

ACAP  
9/29/16  
Agenda Item 4e

Name of Institution

Clemson University

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

Digital Production Arts

This request is to add a MS (thesis and non-thesis) (currently award MFA)

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

1/5/2017

CIP Code

11.0201

Delivery Site(s)

Clemson University (Main Campus)

Clemson University Restoration Institute (Zucker Family Graduate Education Center), North Charleston

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)

Victor Zordan, Director, Digital Production Arts, 864 656 4144, vbz@g.clemson.edu

University Contact: Debra B. Jackson, Vice Provost for Academic Affairs, 864-656-3194,  
dbj@clemson.edu

Institutional Approvals and Dates of Approval

Clemson Board of Trustees, April 12 2016

University Graduate Curriculum Committee, Jan 11 2016

College of Engineering and Science Curriculum Committee, Nov 20 2015

School of Computing Faculty, Nov 11 2015

School of Computing Graduate Advisory Committee, Nov 2, 2015

### **Background Information**

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

Clemson currently offers a 60 credit hour Master of Fine Arts in Digital Production Arts degree. Leveraging classes within that curriculum, the MS in DPA will have a strong technical focus and shortened degree completion time, allowing Clemson to appeal to a different market with existing resources. The MFA, a terminal degree, focuses on the digital art production process for the entertainment and commercial media technology. Although the MFA program's home is in the School of Computing, it is interdisciplinary in design and is a terminal degree in Art that allows academics to teach and pursue tenure track positions in Art and related disciplines. As an accreditation requirement (by NASAD) the MFA demands 60 credit hours.

The proposed MS will be a non-terminal degree paralleling and overlapping strongly with the MFA program but requiring only 30 credit hours (as is common for other MS degrees). Further, it is designed primarily to attract technically-minded students with the focus of learning applied technical knowledge and gaining the related experience to become competitive and pursue employment in the digital production/entertainment industry as a graphics programmer, software developer, tool builder, or technical director. The MS program will have both a thesis and a non-thesis option.

The DPA program will be expanding to North Charleston in the Zucker Family Graduate Education Center (previously approved by CHE), and will begin offering courses at the new location in Fall 2016. This expansion is already planned to include the addition of faculty members who will be able to support both the MFA and the proposed MS option, with MFA and MS students in shared courses. The degree will be available in both locations, in Clemson and Charleston.

The proposed MS dovetails with and continues Clemson's emphasis and expertise in the area of Digital Production Arts and focus on Computer Graphics within the School of Computing, while also aligning with Clemson's effort to bring professional development in specific fields, including Digital Production Arts, to the Charleston Area via the Zucker Family Graduate Education Center.

List the program objectives. (2000 characters)

The objectives of the DPA MS program are:

- 1) To produce highly trained students who have mastered the technical concepts and approaches behind visual entertainment software and digital media
- 2) To engage students in hands-on, problem-based experience with an emphasis on graphics system engineering and tool development, team-based projects, and troubleshooting
- 3) To provide training in, and extensive experience with the professional workflows and tools used in the animation, visual effects, and video game industries

### 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)

The MS DPA fulfills a continuing mission at Clemson University in regards to its pursuit to offer top-ranked education in the field of Digital Production Art (DPA). As evidenced by its recent ranking in the top-ten of programs nationally in Animation education ([www.cra.org](http://www.cra.org)) DPA continues to grow in reputation and popularity. Further, in June 2015, Clemson has made an extensive multi-year investment in DPA including and through DPA's expansion to the Zucker Graduate Education Center in North Charleston. The MS DPA broadens the University's offerings to enrich the types and number of graduates it is able to produce.

Part of the goal of bringing the DPA program to Zucker is to allow it to join forces with the necessary elements in Charleston (Art and Technology) to support a period of accelerated growth in the digital entertainment sector in South Carolina. This is aligned with identified growth patterns in the Charleston area, as the Charleston Metro Chamber of Commerce has recently reported development of 25,000 jobs in the Charleston area with many in high tech areas (<http://www.charlestonchamber.net/talent-demand-analysis-results/>).

The MS DPA adds much needed talent to South Carolina job pool through the education of highly applied, technologically savvy work force that makes advancement of a successful (and lucrative) digital entertainment start-up climate possible within South Carolina. While the MFA in DPA offers technical artists, those that would graduate with the MS in DPA are technologists who are the backbone of software development in a digital entertainment company. DPA MS production would sidestep the need to attract such talent from outside of the state, since SC currently does not offer a like education.

In turn, SC's participation in the digital entertainment industry will be strengthened by the program and will bring additional work and related high-technology companies to the area.

### 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."

Provide supporting evidence of anticipated employment opportunities for graduates, including a statement that clearly articulates what the program prepares graduates to do, any documented citations that suggests a correlation between this program and future employment, and other relevant information. Please cite specific resources, as appropriate. (3000 characters)

**Note: Only complete this if the Employment Opportunities table and the section that follows the table on page 4 have not previously been completed.**

As described above in the assessment of need for the program, the Charleston area is building a new animation, indie game, and media industry that will lead to job development and further business formation. Clemson's DPA program is in a unique position to offer education necessary to build the critical talent to support growth in this industry.

Because the market is in its infancy within the state, employment potential in South Carolina is hard to quantify, but the draw for employment for DPA MFA graduates indicates that we produce less than the demand for the MFA. To date, DPA has nearly 100% placement, with many students receiving job offers well before they graduate. The expectation is that the proposed DPA MS will continue this trend, while shortening the time to completion from three to two years.

DreamWorks Animation continues to put Clemson's DPA on the top of its list for recruiting technical artists. This is in distinction to other regional schools such as Ringling School of Art and Design and Savannah College of Art and Design, as they offer education in creative and art disciplines solely. While recruiters see Clemson's artists as competitive, it is the DPA technical edge that clearly is our unique draw. The MS in DPA will play to the established strengths of the program and its faculty, streamlining the process of providing graduates with the critical technical skills required by the industry.

The entertainment software industry is a multi-billion dollar industry, with the movie and game industries alone exceeding \$30 billion per year. The extreme demand for dedicated, highly expert software engineers and artists, in a rapidly evolving field, results in an exceptionally competitive employment market, where well trained individuals are aggressively recruited. The Entertainment Software Association projects a continuing strong need for technical staff, with the average compensation for a video game industry employee around \$95,000 per year.

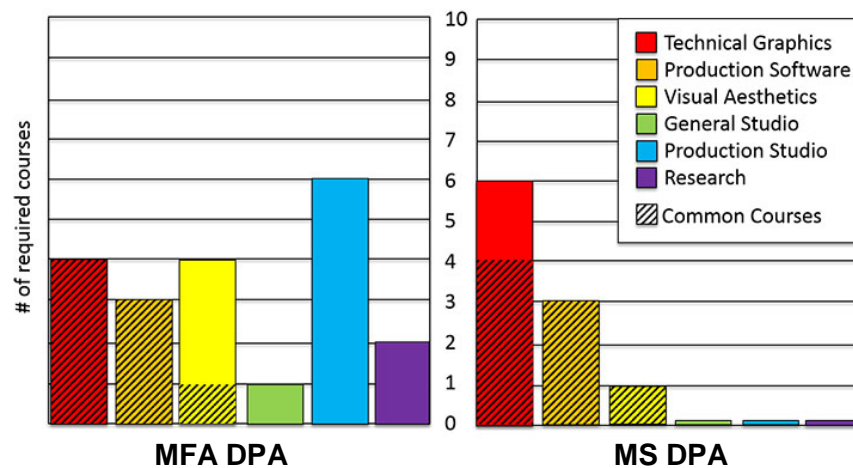
Will the proposed program impact any existing degree programs and services at the institution (e.g., course offerings or enrollment)?

Yes

No

If yes, explain. (500 characters)

The MS in DPA leverages off of the resources of the current MFA in Digital Production Art. The coursework in the MS program is a subset of the MFA coursework that emphasizes mastery of technical graphics and use of professional production software, while de-emphasizes aesthetics and studio practice. These differences in emphasis are portrayed graphically in the figure below.



The overlap of courses allows us to add the MS degree with minimal additional overhead. However, the job opportunities and practical differences (e.g. time-to-degree) between the two provide motivation for making both options available to interested students.

**List of Similar Programs in South Carolina**

Program Name	Institution	Similarities	Differences
Media Arts and Arts Education	University of South Carolina (USC)	MFA degree in Media Arts that cover related topics of digital entertainment	Proposed MS is a technical degree with focus on programming and technical problem solving
Computing in the Arts (CITA)	College of Charleston	Undergraduate program in mixture of arts and computer science	Proposed MS is a graduate program with a more in-depth focus on computer graphics and image processing, technical graduate degree

**Description of the Program**

Projected New Enrollment						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2017	5	60	5	60		
2018	10	120	10	120		
2019	10	120	10	120		
2020	10	120	10	120		
2021	10	120	10	120		

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)

Are there any special articulation agreements for the proposed program?

- Yes
- No

If yes, identify. (1000 characters)

**Curriculum**

<b>Curriculum by Category*</b>					
<b>Core Courses (12 credits required)</b>	<b>Cr Hours</b>	<b>Technical Courses Select from List (9 to 15 + 6 thesis course credits required)</b>	<b>Cr Hours</b>	<b>Non-Technical Electives Select from List (up to six credits require)</b>	<b>Cr Hours</b>
CPSC 6040 Computer Graphics Images	3	CPSC 6110 Virtual Reality	3	DPA 6020 Visual Foundations for Digital Production I	3
CPSC 6050 Computer Graphics	3	CPSC 6140 Human and Computer Interaction	3	DPA 6030 Visual Foundations for Digital Production II	3
DPA 8070 3D Modeling and Animation	3	CPSC 6160 2D Game Engine Design	3	ART 6050 Advanced Drawing	3
DPA 8090 Rendering and Shading	3	CPSC 6780 General Purpose Computation on Graphical Processing Units	3	ART 6070 Advanced Painting	3
DPA 8150 Special Effects Compositing	3	CPSC 8040 Visualization	3	ART 6090 Advanced Sculpture	3
		CPSC 8050 Advanced Computer Graphics	3	ART 6110 Advanced Printmaking	3
		CPSC 8170 Physically Based Animation	3	ART 6170 Advanced Ceramic Arts	3
		CPSC 8110 Character Animation	3	THEA 6720 Improvisation	3
		CPSC 8190 Physically Based Visual Effects	3	THEA 6870 Stage Lighting	3
		CPSC 8700 Software Construction	3	THEA 6970 Scene Painting	3
		DPA 8920 (variable credit) Thesis	6	AUD 6800 Audio Engineering	3
				ART 8210 Visual Narrative	3
				DPA 8080 Advanced Animation	3

\* Add category titles to the table (e.g., major, core, general education, concentration, electives, etc.)

Total Credit Hours Required

30
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**Course Descriptions for New Courses**

<b>Course Name</b>	<b>Description</b>
DPA 8920 Thesis Research (variable credit hours) (1-6 cr hrs)	Master's thesis research work. May be repeated. Six hours is required for graduation under the thesis option.

**Faculty**

<b>Faculty and Administrative Personnel</b>				
<b>Name/ 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 DPA Director	F	DPA 8600 Production Studio, (Var) DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var) Fall/Spring	BS, Mechanical Engineering, Boston University 1992. PhD, Computer Science, Georgia Institute of Technology 2002.	
Associate Professor #1 DPA Associate Director,	F	CPSC 8090 Rendering and Shading, 3 Spring CPSC 8150 Special Effects Compositing, 3 Fall DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BS, Computer Engineering, Clemson University, 1995. PhD, Computer Engineering, Clemson University 2002.	New Hire, starting Fall 2016 for <b>DPA MFA</b> .
Professor #2	F	CPSC 8050 Advanced Computer Graphics, 3 Fall CPSC 8190 Visual Effects, 3 Spring DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BS, Physics, Washington University 1980. MS, Physics, Brown University 1982. PhD, Physics, Brown University 1984.	AMPAS Technical Academy Award winner, 2008 Former DPA Director 2010-2013
Professor #3	F	DPA 4000/6000 Tech Foundations I, 3 Fall DPA 4010/6010 Tech Foundations II, 3 Spring	BS, Simon Fraser University, Computer Science 1990. PhD, Texas A&M University, Computer Science 1997.	



<b>Faculty and Administrative Personnel</b>				
<b>Name/ 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 #4	F	CPSC 4050/6050 Computer Graphics, 3 Spring DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BA, Mathematics, Duke University 1970. MS, Mathematics, University of Notre Dame 1973. PhD, Math, University of Notre Dame 1974. MA, Computer Science, Duke University 1980.	DPA Program Founder
Professor #5	F	DPA 4040/6040 Computer Graphics Images, 3 Fall CPSC 8170 Physically Based Animation, 3 Fall DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BS, Mathematics, Union College 1969. MS, Electrical Engineering, Rensselaer Polytechnic Institute 1978. PhD, Computer and Information Sciences, University of Massachusetts-Amherst 1984.	Chair, School of Computing, Division of Visual Computing
Professor of Practice #1	F	DPA 6020 Visual Foundations, 3 Fall DPA 8070 Modeling and Animation, 3 Fall DPA 8600 Production Studio 6 Spring	MFA, Savannah College of Art and Design 2012. BFA, Pai Chai University 2007	New Hire, starting Fall 2016 for <b>DPA MFA</b> .
Associate Professor #1	F	DPA 4000/6000 Tech Foundations I, 3 Fall DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BA, Mathematics, LaSalle College 1968. MEd, Counseling, University of Pittsburgh 1975. MS, Computer Science, University of Pittsburgh 1983. PhD, Computer Science, University of Pittsburgh 1990.	
Associate Professor #2	F	DPA 4030/6030 Vis Foundations II, (6) Spring DPA 8600 Production Studio, (Var) Fall/Spring DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	BFA, Painting and Printmaking, Eastern Michigan University 1993. MFA, Animation, Bowling Green State University 2004.	Faculty home in the Art Department

<b>Faculty and Administrative Personnel</b>				
<b>Name/ 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>
Assistant Professor #1	F	CPSC 8070 3D Modeling and Animation, 3 Fall CPSD 8110 Character Animation, 3 Spring DPA 8800 Research Studio, (Var) DPA 8910 M F A Thesis, (Var)	Vordiplom, Physics, University of Freiburg 1999. Diplom-Ingenieur, Media Technology, Hamburg University of Applied Sciences. PhD, Computer Science, Trinity College Dublin 2011. Postdoctoral study, Computer Science, Carnegie Mellon 2011-2012	Disney Research Intern, 2008
Assistant Professor #2	F	CPSC 8110 Character Animation, 3 Fall CPSC 8500 Advanced Graphics, 3 Spring	PhD, Computer Science, Utrecht University 2011. MS Computer Science University of Manchester 2005. BS Applied Informatics, University of Macedonia 2004.	New Hire, starting Fall 2016 for <b>DPA MFA</b> .

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>1.4</b>	<b>0.2</b>	<b>0.2</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 recent approved expansion of the DPA program into the Zucker Family Graduate Education Center included a plan for growth in faculty and support staff *for the MFA*. This plan is only now unpacking with its first incoming class to enter in Fall 2016 and a hiring of three additional faculty members plus one part-time staff person. The MS degree will leverage the resources that have been provided for the Masters of Fine Arts degree in Digital Production Arts.

The proposed MS will leverage these same resources, along with existing resources in the School of Computing's Division of Visual Computing (7 faculty members strong, excluding the Fall 2016 new hires) and DPA (part-time additional staff person) to deliver the necessary courses and administration.

In total, a cohort of 10 MS students is anticipated and will increase the course enrollment by 2-5 students per course, but not require additional sections for the courses.

### 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)

No additional resources are needed. Library and learning resources are in place for the Digital Production Art program and available for students in all locations.

#### Access to Books

##### **My Library Account**

Students enrolled in off campus programs can log in to their My Library Account to search the Clemson Libraries catalog and request the delivery of print books. In addition to print books, Clemson affiliates have access to 458,239 electronic books via individual subscriptions, aggregator databases, and consortial agreements.

##### **Books not owned by Clemson University Libraries**

Students may use the PASCAL Delivers service to borrow books from any college or university in South Carolina. Requests are made through the Clemson University Libraries home page, and delivered to a participating Charleston library. Students can borrow up to 25 books for six weeks, with an additional three week renewal period.

Students may also check out a maximum of three books for three weeks, with a one-week renewal from the following libraries in Charleston (upon presentation of a valid Clemson ID).

- Charleston Southern University
- The Citadel
- College of Charleston
- Medical University of South Carolina
- Trident Technical College

If a book is not owned by the Clemson University Library and is not available via PASCAL Delivers,

students may directly request the item from the Engineering Librarian. <mailto:comforj@clemson.edu>

Approved books will be rush ordered/cataloged and sent to the requesting patron, who will be responsible for returning them to Cooper Library (via either mail or return to a PASCAL Delivers library.)

#### **Access to Articles**

##### **Articles owned by Clemson University Libraries**

Students have access to 76,349 unique e-journal titles, many of which may be downloaded directly from Library databases.

Students requiring articles from print journals owned by the Library may request a scanned copy via <http://www.clemson.edu/culib/forms/secure/ill/emp/dd-rp.php>.

##### **Articles not available from Clemson University Libraries**

Students also have free access to interlibrary loan to request copies of articles from journals not available at Clemson. Students must create an account prior to borrowing via the following website:

<http://libguides.clemson.edu/ill>

#### **Additional Services**

##### **Reference Assistance**

Students encountering difficulties finding resource materials may contact the Engineering Librarian, who will respond to requests often immediately or within 24 hours. Students also have access to the Ask a Librarian service to request immediate assistance via phone/chat /text/ or email during normal Reference Desk hours.

#### **Student Support Services**

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

Student services are in place for the Digital Production Arts program and this additional degree will be managed by the program coordinator. Services are provided both on campus and at the Zucker facility.

Each student will be assigned a faculty advisor (i.e., a "major professor") with whom they will collaborate to develop a degree plan. Students will also have an advisory committee of faculty who will review both the student's course plan and research and scholarship activities (e.g., thesis). University policy dictates the details and procedures that are required for graduate degrees at the University. The nature of graduate study is individualized and graduate students and their graduate committees develop and approve a Plan of Study (GS-2) for each student which includes any common core requirements, other courses that may be selected by the student with faculty approvals.

### Physical Resources

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

Existing studio equipment, teaching classrooms, teaching software and equipment, and existing staff and faculty will be sufficient to serve the additional students projected. There is a direct network connection between the rooms on the main campus and in the Zucker building, so students at both locations can take the same class (synchronous delivery). Some classes will be offered from Zucker building, some from the main campus, and students will be in both locations. Students will attend class at the same time, and be seeing the same lectures and demonstrations. The teacher will be able to interact seamlessly with students at either location..  
 The Zucker building provides approximately 70,000 square feet of space for classrooms, offices, meeting rooms, and industry partner space to support the programmatic mission of the CURI campus and house academic programs, including Digital Production Arts MFA and MS degrees.

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)

### Financial Support

#### Estimated New Costs by Year

Category	1st	2nd	3rd	4th	5th	Total
Program Administration	23,839	75,939	106,804	114,391	127,074	448,047
Faculty & Staff Salaries						
Graduate Assistants						
Equipment						
Facilities	31,844	87,650	129,612	137,006	153,625	539,737
Supplies & Materials	3,784	8,929	12,321	20,945	14,535	60,514
Library Resources						
Other Admin Cost	20,000	15,000	10,000	10,000	10,000	65,000
<b>Total</b>	<b>79,468</b>	<b>187,518</b>	<b>258,737</b>	<b>282,341</b>	<b>305,234</b>	<b>1,113,298</b>

#### Sources of Financing

Category	1st	2nd	3rd	4th	5th	Total
Tuition Funding	158,928	506,260	712,030	762,606	847,159	2,986,983
Program-Specific Fees Diff+Lab						
State Funding (i.e., Special State Appropriation)						
Reallocation of Existing Funds						
Federal Funding						
Other Funding						
<b>Total</b>	<b>158,928</b>	<b>506,260</b>	<b>712,030</b>	<b>762,606</b>	<b>847,159</b>	<b>2,986,983</b>
<b>Net Total (i.e., Estimated New Costs)</b>	<b>79,460</b>	<b>318,741</b>	<b>453,293</b>	<b>480,265</b>	<b>541,925</b>	<b>1,873,685</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 5 students per cohort in the first year and 10 students per cohort every year after, for a total program size of 20 students by year 3.

Expenses:

The MS in DPA will require no additional faculty resources to deliver the course curriculum beyond what has already been committed, as the program leverages existing courses, current faculty, and approved hires for the Masters of Fine Arts in Digital Production Arts. Other than creating a new thesis course, no new courses will be added for the program. The MS in DPA will also leverage existing and approved administrative and IT/AV employees in the Charleston and Clemson locations, requiring no additional personnel support.

Program Administration:

- University support for information technology, student services, libraries, academic affairs, administrative support (HR, finance, payroll, legal, etc.), and general university support.

Facilities:

- Financial support for the space for the program.

Supplies & Materials:

- An operating reserve to support student programming, software, course development, or engagement opportunity expenses.

Other Admin Cost:

A significant marketing budget for recruitment has been established to ensure enrollment targets are met or exceeded.

### 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)

Programmatic and departmental goals include:

1. State of the Art Education—training students in the latest techniques, tools, and workflows in the digital production industry.
2. Computer Science applied to Art—producing graduates that possess strong technical skills but how have the education and experience to develop technology in support of artistic production.
3. Advance the Field of Digital Production Arts—explore and develop tools and techniques for producing artistic and technical work in digital media.
4. Impact the Computer Graphics Community—establishing a presence and impacting the greater community of computer animation, visual effects, computer games, and visualization.

Assessment of the success of individual students in meeting program goals will be measured by their demonstrated mastery of a series of course-based projects and examinations. Assessment of the program as a whole in meeting these goals will be determined by the competitiveness of our students in attaining employment in the industry, and by their long-term success within the industry. We work through surveys to gather data about graduates, looking not only at our students' placements in the industry, but awards and recognitions that they receive for their work.

Students who complete the program should find jobs relevant to their training. Such jobs include those found in studio production or research and development for movies, games, television, and other media. In addition, many of industries now employ experts in visualization who work in areas such as design, design communication, training, and outreach. It is also a goal of the MS program that some of our students will go on to pursue a PhD in a related field.

### Student Learning Assessment

Expected Student Learning Outcomes	Methods of/Criteria for Assessment
<p>Each DPA student is required to work on at least one multi-semester group project to prepare them for the highly collaborative work found in the industry. Students must demonstrate the ability to draw storyboards; perform 3D modeling, animation, shading, lighting, and rendering; and work within a team environment.</p>	<p>Team Animation Projects            Each DPA student is required to register courses which teach students to apply knowledge of storyboarding, animation, shading, lighting, and rendering in a production environment.</p> <p><b>Performance Expectations:</b>            Students must demonstrate the ability to draw storyboards; perform 3D modeling, animation, shading, lighting, and rendering; and work within a team environment by completing two team animations by the end of the Fall semester.</p> <p><b>Performance Expectations:</b>            Students should successfully produce a final team animation.</p> <p><b>Performance Expectations:</b> Submit final team animations to animation festivals or conferences.</p>
<p>Students achieve Skills in Computer Animation/Effects Production            Students will have the ability to work with relevant animation tools, techniques for creating effects, and editing tools for creating final animations.</p>	<p><b>Performance Expectations:</b>            Assessment of the success of individual students in meeting program goals will be measured by their demonstrated mastery of a series of course-based projects and examinations.</p>
<p>Students must produce a final written thesis supported by a capstone production project, artistic creation, or technical advance. (Master's Thesis students)</p>	<p><b>Performance Expectations:</b>            Each student must produce a final written thesis under the direction of an advisor. This thesis must be approved by a faculty committee approved by the DPA Director.</p> <p><b>Performance Expectations:</b>            Each student must produce a portfolio that showcases his or her work in the DPA program in order to obtain jobs in the industry.</p> <p><b>Performance Expectations:</b>            Each student defending written thesis work must pass an oral defense.</p>



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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)

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)

### **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

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