks)

Resilient Urban Design

Program Designation

- Associate's Degree       Master's Degree  
 Bachelor's Degree: 4 Year       Specialist  
 Bachelor's Degree: 5 Year       Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)  
 Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes  
 No

Proposed Date of Implementation

Summer 2017

CIP Code

04.0401

Delivery Site(s)

Clemson Design Center, 701 Bay Street, Charleston, SC

Delivery Mode

- Traditional/face-to-face\*  
\*select if less than 50% online
- Distance Education  
 100% online  
 Blended (more than 50% online)  
 Other distance education

Program Contact Information (name, title, telephone number, and email address)

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Institutional Approvals and Dates of Approval

Clemson University, College of Architecture Arts and humanities, March 9, 2016  
Graduate Curriculum Committee, April 2016  
Board of Trustees, April 2016

### **Background Information**

State the nature and purpose of the proposed program, including target audience and centrality to institutional mission. (1500 characters)

The purpose of the proposed program is to deliver a concentrated, three-semester, post-professional degree program addressing 21<sup>st</sup> century needs associated with sustainable built and natural environments that are reflective of great and rapid urbanized growth never before witnessed in the State's history. Incumbent in addressing the needs of our times in a sustainable and responsible nature is to do so in a manner modeled after the ecological concept of resiliency, wherein the environments around us – both built and natural – withstand natural, economic, and social disturbances with inherent attributes of flexibility, adaptability, and hence, durability.

The Master of Resilient Urban Design (MRUD) proposes to build on the knowledge, skills, and interests of students with prior education in architecture, landscape architecture, and city and regional planning. In concentrating graduate students from these professional fields, along with accomplished faculty and expertise in the Charleston area drawn from the National Oceanic and Atmospheric Administration, the Urban Land Institute, the Coastal Conservation League, the Department of Health and Environmental Control, a unique curriculum will be delivered. Attention to large scale contexts of human settlement and environmental systems in addition to those of towns, municipalities, urban districts, neighborhoods, building sites and individual buildings and the various means by which they are interconnected become the subject matter in achieving sustainability and resilience.

Inherent in the MRUD's nature and purpose is Clemson's role as a Land Grant University. Clemson has a mission to serve the population of the entire state, including the Low Country, where rapid urbanization and development have placed urban communities at a very high risk of natural and social hazards. Clemson's current investment in the Clemson Design Center in Charleston, where undergraduate students in architecture and landscape architecture utilize its resources in furtherance of their education, in addition to the Master of Historic Preservation Program located there, positions the University and its partners to provide excellent education and research opportunities using the learning lab of an urbanized and metropolitan Charleston, the coastal fringe, and environmental dynamic and extensive riverine environments as a complex backdrop and attractor for a nationally and globally competitive program such as the MRUD.

List the program objectives. (2000 characters)

The goal of the MRUD is to prepare individuals with an earned bachelor degree in architecture, landscape architecture, or city and regional planning to effectively deal with complex cultural, market, and government policy forces that require broad-based urban design and realization of urban form that is sustainable including inherent characteristics of resiliency. In this regard, the proposed MRUD is designed to parallel conditions that manifest complex ecosystems. In achieving this overarching goal, the following seven program objectives are significant.

1. To offer a post-professional masters level program that prepares its graduates to perform as leaders in the critical area of sustainability and cutting-edge resilient urban design.
2. To deliver a curriculum that is practicum, i.e., studio, based as the teaching and learning core along with concurrent seminar courses that complement and support studio content.
3. To advance the understanding and application of urban design as a cross-disciplinary endeavor, i.e., through architecture, landscape architecture, and city and regional planning in conjunction with disciplines in the natural and social sciences.
4. To clearly develop and apply an understanding of sustainable urban form and resilience that is comprehensive within large, diverse, and complex contexts of human settlement.
5. To prepare graduates in the utilization of advanced and “cutting edge” digital means of assessing environmental impacts of design intervention, design development, manipulation of two-dimensional and three-dimensional data.
6. To develop and complete resilient urban design through community based endeavors to involve groups within public and private sectors having a stake in program subject matter.
7. To seek external funding that will support and advance the mission and educational activities of the MRUD.

**Assessment of Need**

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable. (1500 characters)

Post-professional training in urban resilience is expanding in higher education as well as being a core component of the Clemson Forward Strategic Plan. Market demand in this regard comprises current and future prospects. Over the past decade, “resilience” has been adapted from studies of ecology and human development to include physical and social phenomena. It overlaps with “sustainability,” while addressing systems’ ability to “bounce back” from disasters, challenges, and crisis events. The term has been broadly adopted and is applied within a range of institutions such as the Federal Emergency Management Agency, the Rockefeller Foundation, and international healthcare organizations.

Urban design is a professional area of practice shared by architecture, landscape architecture, and city and regional planning. The development of urban design practice has steadily grown in importance through needs-based developments associated with rapid and extensive growth of human settlements in South Carolina, the nation, and the world. The needs for urban design practice and realization of urban form that is sustainable and resilient have never been greater.

Four trends affecting Charleston define its relevancy as a learning laboratory.

- Global Urbanization - an unprecedented global move to cities
- Coastal Development - risk amidst increasing storm and other hazards
- Built Environments - impacts and needs associated quality of life
- Watershed Vulnerabilities – necessity of intelligent planning and design intervention

Clemson’s emphasis on “resilient communities” and “sustainable environments” presciently prioritizes its Land Grant Mission. This emphasis points to the importance of the University’s contribution to economic, social, and environmental wellbeing of South Carolina and its inhabitants, while offering the potential of enhancing the State’s and university’s presence on a global stage.

### Employment Opportunities

Is specific employment/workforce data available to support the proposed program?

- Yes  
 No

If yes, complete the table and the component that follows the table on page 4. If no, complete the single narrative response component on page 5 beginning with “Provide supporting evidence.”

Employment Opportunities			
Occupation	Expected Number of Jobs	Employment Projection	Data Source
Architect	7800	2014-2024	Bureau of Labor Statistics
Landscape Architect	1200	2014-2024	Bureau of Labor Statistics
Urban Planner	2400	2014-2024	Bureau of Labor Statistics
Urban Design	491	Current listings	Monster.com (compared with 317 for “Landscape Architect” and 19 for “Urban Planner”)
Urban Design	572	Current listings	Indeed.com (compared with 1,356 for “Urban Planner” and 522 for “Landscape Architect”)

Provide additional information regarding anticipated employment opportunities for graduates.  
(1000 characters)

The Bureau of Labor Statistics Occupational Employment Statistics does not have a category for “urban designer.” However, as shown in the preceding table, architecture, landscape architecture, urban planning reflect job growth between 2014-2024 at between 5% and 7% indicating an additional 7,800 architects, 2,400 urban planners, and 1,200 landscape architects to be added to the workforce. This amounts to 320 architects, 50 urban planners, and 60 landscape architects in South Carolina.

Given growing interest in urban design, the American Planning Association has developed certification for Urban Designers for qualified individuals.

Real estate development predicts demand for urban designers due to the 2008 housing crisis, population growth, and increases in households that contribute to greater housing demand through 2024 than in the prior decade (Moody’s 2014).

The Low Country Graduate Center and the Citadel commissioned a study that indicates demand in South Carolina relative to employment relevant to “sustainable infrastructure.” The top skill was “sustainable

design.” The EAB research brief was published in 2014 and focused on undergraduate degree opportunities as well as working professionals seeking advanced online or competency based courses in sustainability. The largest undergraduate preparation was architects and engineers, as well as project managers.

Additionally, as a post-professional degree, the MRUD will enhance the capacities of professionals in the three allied fields – architecture, landscape architecture, and urban planning - making them more competitive in a marketplace that is growing due to the broad environmental, social, and economic trends.

Will the proposed program impact any existing degree programs and services at the institution (e.g., course offerings or enrollment)?

Yes

No

If yes, explain. (500 characters)

The impact of the proposed program on other degree offerings and services is threefold as follows.

1. The MRUD offers a professional growth opportunity building upon Clemson graduates' experiences in architecture, landscape architecture, and city and regional planning.
2. The program will build on Clemson's outreach record and long-standing activities in Charleston.
3. Three courses in the curriculum, i.e., the seminar series, are open to qualified graduate students from other programs, including those of Clemson, the Citadel, and College of Charleston. This flexibility in curriculum benefits the mission of graduate level education by attracting students from programs related to the MRUD, e.g., from the joint Master of Historic Preservation program in Charleston, wherein reciprocating positive educational outcomes can occur.

**List of Similar Programs in South Carolina**

<b>Program Name</b>	<b>Institution</b>	<b>Similarities</b>	<b>Differences</b>
There are no similar programs currently in the CHE Inventory of Programs. Therefore we are included related programs that might collaborate with the proposed degree.			
Masters in City & Regional Planning (MCRP)	Clemson University	Shares a focus on the urban and regional scale of development/design. Publicly-oriented scope of work.	MRUD is a “design” degree, whereas MCRP is largely a “social science” degree. Additionally, MCRP is nationally accredited by the Planning Accreditation Board, which means that it has constraints not present in MRUD.
Masters of Architecture (MArch)	Clemson University	Shares a core skill of design and visual products.	MRUD has an emphasis on the public space, given its scales are above the project/parcel level.
Masters of Landscape Architecture (MLA)	Clemson University	Shares a core skill of design and visual products, emphasis on the public space.	Includes emphasis on built and natural environment
Certificate in Urban & Regional Planning	College of Charleston	Emphasis on urban and regional scale of analysis.	Design focus of MRUD, a full Masters-level degree, national and global job placement targets. Full-time, not part-time.
Certificate in Health and the Built Environment	Citadel	Emphasis on the built environment	Design focus of MRUD, a full Masters-level degree, national and global job placement targets. Full-time, not part-time.
Joint Masters in Historic Preservation	Clemson University and the College of Charleston	Shares an emphasis on public spaces, has one component of architectural design.	MSHP has a thesis requirement and research component that MRUD does not have
Masters in Real Estate Development	Clemson University	Shares a focus on the urban built environment, some building design components.	MRED places great emphasis on cost-benefit analysis, economic projections and profitability.
Minor in Real Estate	College of Charleston	Shares a focus on the urban built environment	Undergraduate degree, emphasis on economic aspects.

**Description of the Program**

Projected Enrollment						
Year	Summer		Fall		Spring	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2017 - '18	10	120	10	120	10	120
2018 - '19	12	144	12	144	12	144
2019 - '20	14	168	14	168	14	168
2020 - '21	16	192	16	192	16	192
2021 - '22	16	192	16	192	16	192

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program?

Yes

No

If yes, explain. (1000 characters)

As a minimum admission to the MRUD requires completion of a professional degree at the bachelor's level in architecture, landscape architecture, or urban planning supported by an acceptable portfolio reflecting design acumen suitable for engaging in the curriculum's design-focused studios. Graduates in urban planning – regardless of degree level – who are unable to provide an acceptable portfolio, are required to develop proficiency in design and design communication before full admission is granted into the MRUD program.

Are there any special articulation agreements for the proposed program?

Yes

No

If yes, identify. (1000 characters)

While there is not an articulation agreement affecting the MRUD at this time, the University will be seeking opportunities for collaboration. General articulation agreements currently exist in the Charleston area between Clemson and the Citadel and there are advanced discussions underway between Clemson and the Medical University of South Carolina. Clemson also offers a joint Masters of Science in Historic Preservation (MSHP) degree with the College of Charleston. By example, these offer opportunities for deeper collaboration and additional agreements.

**Curriculum**

Select one of the following charts to complete: Curriculum by Year **or** Curriculum by Category

<b>Curriculum by Year</b>					
<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>
<b>Year 1</b>					
<b>Summer</b>		<b>Fall</b>		<b>Spring</b>	
RUD 8600 Urban Design Studio 1	6	RUD 8630 Urban Design Studio 2	6	RUD 8660 Urban Design Studio 3	6
RUD 8610 Urban Design Seminar 1	3	RUD 8640 Urban Design Seminar 2	3	RUD 8670 Urban Design Seminar 3	3
RUD 8620 Urban Design Visualization and Communication 1	3	RUD 8650 Urban Design Visualization and Communication 2	3	RUD 8680 Urban Design Implementation	3
<b>Total Semester Hours</b>	<b>12</b>	<b>Total Semester Hours</b>	<b>12</b>	<b>Total Semester Hours</b>	<b>12</b>

Total Credit Hours Required: 36



**Course Descriptions for New Courses**

<b>Course Name</b>	<b>Description</b>
RUD 8600 Urban Design Studio 1	This design studio course focuses on the relationship of geographic land units, ecosystems, interconnections, and sustainable urban form at the town and city scale.
RUD 8610 Urban Design Seminar 1	This urban design seminar is in two parts: 1) it introduces urban design principles and a common language for understanding and “reading” the city through theoretical, critical, and formal vocabularies of postwar urbanism and the post-industrial age and 2) it focuses on the relationship between human, cultural and natural phenomena.
RUD 8620 Urban Design Visualization and Communication 1	This course focuses on the essential skills of GIS data acquisition, preparation, analysis, and presentation, and other tools and techniques of visualization and communication. Special emphasis will be given to socioeconomic data and ecological data in both vector and raster formats.
RUD 8630 Urban Design Studio 2	Design studio focused on advancement of design solutions realized in RUD 8600 with particular emphasis on neighborhoods (the “urban village”), special and other districts, and natural and human conceived corridors.
RUD 8640 Urban Design Seminar 2	This urban design seminar focuses on the neighborhood/district/corridor. It expands on theories and urban design principles that support the inter-relationships of the neighborhood, district and corridor, landscape urbanism, green infrastructure, inter-relationships of neighborhoods, housing and development densities, adapting corridors and streetscapes, as part of the city’s district scale.
RUD 8650 Urban Design Visualization and Communication 2	This course is a continuation of Urban Design Visualization and Communication 1. Students will learn specific applications, including ESRI Geo Planner and ESRI City Engine, which embody the leading edge of technology-based solutions to current challenges in resilient urban design.
RUD 8660 Urban Design Studio 3	Design studio building on the contextual and urban considerations, data, and form solutions realized in MRUD 8110 and MRUD 8120. Ongoing focus given to sustainability, as well as building typologies in complex urban contexts and their relationships to site and adjacent form.
RUD 8670 Urban Design Seminar 3	This urban design seminar focuses on the human scale of the block/street/building. It expands on theories and urban design principles that support the inter-relationships of the block/street/building. It examines the interrelationships of the site, building, street, city block as components of the neighborhood, district and city and underpinned by resiliency and sustainability.
RUD 8680 Urban Design Implementation	Seminar addressing a wide range of financial, regulatory, and political challenges in project implementation, along with strategies to anticipate and address them. The course will use case studies of projects at different scales, including the corridor, special district, neighborhood, civic landscape, municipality, and the region.

<b>Faculty and Administrative Personnel</b>				
<b>Rank</b>	<b>Full- or Part- time</b>	<b>Courses Taught or To be Taught, Including Term, Course Number &amp; Title, Credit Hours</b>	<b>Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major</b>	<b>Other Qualifications and Comments (i.e., explain role and/or changes in assignment)</b>
Professor # 1	FT	Summer: RUD 8600 (6) Summer: RUD 8610 (3)	MLA, Landscape Architecture, California State Polytechnic University 1978. PhD, Urban Design and Planning, University of Washington 1989.	
Professor #2	PT	Spring: RUD 8660 (6)	BArch, Architecture, Clemson University 1971.	Mr. Huff has the 5-year professional degree that was the standard for practice during the years he was in architecture school. The process of licensure in architecture is such that its level of rigor guarantees that the person has attained the highest degree of competency. He has taught at Yale University and has been invited as academic and professional critic in He has won awards for his own work.
Professor #3	PT	Spring: RUD 8670 (3)	MArch, Architecture, Harvard University School of Design 1999. MS, Architectural History and Theory, University of Pennsylvania 2004. PhD, Architecture, University of Pennsylvania 200	
Associate Professor #1	PT	Fall: RUD 8630 (6) Fall: RUD 8640 (3)	BSLA, Landscape Architecture, University of California-Davis 1993. MCP, Community Planning, University of California 1996. MLA, Landscape Architecture, University of California 1996.	
Assistant Professor *#1	FT	Summer: RUD 8610 (3) Summer: RUD 8620 (3) Fall: RUD 8650 (3) Spring: RUD 8680 (3)	PhD in Planning, Landscape Architecture, or Architecture	Skills in relevant software platforms, masters in design field.

Note: Individuals should be listed with program supervisor positions listed first. Identify any new faculty with an asterisk next to their rank.

Total FTE needed to support the proposed program (i.e., the total FTE devoted just to the new program for all faculty, staff, and program administrators):

Faculty	Staff	Administration
<b>2 FTE</b>	<b>1 FTE</b>	<b>.25 FTE</b>

### Faculty /Administrative Personnel Changes

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program. (1000 characters)

The MRUD program will reallocate an existing faculty line within the College of Architecture, Arts and Humanities to support the MRUD program full time and be based in Charleston. Additionally, in the second year, the program will hire an assistant professor into a full time, tenure track position.

In addition, the MRUD program will need to hire a full time administrative assistant at a salary of approximately \$35,000.

The .25FTE administration will be reallocated from the current department chair that has oversight for the Clemson's role with the joint Historic Preservation degree program, as well as oversight over the City and Regional Planning and Real Estate Development degree programs.

These personnel projections are based on the successful 10+ year experience of Clemson's professional programs in Real Estate Development (MRED) and Historic Preservation (MSHP).

### Library and Learning Resources

Identify current library/learning collections, resources, and services necessary to support the proposed program and any additional library resources needed. (1000 characters)

MRUD students will have access to Clemson Libraries facilities, services, and resources, through the 'branch' collection located at the Clemson Architecture Center.

Materials in electronic formats--e-books, e-journals, online article indexes, reference and other e-content databases, and streaming video-- belonging or licensed to Clemson Libraries are accessible through the Internet. Users with Clemson University IDs would be able to access licensed subscriptions.

Clemson participates in the OCLC ILLiad system of resource sharing across all ILLiad subscribers. Through it, students can borrow circulating materials from other academic and research libraries at no charge. Clemson Libraries subscribe to the WorldCat catalog of holdings in thousands of libraries in over 100 countries.

Clemson University Libraries participate in Partnership Among South Carolina Academic Libraries (PASCAL). Items available from another PASCAL library can be requested online through the Clemson catalog. The Gunnin Library provides online research guides for architecture, landscape architecture, and city and regional planning that include lists, descriptions, and direct links to recommended resources.

In the Clemson Design Center, Clemson University collaborates with the College of Charleston to offer the Master of Science in Historic Preservation degree and the Certificate in Historic Preservation, and the learning resources in this program will be available to support the MRUD program. Based full time in Charleston, students in the HP graduate program benefit from full status at both institutions, including access to library and other resources.

The Program also works in close collaboration with a number of Charleston based initiatives including the

sites and collections of the Charleston Museum, the Historic Charleston Foundation, the Preservation Society of Charleston, and the American College of the Building Arts, The Charleston Museum and Drayton Hall, a National Trust site.

### **Student Support Services**

Identify academic support services needed for the proposed program and any additional estimated costs associated with these services. (500 characters)

The university libraries are fully staffed and provide up-to-date reference support through its free online electronic journals and literature search support for the MRUD program. Additionally the Clemson Design Center has a dedicated library space to support the MRUD program on site.

Additionally, the current arrangements that the Clemson Design Center in Charleston to support students on a semester basis, can serve as supportive relationships and systems through which MRUD students will be able to manage any student service needs that arise. Given the nature of the program as graduate level, post-professional student services are seen to be minimal and within the realm of those available through the greater university. We have graduate students also located in North Charleston at the CURT location. Shared student support services are anticipated as our graduate student enrollment expands at both locations. We have a separate agreement for the joint MSHP program with the College of Charleston.

### **Physical Resources**

Identify any new instructional equipment needed for the proposed program. (500 characters)

No new instructional equipment needs are anticipated. The renovated space in the Clemson Design Center, is the location for the proposed program, has needed equipment in place and was part of the leasing agreement approved by CHE last year. SACSCOC has also approved the instructional site as well. A separate pdf is being sent with this proposal that shows the floor plan of the Clemson Design Center.

Will any extraordinary physical facilities be needed to support the proposed program?

Yes

No

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements, including new facilities or modifications to existing facilities. (1000 characters)

The historic and adaptively retrofitted C building that houses the Clemson Design Center in Charleston will be the location of office, studio, and classroom spaces for the proposed program. The attached floor plan of a portion of the building identifies studio, classroom, and seminar rooms to be utilized by the program. Studio space is dedicated fulltime to the MRUD program. Seminar and classroom spaces are to be scheduled for sharing with the Clemson architecture and historic preservation programs that are also housed in the Clemson Design Center. The Clemson Design Center space is leased by the University.

**Financial Support**

<b>Estimated Implementation Costs by Year</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Program Administration	18,153	31,999	49,577	68,493	67,717	235,920
Faculty and Staff Salaries	312,200	397,455	389,439	391,667	401,147	1,891,907
Graduate Assistants						
Equipment	5,000	5,000	5,000	5,000	5,000	25,000
Facilities	72,700	99,093	134,608	162,480	178,841	647,722
Supplies and Materials	38,773	45,040	47,492	50,150	51,666	233,121
Library Resources						
Other*	45,000	38,400	45,808	33,224	31,649	184,081
<b>Total</b>	<b>491,825</b>	<b>616,987</b>	<b>661,904</b>	<b>711,014</b>	<b>736,020</b>	<b>3,217,751</b>
<b>Sources of Financing</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Tuition Funding	335,000	422,300	514,537	611,927	630,285	2,514,049
Program-Specific Fees						
State Funding (i.e., Special State Appropriation)*						
Reallocation of Existing Funds*	139,600	142,392	145,240	148,145	151,108	726,484
Federal Funding*						
Other Funding*	10,000	10,500	11,025	11,576	12,155	55,256
<b>Total</b>	<b>484,600</b>	<b>575,192</b>	<b>670,801</b>	<b>771,648</b>	<b>793,548</b>	<b>3,295,789</b>
<b>Net Total (i.e., Estimated New Costs Minus Sources of Financing)</b>	<b>(7,225)</b>	<b>(41,795)</b>	<b>8,897</b>	<b>60,634</b>	<b>57,527</b>	<b>78,038</b>

\*Provide an explanation for these costs and sources of financing in the budget justification.

## Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

**Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.**

### Revenues:

- Tuition Funding:
  - Enrollment is conservatively modeled in the financial plan at 10 students per cohort in year 1, growing to 16 students by year 4. However, opportunities to recruit and enroll a larger cohort will be pursued, with 20 students being the maximum enrollment acceptable from a pedagogical standpoint to ensure a quality educational experience for students.
- Reallocation of Funding:
  - The College of Arts, Architecture, and Humanities will reallocate funding to support an existing faculty member to serve as the program director and faculty member in Charleston.
- Other Revenue:
  - \$10K annually of revenue for renting the Charleston space to companies is included to support the operational plan.

### Expenses:

- Program Administration
  - University support for information technology, student services, libraries, academic affairs, administrative support (HR, finance, payroll, legal, etc.), and general university support, as well as a percent of the chair's role.
- Faculty & Salary Costs
  - To be cost effective, MRUD will leverage an existing full professor at \$100K plus fringe within the College of Arts, Architecture, and Humanities to expand programmatic offerings by relocating this existing faculty member to serve as the program director in Charleston. This faculty line will not be refilled on the main campus. One new assistant professor will be hired (in year 02) at \$75,000 in Charleston and will teach a 2:2 course load.
  - Summer pay to deliver 12 credit hours is included in the faculty costs.
  - One-time startup packages and relocation expenses
  - One new administrative staff/program coordinator position (\$35K annually). 15% of an IT/AV Tech position (\$9K annually). Fiscal responsibilities will be managed by an analyst on the main campus.
- Facilities
  - Financial support for the space for the program.
- Equipment
  - Computers for faculty and staff.
- Supplies & Materials
  - Support for student programming and software, engagement, and professional development opportunities.
- Other Admin Cost
  - A significant marketing budget for recruitment has been established to ensure enrollment targets are met or exceeded.
  - Other miscellaneous costs to support administrative support and faculty travel are included.

## Evaluation and Assessment

**Programmatic Assessment:** Provide an outline of how the proposed program will be evaluated, including any plans to track employment. Identify assessment tools or software used in the evaluation. Explain how assessment data will be used. (3000 characters)

The MRUD program is committed to maintaining standards consistent with one of the top Urban Design offerings in the country. To do so, it will follow criteria that are similar to what is done for the accredited programs in City & Regional Planning, Landscape Architecture and Architecture.

Specifically, the MRUD program will track 1) The number of Students graduated and the time to completion. 2) The percentage of graduates' employment in related field will be monitored. 3) Fiscal solvency of program implementation will be evaluated against the approved plan. 4) The location of graduates' employment will be assessed. 5) Graduates success will also include evidence of their scholarship (research and creative activity) and the quality of their portfolios at graduation.

Our department has experiences with the collection and monitoring of success criteria required by a variety of specialty accreditation associations. The nationally-established process for the related accredited programs includes student- and alumni-surveys, exit interviews, employer surveys, and ongoing analysis of the applicant pool. We plan to follow similar processes for collecting and analyzing data related to program success.

**Student Learning Assessment**

<b>Expected Student Learning Outcomes</b>	<b>Methods of/Criteria for Assessment</b>
<p>Ability to work effectively in a professional studio environment in which planning and design process and design development through team efforts in completion of complex urban and urban context projects; understanding of research methodology as reflected in rational models; communication skills of graphic and verbal nature.</p>	<p>Assessment through rubrics and protocols typifying design education at graduate level including written feedback that addresses effectiveness of team efforts, development of comprehensive data bases of natural and human cultural nature critical to successful project incomes; justification of work as reflected in understanding of the problem(s); presentation of work in the course of development to faculty review; presentation of project outcomes for review by accomplished design practitioners and with individuals with scientific understanding broad-based resilience. Use of clear problems statements with “targets” identified as significant to studio design outcomes, and subsequently evaluation of students work to test whether targets have been met. In addition, given the integrated nature of the curriculum, collaboration will be practiced to assess levels of accomplishment in realizing the pedagogical and relationships through the field.</p>
<p>Understanding and facilitation of the relationships between large scale considerations of geographic land units, ecosystem processes, transit, urban form, related infrastructure, and their design towards resilient ends. Inclusive of these larger scale considerations facility is understanding and shaping relative dimensions of various city blocks, streets, urban and suburban development patterns and development agents; the relationship of a civic realm, supporting infrastructure, to realize resiliency in built, economic, and social environments.</p>	<p>In addition to the preceding methods and criteria, environmental impact analysis as clear and identified targets must support project outcomes; demonstration of working at larges scales with related field analysis as reflected in completion of complex data resources bases; assessment of individual efforts within a team or group project professional studio framework relative to individual roles in conjunction with presentation and explanation through desk “crits,” regular debriefings, graphic and written communication, and acceptability to a faculty and professional audience experienced in topics of the design efforts. As stated previously - given the integrated nature of the curriculum - collaboration will be practiced to assess levels of accomplishment in realizing the pedagogical and relationships through the field.</p>
<p>Proficiency with ArcGIS software and understand of uses and limitations of raster and vector data; principles and methods of data analysis and presentation in ArcGIS; visualization, communication and conceptual skills, including ArcGIS Geo Planner and ArcGIS City Engine, to the study, evaluation and design of specific development projects; develop and present digital outcomes reflective of a data resources base and data manipulation.</p>	<p>Through demonstration of digital mapping product, various manipulations of spatial/three dimensional designs in development stages as well as final design outcomes, attainment of skills and application is ascertained. As is common is course delivery, clear problem statements with testable targets will be a rule in making course assignments. Also, small group and entire class debriefings will occur on a regular basis to gauge student comprehension.</p>



<b>Expected Student Learning Outcomes</b>	<b>Methods of/Criteria for Assessment</b>
<p>Understanding, critical thinking, and abilities acquired through review of key literature regarding conventional and resilient urban design principles, theories, and practice within the multiple contexts of ecosystems, regions, cities, and metropolises, and the various component elements that give form to these contexts.</p>	<p>Use Socratic method and “cold call” quizzing of students as regular and spontaneous assessment tools to gauge comprehension and test critical thinking. Formalized testing of comprehension of basic principles associated with seminar material through essays.</p>
<p>Understanding of the importance of financing, regulations, and community involvement in project implementation; familiarity with advantages and disadvantages of each; understand roles of public, private, and non-profit players towards project implementation.</p>	<p>Use of rubrics associated with evaluation of targeted learning associated with finance and implementation with expression through practicums that are evaluated through “juried” presentations to faculty, stakeholders, and invited professionals; comparisons of student work with established examples of successful cases in the subject matter.</p>

Will the proposed program seek program-specific accreditation?

Yes

No

If yes, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

No accreditation is available at this time. However, based on existing discussions in the American Planning Association, future accreditation may be developed at which time Clemson University would apply and seek accreditation status.

Will the proposed program lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

Consistent with the urban design component of this growth in the related fields, the American Planning Association has recently created a certification process for Urban Designers, which is available for architects, landscape architects, planners and others working in the design and management of cities. It is not required for practice in the field at this time. The curriculum and student learning outcomes proposed in this degree program would prepare students for the certification if they elected to seek certification.

### **Teacher or School Professional Preparation Programs**

Is the proposed program a teacher or school professional preparation program?

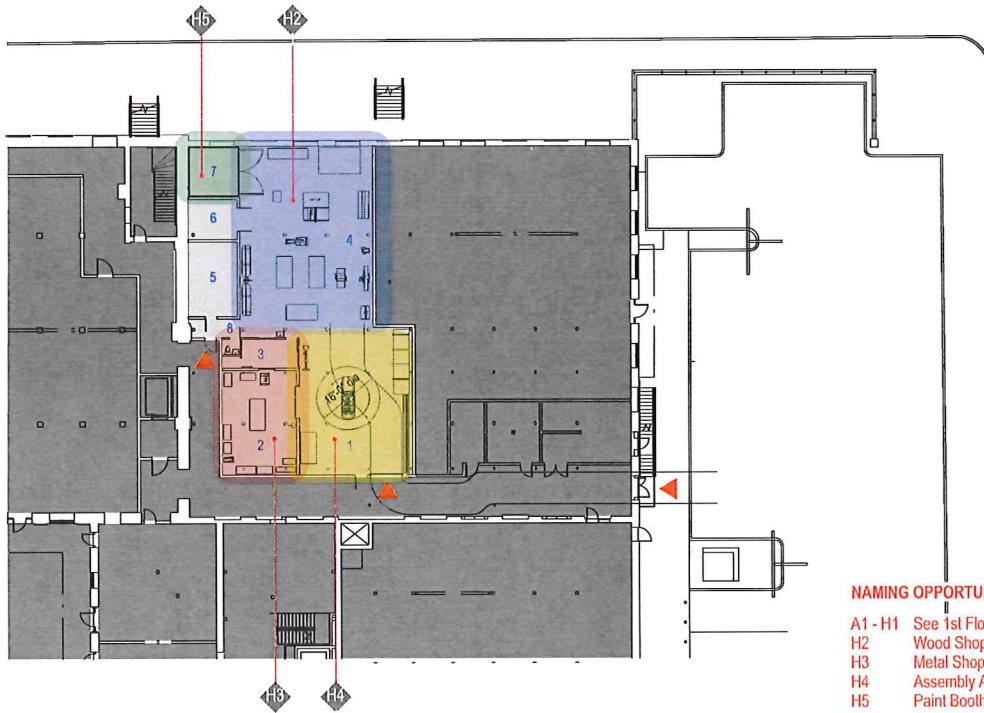
Yes

No

If yes, complete the following components.

Area of Certification

Please attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.

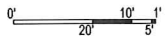


**NAMING OPPORTUNITIES**

- A1 - H1 See 1st Floor Plan
- H2 Wood Shop (see 2nd flr plan)
- H3 Metal Shop (see 2nd flr plan)
- H4 Assembly Area (see 2nd flr plan)
- H5 Paint Booth (see 2nd flr plan)

## Cigar Factory 1st Floor

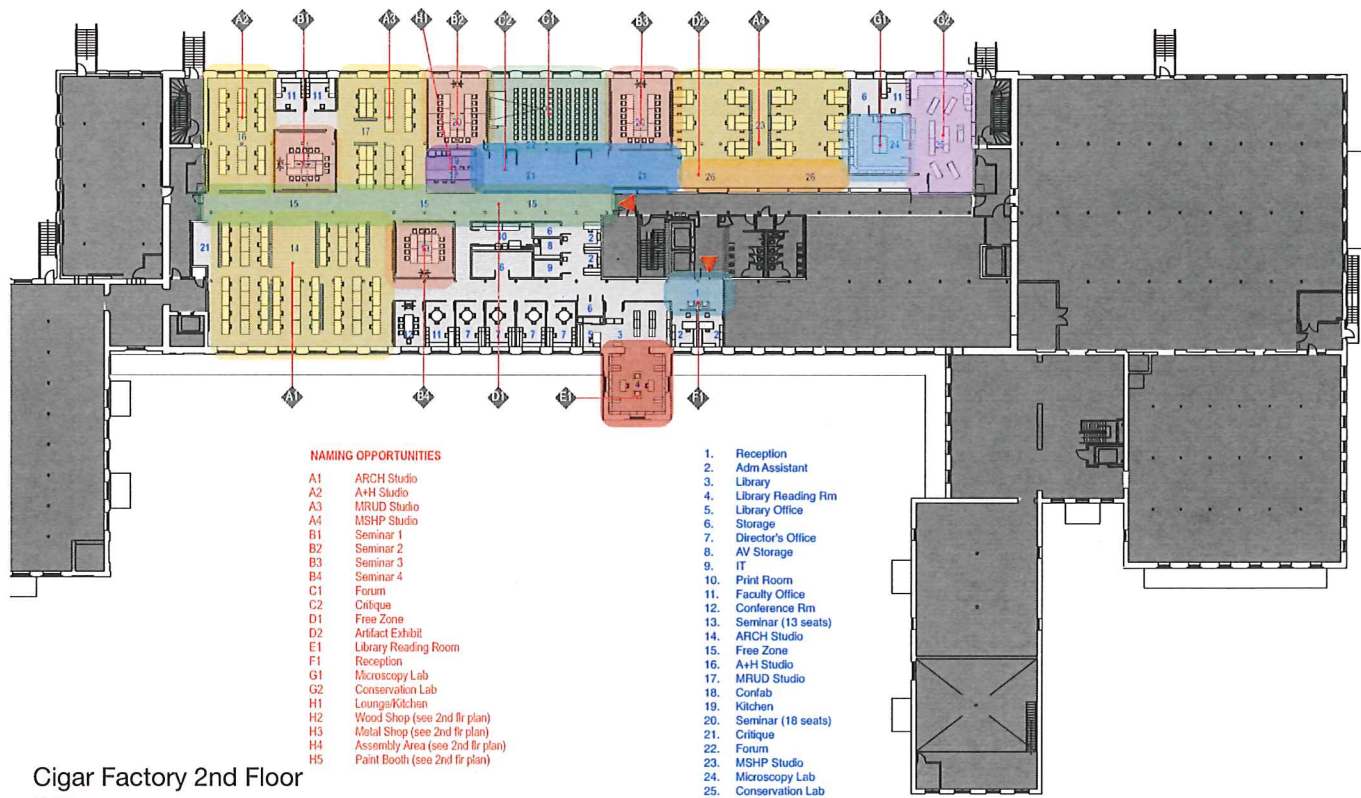
01.20.16



Total CDC Area 2nd Flr : 4,000 sf

Users\rayhuff1\Dropbox\CACC ADMINISTRATION\CACC-NEW FACILITY\CDC-CLEMSON DESIGN CENTER\1. Pre-Design\1.4 Studies\CDC-SCHEMES\CDC-1st Flr. Scheme B 32" 10-28-15 PC9

- 1. Assembly/Fabrication
- 2. Metal Shop
- 3. Office
- 4. Wood Shop
- 5. Building Storage
- 6. Shop Storage
- 7. Paint Booth
- 8. Toilet



## Cigar Factory 2nd Floor

01.20.16



Total CDC Area 2nd Flr: 18,175 sf  
 Alternate A11 Drop/ceiling/CACC ADMINISTRATION/CACC NEW FACILITY/CDC CLEMSON DESIGN CENTER/ 1. Pre Design/14 Studies/CDC SCHEMES/CDC 2nd Flr  
 Scheme H 32 Scale 1/16=15 PC9