

March 18, 2015

MEMORANDUM

TO: State Board of Regents

FROM: David L. Buhler

SUBJECT: Utah Valley University – Bachelor of Science Degrees in: 1) Animation and Game Development; 2) Digital Audio; 3) Digital Cinema; and 4) Web Design and Development with Emphases in Web and App Development, and Interaction and Design

Issue

Utah Valley University (UVU) requests approval to offer four new Bachelor of Science degrees in: 1) Animation and Game Development; 2) Digital Audio; 3) Digital Cinema; and 4) Web Design and Development with Emphases in Web and App Development, and Interaction and Design. Proposed effective date for these programs is Fall Semester, 2015. The programs were approved by the UVU Board of Trustees on December 4, 2014.

Background

The institution has offered similar programs as areas of emphasis within UVU's digital media degree. Under a separate proposal, UVU has submitted a request to discontinue the Bachelor of Science in Digital Media with its areas of emphasis in anticipation of these new degrees being approved.

Utah Valley University has experienced strong student and labor market demand for the existing Digital Media degree. This demand shows promise of continuing well into the foreseeable future. The institution has developed these programs through the assistance of grant funding and have developed faculty, staff, equipment, and student enrollment to the point that the programs justify full degree status. Funding to support the programs will be made available from Acute Equity funds appropriated by the legislature during the 2014 legislative session. These programs add capacity to Utah's effort to increase the number of graduates to benefit technology-based businesses in Utah County and other areas of the state.

Policy Issues

The proposed programs have been developed through established institutional procedures and Board of Regents policy. Chief academic officers as well as faculty in related departments from the Utah System of Higher Education institutions have reviewed the proposals and have provided input. There are no additional policy issues that need to be addressed relative to approval of the programs.

Commissioner's Recommendation

The Commissioner recommends the Board of Regents approve Utah Valley University's request to offer four new Bachelor of Science degrees in: 1) Animation and Game Development; 2) Digital Audio; 3) Digital Cinema; and 4) Web Design and Development with Emphases in Web and App Development, and Interaction and Design.

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David L. Buhler  
Commissioner of Higher Education

DLB/BKC  
Attachment

**Program Description – Full Template**  
**Utah Valley University**  
**Bachelor of Science in Animation and Game Development**

**Section I: The Request**

The Department of Digital Media in the School of Technology and Computing at Utah Valley University (UVU) requests approval to offer a Bachelor of Science (BS) in Animation and Game Development effective Fall Semester, 2015. This program was approved by the UVU Board of Trustees on December 4, 2014.

**Section II: Program Description**

**Complete Program Description**

The Animation and Game Development curriculum provides a foundation of principles, techniques, and tools used in contemporary animation and game development industries to entertain, educate, and communicate through film, television, Internet, and a myriad of digital devices. Focus is on the blending of aesthetic and technical elements to produce a professional-grade product. This program provides motivated and dedicated students the opportunity to work with professionally active faculty members committed to the future of these digital disciplines. In addition to proposing this new degree in Animation and Game Development, The Department of Digital Media is also proposing new degree programs in Digital Audio, Digital Cinema, and Web Design and Development.

**Purpose of Degree**

The current emphasis in Gaming and Animation within the Digital Media Degree program available at UVU provides students with a broad set of skills related to principles, processes, and development of assets for animation and digital games. Recent graduates and industry advisors have strongly recommended that due to constant innovation within the discipline, the curriculum should be changed to provide more depth and less breadth. In order to accommodate this, a new degree program that shares fewer core classes with other Digital Media emphasis areas (Audio Production, Cinema Production, and Internet Technologies) is needed. While growth may be a possibility as additional resources become available, the principle reason for this change is the need to better prepare current students with the existing resources (faculty, staff, labs).

The degree name, Animation and Game Development, was chosen after consultation and curriculum development work done with industry partners. While this program does not focus on deep programming and the development of original game engines, it is designed to teach the scripting skills necessary to customize interactions within the existing network of engines currently used in industry. This requires a foundation in various scripting languages. Utah's independent game development studios and even some larger game development companies utilize game engines that already exist. These companies maintain programming departments that customize tools for specific game applications. The proposed program is designed to prepare students to work in these environments. Full-time department faculty members have a combined 20 years of experience producing interactive games with dozens of title credits.

The Bachelor of Science in Digital Media with its four emphasis areas will still be offered to students who enter Digital Media before Fall Semester, 2015. Students enrolling at the university have seven years to complete a degree before they must switch to a newer catalog. Since no classes taught under the current

Digital Media degree are being discontinued, students can either continue to earn a degree in Digital Media with an emphasis or they can elect to switch to one of the four new degree programs.

Digital Media has two dedicated advisors who have filled an important role of the planning process to create the new degree from a previous emphasis. They will be able to guide students through the transition process and work with the DGM faculty to make any class substitutions when necessary.

### Institutional Readiness

The Animation and Game Development degree will stay within the current Digital Media Department at UVU. No additional administrative support will be needed. The delivery of undergraduate courses will continue in its current form. In order to accommodate the current student enrollment demand, faculty is already expanding the online and blended course offerings to maximize limited lab space. With limited lab resources, selected first year and second year courses now have online components allowing either a full online experience or blended delivery. Blended courses are those that have half the course curriculum delivered via Internet and the remainder done in a traditional classroom. This format is particularly efficient for courses with a high lab load, basically allowing lecture and demonstration to be done online and leaving significant hands-on mentoring opportunities for instructors as students work to solve academically challenging assignments. Courses already converted include DGM 2210: 3D Modeling and Animation Essentials and DGM 2620: Principles of Animation I. Courses currently being converted include DGM 2630: Principles of Animation II and DGM 2640: Character Development.

### Departmental Faculty

The faculty of the UVU Digital Media Department is committed to teaching students the latest digital technology skills. In order to accomplish this, many of them are participating in their field professionally.

Department Faculty Category	Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation
<b>With Doctoral Degrees</b> (Including MFA and other terminal degrees, as specified by the institution)			
Full-time Tenured	5		5
Full-time Non-Tenured	2		2
Part-time Tenured			
Part-time Non-Tenured	1		1
<b>With Master’s Degrees</b>			
Full-time Tenured	5	0.75	5.75
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	7		7
<b>With Bachelor’s Degrees</b>			
Full-time Tenured			
Full-time Non-Tenured			0
Part-time Tenured			

Part-time Non-Tenured	20		20.75
<b>Other</b>			
Full-time Tenured			0
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	16		16
<b>Total Headcount Faculty</b>			
Full-time Tenured	10	0.75	10.75
Full-time Non-Tenured	2	0	2
Part-time Tenured	0		0
Part-time Non-Tenured	41	0	41
<b>Total Department Faculty FTE</b> (As reported in the most recent A-1/S-11 Institutional Cost Study for "prior to program implementation" and using the A-1/S-11 Cost Study Definition for the projected "at full program implementation.")	55	0.75	55.75

### Staff

No additional support staff will be required for the first five years. Additional adjunct instructors will be added as the department expands the online course offerings.

### Library and Information Resources

The Utah Valley University Library (UVU Library) cultivates a dynamically changing collection of eBooks, videos, streamed videos, and books that relate to computer technologies. Digital Media (DGM) themed holdings are a subset of such a collection. As the influence of technology continues to expand, UVU Library's DGM collection development will match its content and direction. Interestingly enough, DGM technology itself is transforming the library media that describe it, insomuch that much of the current collection of print books and hard media is giving way to a wave of DGM items represented by eBook, streamed video, and web content. This transition is accentuated by the preferences of the average DGM information patron, which enjoys (and often prefers) information that is instantly available over the Internet.

DGM related items in the UVU collection span many technologies and professional practices. Major categories of DGM information topics and sources include (but are not limited to) audio recording and sound mixing technologies, pre and post production of audio, music video, TV and movie production, filmmaking, gripology, game development, game animation techniques and practices, animation technologies (Adobe Flash, etc.), 3-D modeling, web development best practices, HTML5, DVD authoring, mobile device programming, server side programming languages (such as PHP), and e-learning. Initial "one-stop-shopping" for articles/books/videos relating to Digital Media can be done by means of the UVU Library website's OneSearch feature, which allows a single search to simultaneously span multiple databases and includes a search of the library catalog's books, eBooks, and videos. (Each individual database can also be searched within the scope of the respective database website.)

ACCESS TO DGM PERIODICAL DATABASE ARTICLES AT UVU LIBRARY

- 1) The IEEE Xplore Digital Library Database provides access to approximately 5083 journal titles, conference proceedings, technical standards, eBooks, and educational courses.
- 2) The Association for Computing Machinery (ACM) Digital Library Database provides access to approximately 20 DGM related journal titles.
- 3) The Computer Source Database provides access to approximately 254 DGM related journal titles.

Full text access to the thousands of journal articles is licensed to UVU library patrons. Nevertheless, off-campus web access to library patrons is enabled by means of an LDAP login authentication layer that is enforced by the UVU Library EZProxy server.

#### UVU LIBRARY CATALOG HOLDINGS FOR DIGITAL MEDIA

The Library catalog contains print books, eBooks (Safari, NetLibrary, EBSCO and eBrary), videos (DVD, Blu-Ray, VHS) as well as databases of streamed video (Films on Demand, American History in Video, etc.). Most materials for DGM are covered in the Library of Congress call number area QA76 (Computer Science). Other significant call numbers are: HF5718 (Multimedia in Business), MT723 (MP3, Digital Audio, MIDI, etc.), N7433 (Computer Art), TK6680 (Digital Video) and TR897 (Computer Graphics/Animation). Additional call numbers may apply as this subject is given attention by numerous minor subject areas.

Current catalog holdings are estimated as follows:

DGM related books:	300
DGM related eBooks:	400
DGM related videos:	30
DGM related streamed videos:	20

#### ACQUISITION OF DGM MATERIALS THROUGH OTHER LIBRARIES AND PARTNERS

A patron may often seek information (articles, books, etc.) that are not directly owned or licensed by UVU Library. In such cases, a desired item may be accessed from other libraries throughout the United States by means of Interlibrary Loan Service (ILL). A requested article full text is emailed to a requester within one business day. Print books are generally located, received, and made available within seven business days. In addition, UVU Library patrons have access to check out items from partner libraries of higher education in the Utah/Idaho/Nevada area (Brigham Young University, University of Utah, Utah State University, etc.) by means of a Utah Academic Library Consortium (UALC) agreement.

#### SUPPORT FOR DGM RELATED RESEARCH AND INQUIRIES

Mark Stevens is currently the UVU liaison librarian for faculty and student support for Information Technologies and Digital Media. He can be contacted for additional information:

Mark Stevens MS/CS, MS/MLIS  
 UVU Systems Librarian  
 800 W University Pkwy LI 319c  
 Orem, Utah 84058-5999  
 801-863-8155 (office)

### Admission Requirements

There are no matriculation requirements for students to take undergraduate classes in the proposed Bachelor of Science in Animation and Game Development other than the admission requirements established by the institution. However, enrollment in upper level courses is limited by the available lab space. After the second year, students will be required to submit a portfolio of their work to be reviewed by the faculty prior to advancing into upper-division coursework in the four-year program. This restriction is necessary due to the limited number of faculty and lab space available. Students who do not meet the portfolio standards have several choices. They can retake classes with low grades, improve their portfolio, and then reapply. Students can pursue a Bachelor of Science in Technology Management with an emphasis in Digital Media without financial consequences or loss of time or they may transfer the majority of their credits toward the AAS in Digital Communication Technology.

### Student Advisement

The School of Technology and Computing currently employs two dedicated advisors for Digital Media. These advisors counsel students on the AAS degree, and the four emphasis areas in the BS degree. They will continue to advise students in the AAS degree, as well as guide students into one of the four new degrees replacing the four emphasis areas.

### Justification for Graduation Standards and Number of Credits

The Bachelor of Science in Animation and Game Development requires 120 credits to graduate. This includes 35 credits of general education. The remaining required and elective credits are related to the discipline.

### External Review and Accreditation

The Department of Digital Media has an advisory board from industry and education with expertise in Audio Production, Cinema Production, Animation and Games, and Web Design and Development. Input from the board has not only informed the shape of the new proposed degree in Animation and Game Development but has also advocated its creation. This proposed degree and associated courses have been a principle focus of the Digital Media curriculum committee since Fall Semester, 2013.

### Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students

Data Category	Current – Prior to New Program Implementation	Projected				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Data for Proposed Program</b>						
Number of Graduates in Proposed Program	0	0	0	20	20	20
Total # of Declared Majors in Proposed Program	0	30	89	118	118	118
<b>Departmental Data – For All Programs Within the Department</b>						
Total Department Faculty FTE (as reported in Faculty table above)	31.80	31.80	32.05	32.05	32.05	32.05

Total Department Student FTE (Based on Fall Third Week)	615	615	620	620	620	620
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	19.3	19.3	19.3	19.3	19.3	19.3
<b>Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here: _____)</b>	NA	NA	NA	NA	NA	NA

### Expansion of Existing Program

Digital Media has seen an overall growth in the number of students enrolled as well as the number of graduates from the program. The program is being developed from an area of emphasis to a stand-a-lone degree to respond to industry and student demand.

### Section III: Need

#### Program Need

The Department of Digital Media is currently producing generalists with a broad range of skills covering film, audio, animation, and Internet technologies. Employment opportunities in Animation and Game Development fields require a greater depth of knowledge than can be covered in the current curriculum design. In order to meet the growing demand for a highly skilled workforce, students need to take a deeper concentration of classes in Animation and Game Development in place of courses in audio, cinema, and Internet.

The Utah Cluster Acceleration Partnership Executive Summary released in 2011 identifies the global and regional need for more digitally created content. The digital media industry is constantly changing with the advancements in technology, changing consumer preferences, and the innovations of creators and artists. Utah Valley University has led the Utah Cluster Acceleration Partnership as the primary convener. Students in the Digital Media Department learn both theory and practical application to fill the demand for more digitally created and delivered content. A majority of digital media content is instantly made available throughout the worldwide infrastructure of the Internet, making virtually all digital media companies global in nature and directly impacted by worldwide markets. Approval of a new Bachelor Degree in Animation and Game Development will better prepare UVU students to meet this growing demand. The Cluster Acceleration Partnership has been authorized and sponsored by the Utah System of Higher Education, the Utah Department of Workforce Services, the Economic Development Corporation of Utah (EDC Utah), and the Utah Governor's Office of Economic Development (GOED).

#### Labor Market Demand

The institution reported that a recent search on the Indeed.com website for the term "animation," or "game development" in the Salt Lake City area pulled up over 96 available jobs. A search for "animation" or "game development" on the Department of Workforce Services for Utah website resulted in 72 available positions. The 2010-2020 Employment Projections from the Department of Workforce Services website shows a 3.5 percent growth rate. The Bureau of Labor Statistics shows the median annual wage for game developers is



\$60,000 in 2012 and employment opportunities for developers is projected to grow ten percent from 2012 to 2022, faster than the average for all occupations. Demand will be driven by the growing popularity of mobile devices app and game development. Additionally, a new sound stage complex is under construction in Park City, just five miles from UVU's Wasatch Campus. The Wasatch Campus now houses a state of the art virtual studio allowing UVU students access to cutting edge industry technology. The studio complex will bring with it a demand for professionals in numerous animation related fields, like compositing and visual effects.

The Wasatch Front has a thriving game development industry, several major studios have a presence in Utah, regionally, in the Western U.S., there are even more opportunities. Utah Valley University alumni are now employed at major studios: Pixar, Nickelodeon, and DreamWorks.

### **Student Demand**

There are currently 150 students in the Gaming and Animation emphasis. With the lab space and faculty available, there is the capability to graduate 25 per year. There is clearly more demand than capacity at this time. The current Digital Media degree offers too much breadth and not enough depth, which complicates their educational load. For example, a student wishing to learn character effects animation is still required to take classes in digital audio and also learn basic html in a Web Essentials course. These are important skills too, but do not help the animation student as he seeks entry-level employment in industry. UVU alumni, now employed at Nickelodeon and DreamWorks, and the current advisory board have encouraged the department to shift curriculum away from so many general core classes and provide greater depth within the discipline. This will allow graduates to better compete in the marketplace. This curriculum shift would be accomplished by creating a separate Animation and Game Development degree.

### **Similar Programs**

Other intuitions in Utah offer programs in complementary fields, but they are not structured like this degree. The University of Utah has an undergraduate interdisciplinary program offering a Film degree with an emphasis in Entertainment Arts and Engineering and a Computer Science degree with an emphasis in Entertainment Arts and Entertainment. Their undergraduate curriculum varies widely from that at UVU. They also offer a robust graduate program in Entertainment Arts and Engineering with a focus on game design. Students completing the Bachelor of Science in Animation and Game Design at UVU would be strong candidates to study in the master's program at the U of U.

Utah State University has neither an animation nor a game design program, but it does offer a multimedia development minor.

Salt Lake Community College has a two-year Animation emphasis in their Visual Art and Design AAS degree. This emphasis requires 24 credits related to animation. Each year, some students having completed the two-year program at SLCC, transfer to UVU to complete their bachelor's degree in this discipline.

Southern Utah University does not have a degree or any courses with Animation or Game Development in their current catalog.

Weber State University has a digital media emphasis in its communications program. Snow College and Dixie State University have neither an animation nor a game design program.

Brigham Young University has an animation program that is recognized nationally for its quality. Their program has a very tightly controlled enrollment, and there is no specific content devoted to game development.

The new BS in Animation and Game Development at Utah Valley University will require 78 credits specific to learning the principles of animation and their application. With a faculty which has extensive industry experience, UVU's Department of Digital Media is well positioned to excel in the delivery of an engaged-learning curriculum within this animation and game development discipline.

### **Collaboration with and Impact on Other USHE Institutions**

Students transferring from other institutions are evaluated case-by-case, based on a faculty evaluation of their portfolio. Schools offering a two-year program would benefit by having a direct path to a four-year degree at UVU.

### **Benefits**

During the USTAR sponsored Digital Media Cluster meetings held at UVU, EDC Utah and GOED discussed the economic value of the video game development industry to the state. This is clean industry, that pays a higher than average wage, that continued to grow a respectable ten percent through the economic downturn. These discussions also pointed out that this industry (computer graphics) was invented here in Utah, but many of those early pioneers moved to other states to build businesses. To be a major contributor and build on Utah's digital media infrastructure it is imperative that education recognize the key role it must play. The Department of Digital Media at UVU has built a strong faculty, with roots in industry, prepared to deliver a robust and challenging curriculum using a well-designed engaged learning model. This program will do much to help prepare students for a competitive workplace. With its focus on technology, and a capstone that allows students to work in teams to produce a professional grade, professor mentored product, it is perfectly placed to meet the needs of future Utah business and industry.

### **Consistency with Institutional Mission**

The Utah Board of Regents' Policy R312.4.2.3 states that Utah Valley University, as a teaching institution, "prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community." The proposed Animation and Game Development degree would allow graduates to become professionally competent people who practice lifelong learning in order to keep up with the latest technology and apply their knowledge to solving problems in the workplace.

## **Section IV: Program and Student Assessment**

### **Program Assessment**

The proposed Bachelor of Science in Animation and Game Development will produce skilled graduates who demonstrate critical thinking to analyze and propose creative solutions and apply their foundational knowledge of these disciplines to solve real world problems presented in UVU's local community. The department will internally review student portfolios upon acceptance into the program: after the first two years and again upon graduation. The portfolio review, which occurs before the junior year, will be conducted by a team of faculty who assess the submitted portfolios to ensure the student is capable of success in the upper-division course work. The second review happens during the senior year when students work as a team to develop professional-level titles. These senior capstone projects are presented in a showcase at the end of the senior year and evaluated by a team of faculty and industry.

By graduation, the students in this degree will have developed a web portfolio featuring work from each upper division class. These can be used for review to evaluate student growth and performance. The portfolio will also be used in helping students demonstrate their capabilities to potential employers. Successful graduates of the program will have developed skills in animation, 3D modeling, and basic scripting, and will have a studio-like experience developing a completed title (short film or digital game) while working in an intensive team-oriented laboratory environment.

### Expected Standards of Performance

#### Program Goals

- 1) Demonstrate mastery of animation principles.
- 2) Design components for both entertainment and business industries at a professional level.
- 3) Use contemporary agile development methods, from pre-production to post in a team setting.
- 4) Write basic scripts to augment and customize procedural technical processes.
- 5) Rig basic bipedal and quadra-pedal three dimensional models.
- 6) Create and map custom textures for use in environmental and on character models.
- 7) Apply virtual light and camera tools to render believable environments.
- 8) Design and create visual effects for games and animation.
- 9) Plan, schedule, follow through, and communicate in a team-oriented setting.
- 10) Develop and produce 2D and 3D game, and animation resources.
- 11) Participate in a team to create and present a major project.

#### Goal Measurement

- 1) Success of each student is monitored at the end of every course at the upper division level with a portfolio piece. These portfolio pieces are collected and saved for future evaluation.
- 2) Evaluation is conducted to assure success in student learning.
- 3) Employers are surveyed to determine quality of program graduates.

Each course has a final project that becomes a piece in their portfolio. The final portfolio is used to assist the student in finding employment and as a summative assessment item.

## Section V: Finance

### Department Budget

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget — Prior to New Program Implementation	Departmental Budget					
		Year 1 (2015-16)		Year 2 (2016-17)		Year 3 (2017-18)	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
<b>Personnel Expense</b>							
Salaries & Wages	\$1,086,664	\$0	\$1,086,664	\$6,825	\$1,093,489	\$7,098	\$1,093,762
Benefits	\$521,762	\$0	\$521,762	\$723	\$522,485	\$752	\$522,514

Total Personnel Expense	\$1,608,426	\$0	\$1,608,426	\$7,548	\$1,615,974	\$7850	\$1,616,276
<b>Non-personnel Expense</b>							
Travel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Current Expense	\$30,000	\$0	\$30,000	\$1,000	\$31,000	\$1,000	\$31,000
Total Non-personnel Expense	\$30,000	\$0	\$30,000	\$1,000	\$31,000	\$1,000	\$31,000
<b>Total Expense (Personnel + Current)</b>	<b>\$1,638,426</b>	<b>\$0</b>	<b>\$1,638,426</b>	<b>\$8,548</b>	<b>\$1,646,974</b>	<b>\$8,850</b>	<b>\$1,647,276</b>
<b>Departmental Funding</b>		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 5</b>
Appropriated Fund	\$1,638,426	\$0	\$1,638,426	\$8,548	\$1,646,974	\$8,850	\$1,647,276
Other:							
Special Legislative Appropriation							
Grants and Contracts							
Special Fees/Differential Tuition							
<b>Total Revenue</b>	<b>\$1,638,426</b>	<b>\$0</b>	<b>\$1,638,426</b>	<b>\$8,548</b>	<b>\$1,646,974</b>	<b>\$8,850</b>	<b>\$1,647,276</b>
<b>Difference</b>							
Revenue — Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$89		\$89		\$89		\$89

### Funding Sources

In addition to the tuition revenue from enrollment, funding for this program will be prioritized high for allocation from Acute Equity legislative appropriation to provide program offerings to meet regional need in STEM programs.

### Reallocation

No funds will need to be reallocated for this new degree.

### Impact on Existing Budgets

The existing budget will fund the current faculty, labs, and adjuncts. The current number of graduates can still be sustained. The goal of creating a new Bachelor of Science in Animation and Game Development is

to change the requirements so students have a more in-depth educational experience, while reducing its breadth.

### Section VI: Program Curriculum

Course Prefix and Number	Title	Credit Hours
General Education Courses		
ENGL 1010	Introduction to Writing	3
ENGL 2010 or ENGL 2020	Intermediate Writing—Humanities/Social Sciences  Intermediate Writing—Science and Technology	3
MATH 1030 or MATH 1040 or MATH 1050	Quantitative Reasoning (recommended for Humanities or Arts majors) (3.0) Introduction to Statistics (recommended for Social Science majors) (3.0) College Algebra (recommended for Business, Education, Science, and Health Professions majors) (4.0)	3
HIST 2700 & HIST 2710 or HIST 1700 or HIST 1740 or POLS 1000 or POLS 1100	US History to 1877 and US History since 1877  American Civilization  US Economic History  American Heritage  American National Government	3
PHIL 2050	Ethics and Values	3
HLTH 1100 or PES 1097	Personal Health and Wellness  Fitness for Life	2
Biology		3
Physical Science		3
Additional Biology or Physical Science		3
Humanities Distribution	ENGL 2200 Introduction to Literature or ENGL 2130 Science Fiction recommended	3
Fine Arts Distribution	THEA 1023 Introduction to Film recommended	3
Social/Behavioral Science		3
	Sub-Total	35

**Required Courses for Animation and Game Development (New Courses in Bold)**

Course Prefix and Number	Title	Credit Hours
DGM 1110	Digital Media Essentials I	4
DGM 1600	Introduction to Scripting	3
DGM 1620	Survey of Animation	3
DGM 2250 or ART 1110	Principles of Digital Design or Drawing I	3
<b>DGM 2210</b>	<b>3D Modeling and Animation Essentials</b>	4
<b>DGM 2211</b>	<b>Rigging and Animation Essentials</b>	3
<b>DGM 2221</b>	<b>Game Essentials</b>	3
DGM 2610	Game Design I	3
DGM 2620	Principles of Animation I	3
DGM 2640	Character Development	3
DGM 2670	Scripting for Animation and Games	3
DGM 2660	Digital Storyboarding	3
DGM 3110	Corporate Issues in Digital Media	3
DGM 312G	Digital Media for Intercultural Communication	3
COMP 301R	Digital Lecture Series	1
DGM 3650	Animation and Game Project I	3
DGM 3220	Digital Media Project Management	3
<b>DGM 3641</b>	<b>Game Level Design</b>	3
DGM 3620	Principles of Animation II	3
DGM 3670	Scripting for Animation and Games II	3
DGM 3680	Animation and Game Project II	3
DGM 4000	Writing for Digital Media	3
DGM 4310	Senior Projects I	3
DGM 4410	Senior Projects II	3
DGM 4630	Visual Effects and Compositing I	3
DGM 4640	Visual Effects and Compositing II	3
	Sub-Total	78
Electives for Animation and Game Development: Take seven credits from the following:		
ART 2250	Drawing for Animation (3.0)	
ART 1210	Drawing for Illustration (3.0)	
CS 1410	Object-Oriented Programming (3.0)	3
DGM 2600	The Animated Image (3.0)	
DGM 3660	Advanced Rigging and Animation (3.0)	
DGM 4621	Performance Animation (3.0)	
DGM 3610	Game Design II (3.0)	
THEA 1033	Acting I (3.0)	
Or advisor approved electives.		
	Sub-Total	7
	Total:	120

Program Schedule for Animation & Game Development

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 1620	Survey of Animation	3
DGM 1110	Digital Media Essentials I	4
MATH 1030/40/50	Quantitative Literacy	3
American Institutions	See List	3
	<b>Semester total:</b>	13
Spring of First Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 1600	Introduction to Scripting	3
DGM 2210	3D Modeling and Animation Essentials	4
DGM 2250	Principles of Digital Design	3
ENGL 1010	Introduction to Writing	3
HLTH 1100 or PES 1097	Personal Health and Wellness or Fitness for Life	2
	<b>Semester total:</b>	15

Fall of Second Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 2221	Game Essentials	3
DGM 2620	Principles of Animation I	3
DGM 2670	Scripting for Animation and Games	3
DGM 2660	Digital Storyboarding	3
Fine Arts	See List	3
	<b>Semester total:</b>	15
Spring of Second Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 2211	Rigging and Animation Essentials	3
DGM 2610	Game Design I	3
DGM 2640	Character Development	3
Biology	See List	3
Social/Behavioral Science	See List	3
	<b>Semester total:</b>	15

Fall of Third Year (Course Prefix and Number)	Course Title	Credit Hours
ENGL 2020	Intermediate Writing	3
DGM 3650	Animation and Game Project I	3
DGM 3620	Principles of Animation II	3
DGM 3670	Scripting for Animation and Games II	3
Elective	See List	3
	<b>Semester total:</b>	15
Spring of Third Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 3110	Corporate Issues in Digital Media	3
DGM 3220	Digital Media Project Management	3
DGM 3641	Game Level Design	3
DGM 3680	Animation and Game Project II	3
Elective	See List	4
	<b>Semester total:</b>	16

Fall of Forth Year (Course Prefix and Number)	Course Title	Credit Hours
PHIL 2050	Ethics and Values	3
Biology or Physical Science	See List	3
COMP 301R	Digital Lecture Series	1
DGM 4630	Visual Effects and Compositing I	3
DGM 4310	Senior Projects I	3
DGM 4000	Writing for Digital Media	3
	<b>Semester total:</b>	16
Spring of Forth Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 4410	Senior Projects II	3
DGM 312G	Digital Media for Intercultural Communication	3
Physical Science	See List	3
Humanities	See List	3
DGM 4640	Visual Effects and Compositing II	3
	<b>Semester total:</b>	15



## Section VII: Faculty

Thor Anderson..... Ph.D. in Instructional Technology, Utah State University  
Trudy Christensen ..... Ph.D. in Instructional Psychology and Technology, BYU  
Paul Cheney..... Ph.D. in Instructional Technology, University of Virginia  
Li Liu..... Ph.D. in Computer Science, University of Alabama  
Rodayne Esmay .....MFA in Illustration, Syracuse University  
Anthony Romrell ..... MFA in Animation, Utah State University  
Marty Clayton ..... MFA in 2D and 3D Animation, Savannah College of Art and Design  
Arlen Card ..... MA in Music, Brigham Young University  
Mike Wisland...MS in Electrical Engineering Digital Signal Processing, Missouri Institute of Science & Technology  
Mike Harper.....MS in Geography Education, Utah State University  
Kim Brown .....MA in Instructional Technology, Utah State University  
Dennis Lisonbee.....MA in Communication, Brigham Young University  
Robert Trim..... MBA in Business, University of Phoenix

**Program Description – Full Template  
Utah Valley University  
Bachelor of Science in Digital Audio**

**Section I: The Request**

The Digital Media Department in the School of Technology and Computing at Utah Valley University (UVU) requests approval to offer a Bachelor of Science (BS) in Digital Audio effective Fall Semester, 2015. The program was approved by the UVU Board of Trustees on December 4, 2014.

**Section II: Program Description**

**Complete Program Description**

The Digital Audio degree will allow students to study the aesthetics, as well as the physics and mathematics, of audio engineering, basic audio-related electronics, recording tools and techniques, mixing tools and techniques, mastering tools and techniques, radio production, room acoustics and design, production sound for film and television, postproduction sound, audio restoration (archival, historical, and forensic), and the most successful business, marketing, and communication practices unique to the audio industry. Employers are specifically looking for these areas of expertise and have historically favored UVU students from the Digital Media emphasis despite their having spent time on the other disciplines of a generalized Digital Media degree. This separate, focused Digital Audio degree will eliminate the distraction and wasted time of studying the sister disciplines and provide the serious student of digital audio the chance to concentrate on their rigorous field, so that they can better compete in the working world of audio.

**Purpose of Degree**

The current emphasis in Digital Audio within the Digital Media program at UVU provides students with a broad set of skills related to digital audio preparation and delivery. Recent graduates, board members, and constant innovation in the field now require graduates who have more depth and less breadth. Additionally, while growth may be a possibility as additional resources become available, one major reason for this change is the preparedness level of the students that can currently be handled with existing resources (faculty, staff, labs).

**Institutional Readiness**

The Digital Audio degree program will stay within the current Digital Media Department at UVU. No additional administrative support will be needed. The delivery of undergraduate courses will continue in its current form, which is currently the face-to-face classroom setting. In order to accommodate the current student enrollment demand, faculty members are already retooling course offerings to take advantage of limited lab and studio space. Since no classes taught under the current Digital Media degree are being discontinued, students who are “grandfathered into the previous Digital Media degree program can either continue to earn a degree in Digital Media with an emphasis or they can elect to switch to one of the four new degree programs.

**Departmental Faculty**

The faculty of the UVU Digital Media Department are committed to teaching students the latest digital audio skills. In order to accomplish this, they are participating in their field professionally.

Faculty Category	Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation
<b>With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)</b>			
Full-time Tenured	2		2
Full-time Non-Tenured	2		2
Part-time Tenured			
Part-time Non-Tenured	1		1
<b>With Master’s Degrees</b>			
Full-time Tenured	7		7
Full-time Non-Tenured	3		3
Part-time Tenured			
Part-time Non-Tenured	7		7
<b>With Bachelor’s Degrees</b>			
Full-time Tenured			
Full-time Non-Tenured			0
Part-time Tenured			
Part-time Non-Tenured	17	0.13	17.13
<b>Other</b>			
Full-time Tenured			0
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	16		16
<b>Total Headcount Faculty</b>			
Full-time Tenured	9	0	9
Full-time Non-Tenured	5	0	5
Part-time Tenured	0		0
Part-time Non-Tenured	41	0.13	41.13
<b>Total Department Faculty FTE (As reported in the most recent A-1/S-11 Institutional Cost Study for “prior to program implementation” and using the A-1/S-11 Cost Study Definition for the projected “at full program implementation.”)</b>	55	0.13	55.13

### Staff

No additional support staff will be required for the first five years. Additional adjunct instructors will be added as the department expands the online course offerings.

## Library and Information Resources

The Utah Valley University Library (UVU Library) cultivates a dynamically changing collection of eBooks, videos, streamed videos, and books that relate to computer technologies. Digital Media (DGM) themed holdings are a subset of such a collection. As the influence of technology continues to expand, UVU Library's DGM collection development will match its content and direction. Interestingly enough, DGM technology itself is transforming the library media that describe it, insomuch that much of the current collection of print books and hard media is giving way to a wave of DGM items represented by eBook, streamed video, and web content. This transition is accentuated by the preferences of the average DGM information patron, which enjoys (and often prefers) information that is instantly available over the internet. DGM related items in the UVU collection span many technologies and professional practices. Major categories of DGM information topics and sources include (but are not limited to) audio recording and sound mixing technologies, pre and post production of audio, music video, TV and movie production, filmmaking, gripology, game animation techniques and practices, animation technologies (Adobe Flash, etc.), 3-D modeling, web development best practices, HTML5, DVD authoring, mobile device programming, server side programming languages (such as PHP), and e-learning.

Initial one-stop-shopping for articles/books/videos relating to Digital Media can be done by means of the UVU Library website's OneSearch feature, which allows a single search to simultaneously span multiple databases and includes a search of the library catalog's books, eBooks, and videos. (Each individual database can also be searched within the scope of the respective database website.)

### ACCESS TO DGM PERIODICAL DATABASE ARTICLES AT UVU LIBRARY

- 4) The IEEE Xplore Digital Library Database provides access to approximately 5083 journal titles, conference proceedings, technical standards, eBooks, and educational courses.
- 5) The Association for Computing Machinery (ACM) Digital Library Database provides access to approximately 20 DGM related journal titles.
- 6) The Computer Source Database provides access to approximately 254 DGM related journal titles.

Full text access to the thousands of journal articles is licensed to UVU library patrons. Nevertheless, off-campus web access to library patrons is enabled by means of an LDAP login authentication layer that is enforced by the UVU Library EZProxy server.

### UVU LIBRARY CATALOG HOLDINGS FOR DIGITAL MEDIA

The Library catalog contains print books, eBooks (Safari, NetLibrary, EBSCO and eBrary), videos (DVD, Blue Ray, VHS), as well as databases of streamed video (Films on Demand, American History in Video, etc). Most materials for DGM are covered in the Library of Congress call number area QA76 (Computer Science). Other significant call numbers are: HF5718 (Multimedia in Business), MT723 (MP3, Digital Audio, MIDI, etc.), N7433 (Computer Art), TK6680 (Digital Video) and TR897 (Computer Graphics/Animation). Additional call numbers may apply as this subject is given attention by numerous minor subject areas.

Current catalog holdings are estimated as follows:

DGM related books:	300
DGM related eBooks:	400
DGM related videos:	30

DGM related streamed videos: 20

#### ACQUISITION OF DGM MATERIALS THROUGH OTHER LIBRARIES AND PARTNERS

A patron may often seek information (articles, books, etc.) that is not directly owned or licensed by UVU Library. In such cases, a desired item may be accessed from other libraries throughout the United States by means of the Interlibrary Loan Service (ILL). A requested article full text is emailed to a requester within one business day. Print books are generally located, received, and made available within seven business days. In addition, UVU Library patrons have access to check out items from partner libraries of higher education in the Utah/Idaho/Nevada area (Brigham Young University, University of Utah, Utah State University, etc.) by means of a Utah Academic Library Consortium (UALC) agreement.

#### SUPPORT FOR DGM RELATED RESEARCH AND INQUIRIES

Mark Stevens is currently the UVU liaison librarian for faculty and student support for Information Technologies and Digital Media. He can be contacted for additional information:

Mark Stevens MS/CS, MS/MLIS

UVU Systems Librarian

800 W University Pkwy LI 319c

Orem, Utah 84058-5999

801-863-8155 (office)

#### **Admission Requirements**

There are no matriculation requirements for students to take undergraduate classes in the proposed Bachelor of Science in Digital Audio other than the admission requirements established by the institution. However, enrollment in upper level courses is limited by the available lab space. After the second year, students will be required to submit a portfolio of their work to be reviewed by the faculty prior to advancing into upper-division coursework in the four-year program. This restriction is necessary due to the limited number of faculty and lab space available. Students who do not meet the portfolio standards have several choices. They can retake classes with low grades, improve their portfolio, and then reapply. Students can pursue a Bachelor of Science in Technology Management with an emphasis in Digital Media without financial consequences or loss of time, or they may transfer the majority of their credits toward the Associate of Applied Science (AAS) in Digital Communication Technology.

#### **Student Advisement**

The School of Technology and Computing currently employs two dedicated advisors for Digital Media. These advisors counsel students for the AAS degree and the emphases in the BS degree. They will continue to advise students in the AAS degree, as well as guide students into one of the four new degrees replacing the emphases.

#### **Justification for Graduation Standards and Number of Credits**

The Bachelor of Science degree in Digital Audio requires 120 credits to graduate. This includes 35 credits of General Education. The remaining required and elective credits are related to the discipline.

#### **External Review and Accreditation**

The Department of Digital Media has an advisory board from industry and education with expertise in audio production, cinema production, animation and games, and web design and development. Input from the board has not only informed the shape of the new proposed degree in Digital Audio but has also pushed for

its creation. This proposed degree and associated courses have been on the main focus of the Digital Media curriculum committee since Fall Semester, 2013.

**Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students**

Data Category	Current – Prior to New Program Implementation	Projected				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Data for Proposed Program</b>						
Number of Graduates in Proposed Program	0	0	0	20	25	30
Total # of Declared Majors in Proposed Program	-	27	89	116	116	116
<b>Departmental Data – For All Programs Within the Department</b>						
Total Department Faculty FTE (as reported in Faculty table above)	31.80	31.80	31.93	31.93	31.93	31.93
Total Department Student FTE (Based on Fall Third Week)	615	615	618	618	618	618
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	19.3	19.3	19.3	19.3	19.3	19.3
<b>Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here:_____)</b>	NA	NA	NA	NA	NA	NA

**Expansion of Existing Program**

Digital Media has seen an overall growth in the number of students enrolled as well as the number of graduates from the program. The program is being developed from an area of emphasis to a stand-a-lone degree to respond to industry and student demand.

**Section III: Need**

**Program Need**

The Department of Digital Media is producing generalists with a broad range of skills covering audio, film, animation, and Internet technologies. Employment opportunities in the Digital Audio field require a greater depth of knowledge than graduates currently have. In order to meet the growing demand for a highly skilled workforce, students need to take more classes in Digital Audio in place of courses in Internet technologies, cinema, and animation.

The Utah Cluster Acceleration Partnership Executive Summary released in 2011 identifies the global need for more digitally created content. The digital media industry is constantly changing with the advancements in technology, changing consumer preferences, and the innovations of creators and artists.

Utah Valley University has led the Utah Cluster Acceleration Partnership as the primary convener. Students in the Digital Media Department learn to create digital media content to fill the demand for more digitally created and delivered content. A majority of digital media content is instantly made available throughout the worldwide infrastructure of the Internet, making virtually all-digital media companies global in nature and directly impacted by worldwide markets. Approval of a new Bachelor's degree in Digital Audio will better prepare UVU students to meet this growing demand. The Cluster Acceleration Partnership has been authorized and sponsored by the Utah System of Higher Education, the Utah Department of Workforce Services, and the Utah Governor's Office of Economic Development.

### **Labor Market Demand**

The institutions reported that a recent search on the Indeed.com website for the terms "audio recording", "audio production", and "audio engineer" in the Salt Lake City area pulls up 44 available jobs. A search for the same terms on the Department of Workforce Services for Utah website results in 124 available positions, with a national employment count for audio engineers at 14,280. The 2010-2020 Employment Projections from the Utah Department of Workforce Services website shows an additional 100 new positions in Utah per year, with 550 total annual openings projected. The numerous freelance workers are not reflected in the data. Utah Valley University students have worked as recording engineers in institutional and private music studios, in film and television production and post-production, as sound designers for film and television, and as freelance sound engineers and technicians for live and concert productions, business, and industry. The United States Department of Labor, Bureau of Labor Statistics Occupational Handbook 2012-13 edition states that job growth will hold steady at about one percent per year through the year 2020.

### **Student Demand**

There are currently 113 students in the Digital Audio emphasis. The Utah Valley University Digital Audio emphasis is already a popular source for in-state audio hires. A UVU degree bearing the moniker "Digital Audio" is more relevant on its face for those desiring to hire an audio engineer or technician than the current, generic Digital Media degree designation, so students desire the specific degree for the UVU diploma, its reputation in audio, and for the specific audio designation.

### **Similar Programs**

There are no similar programs being offered at any other Utah System of Higher Education (USHE) institutions in Utah except for at Salt Lake Community College. Salt Lake Community College offers an Associate of Science in several non-audio emphases, which fills a general, lower entry-level niche; whereas the UVU program fills four specific upper entry-level and entrepreneurial niches, with a baccalaureate degree and courses that focus in more depth on audio and all other digital media topics. The need to fill 550 jobs annually shows the demand for Digital Audio graduates within the institution's geographical service area. With only two USHE institutions currently serving that demand with fewer than 550 graduates per year (total), employers will still be forced to hire from out of state for some positions.

### **Collaboration with and Impact on Other USHE Institutions**

Utah Valley University currently has an agreement with Snow College to accept their courses into its program. Students transferring from other institutions are evaluated on a case-by-case basis. Schools offering a two-year program will benefit by having a direct path to a four-year degree at UVU.

## **Benefits**

Utah Valley University is currently offering an emphasis in Digital Audio, which provides graduates to fill the numerous job opportunities available in the state. The benefit to making this change is that future graduates will be more prepared to compete for higher paying job opportunities. Higher wages equate to higher taxes for the state coffers and a win-win situation for all people and institutions involved.

## **Consistency with Institutional Mission**

The Utah Board of Regents' Policy R312.4.2.3 states that Utah Valley University, as a teaching institution "prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community." The proposed Digital Audio degree, because of its added depth and focus, will turn out graduates who already are professionally competent people who practice lifelong learning in order to keep up with the latest technology and apply their knowledge to solving problems in the work place.

## **Section IV: Program and Student Assessment**

### **Program Assessment**

The proposed Bachelor of Science in Digital Audio will produce skilled graduates who demonstrate critical and creative thinking to analyze and propose innovative solutions and apply their foundational knowledge of digital audio to solve real world problems presented in UVU's local community.

The department will internally review student portfolios upon acceptance into the program: after the first two years and again upon graduation. The portfolio review, which occurs before the junior year, will be conducted by a team of faculty who look over the submitted portfolios to make sure the student is capable of success in the upper-division course work. The second review happens during the senior year when students work as a team to provide a solution for a not-for-profit organization. These senior capstone projects are presented in a showcase at the end of the senior year and evaluated by a team of faculty. By graduation, the students in this degree will have a website showing a portfolio piece from each upper division class. These can be used for review to see how well graduates are performing in the various areas of Digital Audio. This portfolio can also be used in helping students show potential employers their capabilities.

Graduates of the program will demonstrate skills in audio and electronics theory, recording in diverse environments and for different purposes, microphone techniques, signal processing science and practice, optimal sound mixing, audio mastering, restoration and forensics, workflow and project pipelines, and commensurate business, legal, and marketing competence specific to the digital audio field.

### **Expected Standards of Performance**

#### *Program Goals*

1. Demonstrate in practicum a thorough knowledge of foundational principles of acoustics, math, signal processing, and all their practical counterparts
2. Show proficiency in choosing and using appropriate microphones, preamplifiers, and other equipment to record sound in the most accurate and effective way for the application at hand.
3. Produce both technically competent and emotionally powerful mixes of recorded media using the signal processing algorithms and devices listed in item four, below.



4. Demonstrate both technical and artistic command of all signal processors, including, without limitation, equalization, compression, expansion, gate, synthetic and IR reverberation, delay lines, chorus, phase shifting, flange, distortion and harmonic generation, and restoration and forensic processors such as noise recognition and cleaning, de-clicking, hiss removal, and utility processors such as file compression algorithms and format conversion tools.
5. Build a portfolio of recordings and mixes involving a broad range of non-musical subjects as well as a broad range of musical styles.
6. Demonstrate full competency in multimedia collaboration, including film and television production and post-production audio.
7. Show a competent understanding of room and space acoustics, including formal and informal ways of treating a recording or mixing environment to increase sonic accuracy and eliminate standing waves and frequency nulls.
8. Demonstrate an ongoing understanding of the current professional equipment of the audio industry, including both outboard and foundational gear, and also "in the box" solutions for the all-digital environment.
9. Have advanced proficiency in either audio mastering or audio restoration and forensics.

*Goal Measurement*

1. Success of each student is monitored at the end of every course at the upper division level with a portfolio piece. These portfolio pieces are collected and saved for future evaluation.
2. Evaluation is conducted to assure success in student learning.
3. Employers are surveyed to determine quality of program graduates.

Each course has a final project that becomes a piece in the student's portfolio. This final portfolio is used to help each student get a job and as a summative assessment item.

**Section V: Finance**

**Department Budget**

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget - Prior to New Program Implementation	Departmental Budget					
		Year 1 (2015-16)		Year 2 (2016-17)		Year 3 (2017-18)	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
<b>Personnel Expense</b>							
Salaries & Wages	\$1,086,664	\$0	\$1,086,664	\$3,549	\$1,090,213	\$26,026	\$1,112,690
Benefits	\$521,762	\$0	\$521,762	\$376	\$522,138	\$391	\$522,153
Total Personnel Expense	\$1,608,426	\$0	\$1,608,426	\$15,097	\$1,612,351	\$35,837	\$1,612,508
<b>Non-personnel Expense</b>							
Travel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Current Expense	\$30,000	\$0	\$30,000	\$1,000	\$31,000	\$1,000	\$32,000
Total Non-personnel Expense	\$30,000	\$0	\$30,000	\$1,000	\$31,000	\$1,000	\$32,000
<b>Total Expense (Personnel + Current)</b>	\$1,638,426	\$0	\$1,638,426	\$4,925	\$1,643,351	\$5,082	\$1,643,508
<b>Departmental Funding</b>		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 5</b>
Appropriated Fund	\$1,638,426	\$0	\$1,638,426	\$4,925	\$1,643,351	\$5,082	\$1,643,508
Other:							
Special Legislative Appropriation							
Grants and Contracts							
Special Fees/Differential Tuition							
<b>Total Revenue</b>	\$1,638,426	\$0	\$1,638,426	\$4,925	\$1,643,351	\$5,082	\$1,643,508
<b>Difference</b>							
Revenue - Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$89		\$89		\$89		\$89

### Funding Sources

In addition to the tuition revenue from enrollment, funding for this program will be prioritized high for allocation from Acute Equity legislative appropriation to provide program offerings to meet regional need in STEM programs.

### Reallocation

No funds will need to be reallocated for this new degree.

### Impact on Existing Budgets

The existing budget will fund the current faculty, labs, and adjuncts. The current number of graduates can still be sustained. The goal of creating a new Bachelor of Science in Digital Audio is to change the breadth requirements so students can take more depth classes and fewer breath classes.

## Section VI: Program Curriculum

Course Prefix and Number	Title	Credit Hours
General Education Courses		
ENGL 1010	Introduction to Writing	3
ENGL 2010 or ENGL 2020	Intermediate Writing--Humanities/Social Sciences  Intermediate Writing--Science and Technology	3

Course Prefix and Number	Title	Credit Hours
MATH 1030 MATH 1040 MATH 1050	Quantitative Reasoning (recommended for Humanities or Arts majors) (3.0) Introduction to Statistics (recommended for Social Science majors) (3.0) College Algebra (recommended for Business, Education, Science, and Health Professions majors) (4.0)	3
HIST 2700 and HIST 2710 or HIST 1700 or HIST 1740 or POLS 1000 or POLS 1100	US History to 1877 and US History since 1877  American Civilization  US Economic History  American Heritage  American National Government	3
PHIL 2050	Ethics and Values	3
HLTH 1100 or PES 1097	Personal Health and Wellness  Fitness for Life	2
Biology		3
Physical Science		3
Additional Biology or Physical Science		3
Humanities Distribution		3
Fine Arts Distribution	MUSC 1010 Introduction to Music recommended for Audio Production	3
Social/Behavioral Science	MGMT 1010 Introduction to Business recommended	3
	Sub-Total	35

### Discipline Core Requirements

Course Prefix and Number	Title	Credit Hours
Required Courses		
DGM 1110	Digital Media Essentials I	4
MUS 1100	Fundamentals of Music	3
PHYS 1700	Descriptive Acoustics	3
DGM 2130	Digital Audio Essentials	3
DGM 2140	Electronics for Media	3
DGM 2440	Sound for Film and Television	3
DGM 2460	Radio Production	3
DGM 2481	Introduction to Digital Audio Restoration	3
DGM 2410	Core Recording Principles	3
DGM 2430	Core Mixing Principles	3
DGM 3110	Corporate Issues in Digital Media	3
DGM 312G	Digital Media for Intercultural Communication	3

Course Prefix and Number	Title	Credit Hours
COMP 301R	Digital Lecture Series	1
DGM 3220	Digital Media Project Management	3
DGM 3410	Audio Engineering for the Studio I	3
DGM 3420	Audio Engineering for the Studio II	3
DGM 3440	Sound for Games	3
DGM 3460	Live Sound Reinforcement	3
DGM 4000	Writing for Digital Media	3
DGM 4310	Senior Projects I	3
DGM 4410	Senior Projects II	3
DGM 4430	Audio Mastering	3
	Subtotal:	65
Electives	Take 20 credits from the following including six upper division credits.	
MUSC 1010	Introduction to Music (3.0)	
MUSC 1110	Music Theory I (3.0)	
MUSC 1120	Music Theory II (3.0)	
DGM 240R	Special Topics in Digital Audio (1.0)	
DGM 340R	Advanced Topics in Digital Audio (1.0)	
DGM 3430	Recording Studio Design Principles and Practices (3.0)	
DGM 3481	Advanced Audio Restoration and Forensics (3.0)	
DGM 2120	Web Essentials (3.0)	
DGM 2210	3D Modeling and Animation Essentials (4.0)	
DGM 2240	Interaction Design (3.0)	
DGM 350R	Advanced Topics Digital Motion Picture Production (1.0)	
	Subtotal	20
	Degree Total:	120

### Program Schedule for Digital Audio Degree

Note that General Education Requirements and DGM Electives are intended to fill open slots in each semester's schedule.

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 1110	Digital Media Essentials I	4
MUS 1100	Fundamentals of Music	3
DGM Elective	[by student choice]	3
DGM Elective	[by student choice]	3
ENGL 1010	Introduction to Writing	3
	Semester total:	16

Spring of First Year	Course Title	Credit Hours
DGM 2130	Digital Audio Essentials	3
DGM Elective	[by student choice]	3
Math Requirement	Student Choice: 1030,1040 or 1050	3
MUSC 1010	Introduction to Music (Fine Arts Distribution)	3
DGM Elective	[by student choice]	3
	<b>Semester total:</b>	15
Fall of Second Year	Course Title	Credit Hours
DGM 2140	Electronics for Media	3
DGM 2410	Core Recording Principles	3
DGM 2460	Radio Production	3
PHYS 1700	Descriptive Acoustics	3
DGM Elective	[by student choice]	2
	<b>Semester total:</b>	14
Spring of Second Year	Course Title	Credit Hours
DGM 2430	Core Mixing Principles	3
DGM 2440	Sound for Film and Television	3
DGM 2481	Introduction to Digital Audio Restoration	3
HLTH 1100	Personal Health and Fitness	2
DGM Elective	[by student choice]	3
	<b>Semester total:</b>	14
Fall of Third Year	Course Title	Credit Hours
DGM 3410	Audio Engineering for the Studio I	3
DGM 3440	Sound for Games	3
DGM Elective	[by student choice]	3
American Institutions	[by student choice]	3
ENGL 2020	Intermediate Writing	3
	<b>Semester total:</b>	15
Spring of Third Year	Course Title	Credit Hours
DGM 3420	Audio Engineering for the Studio II	3
DGM 4430	Audio Mastering	3
Social/Behavioral	[by student choice]	3

Science		
DGM 3460	Live Sound Reinforcement	3
DGM 3220	Project Management	3
COMP 301R	Digital Lecture Series	1
	<b>Semester total:</b>	16
<b>Fall of Fourth Year</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 4310	Senior Projects I	3
DGM 3110	Corporate Issues in Digital Media	3
DGM 4000	Writing for Digital Media	3
Biology or Physical Science	[by student choice]	3
Humanities	[by student choice]	3
	<b>Semester total:</b>	15
<b>Spring of Fourth Year</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 4410	Senior Projects II	3
DGM 312G	Intercultural Communication	3
PHIL 2050	Ethics and Values	3
Biology	[by student choice]	3
Physical Science	[by student choice]	3
	<b>Semester total:</b>	15
	<b>Degree total:</b>	120

### Section VII: Faculty

Thor Anderson..... Ph.D. in Instructional Technology, Utah State University  
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Li Liu..... Ph.D. in Computer Science, University of Alabama  
Rodayne Esmay .....MFA in Illustration, Syracuse University  
Anthony Romrell ..... MFA in Animation, Utah State University  
Marty Clayton ..... MFA in 2D and 3D Animation, Savannah College of Art and Design  
Arlen Card ..... MA in Music, Brigham Young University  
Mike Wisland . MS in Electrical Engineering Digital Signal Processing, Missouri Institute of Science & Technology  
Mike Harper .....MS in Geography Education, Utah State University  
Kim Brown .....MA in Instructional Technology, Utah State University  
Dennis Lisonbee.....MA in Communication, Brigham Young University  
Robert Trim..... MBA in Business, University of Phoenix

**Program Description – Full Template  
Utah Valley University  
Bachelor of Science in Digital Cinema**

**Section I: The Request**

The Digital Media Department in the School of Technology and Computing at Utah Valley University (UVU) requests approval to offer a Bachelor of Science (BS) in Digital Cinema Fall Semester, 2015. This program was approved by the UVU Board of Trustees on December 4, 2014.

**Section II: Program Description**

**Complete Program Description**

Digital Cinema fuses together pre-production, production, and post-production in the delivery of rich narrative and corporate video content through traditional and new media distribution channels. The curriculum integrates this production workflow to entertain, educate, and communicate meaningful ideas and information. This program provides motivated and dedicated students the opportunity to work with professionally active faculty members committed to the future of digital disciplines. In addition to proposing a new degree in Digital Cinema, the Department of Digital Media is also proposing new degree programs in Digital Audio, Web Design and Development, and Animation and Game Development.

**Purpose of Degree**

The current emphasis in Digital Cinema within the digital media degree program available at UVU provides students with a broad set of skills related to digital cinema and video production. Recent graduates, board members, and constant innovation in the field now require graduates who have more depth and less breadth. In order to accommodate this change, a new degree program that does not share core classes with other digital media emphases (Audio Production, Web Design and Development, and Gaming and Animation) is needed. While growth may be a possibility as additional resources become available, the overriding reason for this change is the preparedness level of the students that can currently be handled with existing resources (faculty, staff, labs).

The Utah Cluster Acceleration Partnership Executive Summary released in 2011 identifies the global need for more digitally created content. The digital media industry is constantly changing with the advancements in technology, changing consumer preferences, and the innovations of creators and artists. Utah Valley University has led the Utah Cluster Acceleration Partnership as the primary convener. Students in the Digital Media Department learn to create digital media content to fill the demand for more digitally created and delivered content. A majority of digital media content is instantly made available throughout the worldwide infrastructure of the Internet, making virtually all-digital media companies global in nature and directly impacted by worldwide markets. Approval of a new Bachelor of Science in Digital Cinema will better prepare UVU students to meet this growing demand. The Cluster Acceleration Partnership has been authorized and sponsored by the Utah System of Higher Education, the Utah Department of Workforce Services, and the Utah Governor's Office of Economic Development.

**Institutional Readiness**

The Digital Cinema degree program will stay within the current Department of Digital Media at UVU. No additional administrative support will be needed. The delivery of undergraduate courses will continue in its

current form. Classes will be taught on the main campus and it is estimated five percent of classes can be converted to blended classes.

The Bachelor of Science in Digital Media with its four emphasis areas will still be offered to students who enroll before Fall Semester, 2014. Students enrolling at the university have seven years to complete a degree before they must switch to a newer catalog. Since no classes taught under the current Digital Media degree are being discontinued, students can either continue to earn a degree in Digital Media with an emphasis or they can elect to switch to one of the four new degree programs.

Digital Media has two dedicated advisors who have been part of the planning process to create the new degree from a previous emphasis. They will be able to guide students through the transition process and work with the DGM faculty to make any class substitutions when necessary.

### Departmental Faculty

The faculty members of the UVU Digital Media department are committed to teaching students the latest digital cinema skills. In order to accomplish this, many of them are participating in their field professionally.

The Digital Media department has recently added a new full-time digital cinema professor in addition to securing a renowned visiting professor. This has helped boost the institution's ability to meet the demands of a stand-a-lone degree program.

Faculty Category	Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation
<b>With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)</b>			
Full-time Tenured	2		2
Full-time Non-Tenured	3		3
Part-time Tenured			
Part-time Non-Tenured	1		1
<b>With Master's Degrees</b>			
Full-time Tenured	7		7
Full-time Non-Tenured	3		3
Part-time Tenured			
Part-time Non-Tenured	7		7
<b>With Bachelor's Degrees</b>			
Full-time Tenured			
Full-time Non-Tenured			0
Part-time Tenured			
Part-time Non-Tenured	17		17
<b>Other</b>			



Full-time Tenured			0
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	16		16
<b>Total Headcount Faculty</b>			
Full-time Tenured	9	0	9
Full-time Non-Tenured	6	0	6
Part-time Tenured	0		0
Part-time Non-Tenured	41	0	41

### Staff

No additional support staff will be required for the first five years. Additional adjunct instructors will be added as the department expands the online course offerings.

### Library and Information Resources

The Utah Valley University Library (UVU Library) cultivates a dynamically changing collection of eBooks, videos, streamed videos, and books that relate to computer technologies. Digital media (DGM) themed holdings are a subset of such a collection. As the influence of technology continues to expand, UVU Library's DGM collection development will match its content and direction. Interestingly enough, DGM technology itself is transforming the library media that describe it, insomuch that much of the current collection of print books and hard media is giving way to a wave of DGM items represented by eBook, streamed video, and web content. This transition is accentuated by the preferences of the average DGM information patron, which enjoys (and often prefers) information that is instantly available over the Internet.

DGM related items in the UVU collection span many technologies and professional practices. Major categories of DGM information topics and sources include (but are not limited to) audio recording and sound mixing technologies, pre and post production of audio, music video, TV, and movie production, filmmaking, gripology, game animation techniques and practices, animation technologies (Adobe Flash, etc.), 3-D modeling, web development best practices, HTML5, DVD authoring, mobile device programming, server side programming languages (such as PHP), and e-learning.

Initial one-stop-shopping for articles/books/videos relating to digital media can be done by means of the UVU Library website's OneSearch feature, which allows a single search to simultaneously span multiple databases and includes a search of the library catalog's books, eBooks, and videos. (Each individual database can also be searched within the scope of the respective database website.)

### ACCESS TO DGM PERIODICAL DATABASE ARTICLES AT UVU LIBRARY

- 7) The IEEE Xplore Digital Library Database provides access to approximately 5083 journal titles, conference proceedings, technical standards, eBooks, and educational courses.
- 8) The Association for Computing Machinery (ACM) Digital Library Database provides access to approximately 20 DGM related journal titles.
- 9) The Computer Source Database provides access to approximately 254 DGM related journal titles.

Full text access to the thousands of journal articles is licensed to UVU library patrons. Nevertheless, off-campus web access to library patrons is enabled by means of an LDAP login authentication layer that is enforced by the UVU Library EZProxy server.

The Library catalog contains print books, eBooks (Safari, NetLibrary, EBSCO and eBrary), videos (DVD, Blue Ray, VHS) as well as databases of streamed video (Films on Demand, American History in Video, etc.). Most materials for DGM are covered in the Library of Congress call number area QA76 (Computer Science). Other significant call numbers are: HF5718 (Multimedia in Business), MT723 (MP3, Digital Audio, MIDI, etc.), N7433 (Computer Art), TK6680 (Digital Video) and TR897 (Computer Graphics/Animation). Additional call numbers may apply as this subject is given attention by numerous minor subject areas.

Current catalog holdings are estimated as follows:

DGM related books:	300
DGM related eBooks:	400
DGM related videos:	30
DGM related streamed videos:	20

A patron may often seek information (articles, books, etc.) that are not directly owned or licensed by UVU Library. In such cases, a desired item may be accessed from other libraries throughout the United States by means of the Interlibrary Loan Service (ILL). A requested article full text is emailed to a requester within one business day. Print books are generally located, received, and made available within seven business days. In addition, UVU Library patrons have access to check out items from partner libraries of higher education in the Utah/Idaho/Nevada area (Brigham Young University, University of Utah, Utah State University, etc.) by means of a Utah Academic Library Consortium (UALC) agreement.

Mark Stevens is currently the UVU liaison librarian for faculty and student support for Information Technologies and Digital Media. He can be contacted for additional information:

Mark Stevens MS/CS, MS/MLIS  
UVU Systems Librarian  
800 W University Pkwy LI 319c  
Orem, Utah 84058-5999  
801-863-8155 (office)

### **Admission Requirements**

There are no matriculation requirements for students to take undergraduate classes in the proposed Bachelor of Science in Digital Cinema other than the admission requirements established by the institution. However, enrollment in upper level courses is limited by the available lab space. After the second year, students will be required to submit a portfolio of their work to be reviewed by the faculty prior to advancing into upper-division coursework in the four-year program. This restriction is necessary due to the limited number of faculty and lab space available. Students who do not meet the portfolio standards have several choices. They can retake classes with low grades, improve their portfolio, and then reapply. They can pursue a Bachelor of Science in Technology Management with an emphasis in Digital Media without financial consequences or loss of time. Or they can transfer the majority of their credits toward the AAS in Digital Communication Technology.

### Student Advisement

The School of Technology and Computing currently employs two dedicated advisors for Digital Media. These advisors counsel students for the AAS degree and the emphases in the BA degree. They will continue to advise students in the AAS degree, as well as guide students into one of the four new degrees replacing the four emphases.

### Justification for Graduation Standards and Number of Credits

The Bachelor of Science in Digital Cinema requires 120 credits to graduate. This includes 35 credits of General Education. The remaining required and elective credits are related to the discipline.

### External Review and Accreditation

The Department of Digital Media has an advisory board from industry and education with expertise in audio production, cinema production, animation and games, and web design and development. Input from the board has not only informed the shape of the new proposed degree in Digital Cinema but has also pushed for its creation. This proposed degree and associated courses have been the main focus of the Digital Media curriculum committee since Fall Semester, 2013.

### Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students

Data Category	Current – Prior to New Program Implementation	Projected				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Data for Proposed Program</b>						
Number of Graduates in Proposed Program	0	0	0	25	30	30
Total # of Declared Majors in Proposed Program	-	50	120	170	180	2000
<b>Departmental Data – For All Programs Within the Department</b>						
Total Department Faculty FTE (as reported in Faculty table above)	31.80	32.05	32.30	32.30	32.30	32.55
Total Department Student FTE (Based on Fall Third Week)	615	618	622	623	623	624
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	19.3	19.3	19.2	19.3	19.3	19.2
Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here: _____)	NA	NA	NA	NA	NA	NA

## **Expansion of Existing Program**

Digital Media has seen an overall growth in the number of students enrolled as well as the number of graduates from the program. The program is being developed from an area of emphasis to a stand-alone degree to respond to industry and student demand.

### **Section III: Need**

#### **Program Need**

The Department of Digital Media is producing generalists with a broad range of skills covering film, audio, animation, and Internet technologies. Employment opportunities in the Digital Cinema field require a greater depth of knowledge than graduates currently have. In order to meet the growing demand for a highly skilled workforce, students need to take more classes in Digital Cinema in place of courses in audio, web, and animation.

Industry experts and the UVU advisory board members have recommended that the technical depth of the program be strengthened by making Digital Cinema a stand-alone degree separate from the previously broad digital media emphasis.

#### **Labor Market Demand**

The institution reported that a recent search on the Indeed.com website for the terms "film production, video producer, camera, videographer, video coordinator, video editing, video conferencing, script writer" in the Salt Lake City area pulls up 40 available jobs. The 2010-2020 Employment Projections from the Department of Workforce Services website shows 140 annual openings a year in digital cinema production positions such as writers, directors, editors, cinematographers, and audio visual specialists. A great amount of work in this industry is entrepreneurial or freelance in nature. DGM's relationship with the industry provides a steady stream of internships and jobs. As a result students and graduates who have completed relevant digital cinema classes have an unusual number of screen credits. Mindy Trim, K. Danor Gerald, Stelios Xanthos, and Paul Hunt are typical examples of UVU DGM graduates with these types of screen credits as listed on Internet Movie Database, [www.imdb.com](http://www.imdb.com), the industry online data base for films, television, and games.

While there is some underemployment in the Utah film industry, UVU anticipates employment growth due the Park City Film Studios being developed in Park City as well as the increased use of "virtual set" technology that is being used at UVU's Wasatch Campus. The proposed program is not necessarily focused on preparing graduates to work specifically for film making, movies, and television shows. The institution reported that 80% of employed graduates work in corporate, industrial, broadcast and documentary settings.

#### **Student Demand**

There are currently 215 students in the Digital Cinema emphasis. With the lab space and faculty available DGM has the ability to graduate 30 per year. There is clearly more demand than capacity at this time. With the current Digital Media degree, graduates have too much breadth and not enough depth. For example, students interested in cinematography or production management are still required to take classes in web, animation and audio, which they have stated they don't need or use. Graduates and the advisory board have encouraged DGM to provide greater depth in digital cinema courses, so that students are able to compete for jobs in the marketplace. This need would be met by creating a separate Digital Cinema degree.

## **Similar Programs**

There are several film production/theory programs at other Utah System of Higher Education institutions.

- The University of Utah (U of U) has a BA in Film and Media Arts that offers study in the history, criticism, theory, creative, and theoretical aspects of traditional film. The UVU Digital Cinema degree could be a feeder school in the U of U graduate film program.
- Salt Lake Community College has a related AAS in Film Production Technician and is currently a feeder into the Digital Media Digital Cinema Emphasis.
- Dixie State University has a BA in Communication and New Media with a traditional Film Production Emphasis.

Utah Valley University's focus on digital cinema seeks to create a distinct program by incorporating digital technology deep into the curriculum throughout the four-year program. The program provides instruction in digital workflows from sensor to delivery, whether digital still, motion, animation, interface design, or web.

## **Collaboration with and Impact on Other USHE Institutions**

UVU is currently working with Salt Lake Community College to coordinate the curriculum of their digital cinema courses so they will transfer into the UVU program.

Students transferring from other institutions are evaluated on a case-by-case basis. Schools offering a two-year program would benefit by having a direct path to a four-year degree at UVU.

## **Benefits**

Utah Valley University is currently offering an emphasis in Digital Cinema, which provides graduates to fill the many job opportunities available in the state. The benefit to making this change is that the future graduates will be better prepared to compete for higher paying job opportunities. Higher wages equate to higher taxes for the state coffers making this beneficial to everyone.

## **Consistency with Institutional Mission**

The Utah Board of Regents' Policy R312.4.2.3 states that Utah Valley University, as a teaching institution "prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community." The proposed Digital Cinema degree would allow graduates to become professionally competent people who practice lifelong learning in order to keep up with the latest technology and apply their knowledge to solving problems in the work place.

## **Section IV: Program and Student Assessment**

### **Program Assessment**

The proposed Bachelor of Science in Digital Cinema will produce skilled graduates who demonstrate critical thinking to analyze and propose creative solutions, and apply their foundational knowledge of Digital Cinema to solve real world problems presented in the local community.

The department will internally review student portfolios upon acceptance into the program: after the first two years and again upon graduation. The portfolio review, which occurs before the junior year, will be conducted by a team of faculty who look over the submitted portfolios to make sure the student is capable of success in the upper-division course work. The second review happens during the senior year when students work as a team to provide a solution for a not-for-profit organization. These senior projects are

presented in a showcase at the end of the senior year and evaluated by a team of faculty. By graduation, the students in this degree will have several portfolio pieces from upper division production classes. These can be used for review to see how well graduates are performing in the various areas of digital cinema. This portfolio can also be used in helping students show potential employers their capabilities.

Graduates of the program will demonstrate skills in producing, production management, directing, writing, cinematography, and post-production.

### Expected Standards of Performance

#### *Program Goals*

1. Write a short narrative film script.
2. Use the sequential approach to film story to analyze and re-write a script.
3. Act in a narrative film.
4. Use grip and lighting equipment to effectively light a narrative scene.
5. Quickly set up a digital cinema camera for the widest dynamic range.
6. Direct and produce a short narrative scene.
7. Edit a corporate/documentary film.
8. Color grade a short narrative film.
9. Take digital cinema narrative assets through the NLE post-production workflow to color grade, edit, and mix sound and final output to specified codec and compression ratios.
10. Break down and budget scripts using industry standard software.
11. Edit a narrative film.
12. Create complete corporate video using latest technologies and processes.
13. Create complete narrative films using latest technologies and processes.
14. Participate in a team to create and present a major narrative film or corporate video for a non-profit organization.
15. Complete an industry internship.

#### *Goal Measurement*

1. Success of each student is monitored at the end of every course at the upper division level with a portfolio piece. Each portfolio piece becomes a part of their full portfolio. The final portfolio is used to help the student get a job and as a summative assessment item.
2. Evaluation is conducted to assure success in student learning.
3. Employers are surveyed to determine quality of program graduates

## Section V: Finance

### Department Budget

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget - Prior to New Program Implementation	Departmental Budget					
		Year 1 (2015-16)		Year 2 (2016-17)		Year 3 (2017-18)	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget

Personnel Expense							
Salaries & Wages	\$1,086,664	\$6,563	\$1,093,227	\$13,650	\$1,100,314	\$26,026	\$1,112,690
Benefits	\$521,762	\$696	\$522,458	\$1,447	\$523,209	\$9,811	\$531,573
Total Personnel Expense	\$1,608,426	\$7,258	\$1,615,684	\$15,097	\$1,623,523	\$35,837	\$1,644,263
Non-personnel Expense							
Travel	\$0	\$0	\$0	\$0	\$0	\$1,000	\$1,000
Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Current Expense	\$30,000	\$1,000	\$31,000	\$1,000	\$31,000	\$2,500	\$32,500
Total Non-personnel Expense	\$30,000	\$1,000	\$31,000	\$1,000	\$31,000	\$3,500	\$33,500
<b>Total Expense (Personnel + Current)</b>	\$1,638,426	\$8,258	\$1,646,684	\$16,097	\$1,654,523	\$39,337	\$1,677,763
Departmental Funding		Year 1	Year 2	Year 3	Year 4	Year 5	Year 5
Appropriated Fund	\$1,638,426	\$8,258	\$1,646,684	\$16,097	\$1,654,523	\$39,337	\$1,677,763
Other:							
Special Legislative Appropriation							
Grants and Contracts							
Special Fees/Differential Tuition							
<b>Total Revenue</b>	\$1,638,426	\$8,258	\$1,646,684	\$16,097	\$1,654,523	\$39,337	\$1,677,763
Difference							
Revenue - Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$89		\$89		\$89		\$90

### Funding Sources

In addition to the tuition revenue from enrollment, funding for this program will be prioritized high for allocation from Acute Equity legislative appropriation to provide program offerings to meet regional need in STEM programs.

### Reallocation

No funds will need to be reallocated for this new degree.

### Impact on Existing Budgets

The existing budget will fund the current faculty, labs, and adjuncts. The current number of graduates can still be sustained. The goal of creating a new Bachelor of Science in Digital Cinema is to change the requirements so students can take more depth classes and fewer breath classes.

### Section VI: Program Curriculum

Course Prefix and Number	Title	Credit Hours
General Education Courses		
ENGL1010	Introduction to Writing	3
ENGL 2010 or ENGL 2020	Intermediate Writing--Humanities/Social Sciences  Intermediate Writing--Science and Technology	3
MATH 1030 MATH 1040 MATH 1050	Quantitative Reasoning (recommended for Humanities or Arts majors) (3.0) Introduction to Statistics (recommended for Social Science majors) (3.0) College Algebra (recommended for Business, Education, Science, and Health Professions majors) (4.0)	3
HIST 2700 & HIST 2710 or HIST 1700 or HIST 1740 or POLS 1000 or POLS 1100	US History to 1877 and US History since 1877  American Civilization  US Economic History  American Heritage  American National Government	3
PHIL 2050	Ethics and Values	3
HLTH 1100 or PES 1097	Personal Health and Wellness  Fitness for Life	2
Biology		3
Physical Science	ASTR 1040 Elementary Astronomy recommended	3
Additional Biology or Physical Science		3
Humanities Distribution	ENGL 2200 Introduction to Literature or ENGL 2130 Science Fiction recommended	3
Fine Arts Distribution	THEA 1023 Suggested Introduction to Film recommended	3
Social/Behavioral Science	MGMT 1010 Introduction to Business recommended	3
	Sub-Total	35

#### Discipline Core Requirements (with New Courses in Bold)

Course Prefix and Number	Title	Credit Hours
Required Courses		
DGM 1110	Digital Media Essentials I	4
DGM 1061	Motion Picture Editing	3
DGM 1510	Film Production Analysis	3
DGM 1520	Corporate and Documentary Production	3



Course Prefix and Number	Title	Credit Hours
DGM 2110	Digital Motion Picture Essentials	3
DGM 2130	Digital Audio Essentials	3
DGM 2320	Digital Photography and Compositing I	3
DGM 2440	Sound for Film and Television	3
DGM 2540	Cinematography I	3
DGM 2660	Digital Storyboarding	3
DGM 3110 or <b>DGM 3550</b>	Corporate Issues in Digital Media or <b>Producing I</b>	3
DGM 312G	Digital Media for Intercultural Communication	3
COMP 301R	Digital Lecture Series	1
DGM 3220 or DGM 3530	Digital Media Project Management or Digital Film Production Management	3
DGM 351R	Digital Broadcasting	3
DGM 3540	Cinematography II	3
DGM 3560	Post Production	3
DGM 3570	Digital Story Telling Workshop	3
DGM 3580	Digital Cinema Production Workshop	3
DGM 4310	Senior Projects I	3
DGM 4410	Senior Project II	3
DGM 4560	Color Grading	3
Sub-Total		65

#### Electives – 20 hours

Course Prefix and Number	Title	Credit Hours
Take 20 credits from the following including six upper division credits.		
DGM 2340	Digital Output (3.0)	
<b>DGM 2210</b>	<b>3D Modeling and Animation Essentials (4.0)</b>	
THEA 2741	Scriptwriting I (3.0)	
ACC 2010	Financial Accounting (3.0)	
ACC 2020	Managerial Accounting (3.0)	
ACC 3000	Financial Managerial and Cost Accounting Concepts (3.0)	
MGMT 3170	Entrepreneurship (3.0)	
MGMT 3180	Small Business Development (3.0)	
MGMT 3190	Entrepreneurship Financing Ventures (3.0)	
THEA 3741	Script Writing II (3.0)	
DGM 3320	Digital Photography and Compositing II (3.0)	
THEA 3113	Acting for Film (3.0)	
THEA 3614	Directing Actors for the Screen (3.0)	
THEA 3563	Art Direction for Film (3.0)	
THEA 3612	Directing Actors for Stage II (3.0)	
THEA 3611	Directing Actors for Stage I (3.0)	
THEA 374R	New Script Workshop (3.0)	
DGM 481R	Internship (1.0)	

Course Prefix and Number	Title	Credit Hours
DGM 4630	Visual Effects and Compositing I (4.0)	
<b>DGM 454R</b>	<b>Cinematography Workshop (3.0)</b>	
MGMT 4300	Entrepreneurship Business Planning (3.0)	
THEA 4741	Script Writing III (3.0)	
	Subtotal	20
	Degree Total	120

**Program Schedule for Digital Cinema**

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 1110	Digital Media Essentials	4
THEA 1023	Introduction To Film (Fine Arts Distribution)	3
DGM 1061	Motion Picture Editing	3
DGM 1510	Film Production Analysis	3
MATH 1040	Introduction to Statistics	3
	Semester total:	16
Spring of First Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 1520	Corporate & Documentary Production	3
DGM 2130	Digital Audio Essentials	3
DGM 2320	Digital Photography and Compositing I	3
ENGL 1010	Intro to Writing	3
MGMT 1010	Introduction to Business (Social/Behavioral Science Distribution)	3
	Semester total:	15

Fall of Second Year (Course Prefix and Number)	Course Title	Credit Hours
ENGL 2010	Intermediate Writing	3
DGM 2110	Digital Motion Picture Essentials	3
DGM 2660	Digital Storyboarding	3
ASTR 1040	Elementary Astronomy (Physical Science Distribution)	3
	Semester total:	12
Spring of Second Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 2440	Sound for Film and Television	3

	Biology	3
ENG 2200	Introduction to Literature (Humanities Distribution)	3
HIST 1700	American Civilizations	3
DGM 2540	Cinematography I	3
	<b>Semester total:</b>	15

Fall of Third Year (Course Prefix and Number)	Course Title	Credit Hours
	Elective	3
PHIL 2050	Ethics and Values	3
DGM 3540	Cinematography II	3
DGM 3530 or DGM 3220	Digital Film Production Management or Digital Media Project Management	3
DGM 3570	Digital Story Telling Workshop	3
	<b>Semester total:</b>	15
Spring of Third Year (Course Prefix and Number)	Course Title	Credit Hours
	Elective	4
	Elective	3
DGM 351R	Digital Broadcasting	3
DGM 3580	Digital Cinema Production Workshop	3
COMP 301R	Digital Lecture Series	1
HLTH 1100	Personal Health and Wellness	2
	<b>Semester total:</b>	16

Fall of Fourth Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 4310	Senior Projects I	3
DGM 3560	Post Production	3
DGM 312G	Digital Media for Intercultural Communication	3
	Elective	3
	Elective (Upper Division)	4
	<b>Semester total:</b>	16

Spring of Fourth Year (Course Prefix and Number)	Course Title	Credit Hours
DGM 4410	Senior Projects II	3
DGM 4560	Color Grading	3
DGM 3550 or DGM 3110	Producing I or Corporate Issues in Digital Media	3
	Elective (Upper Division)	3
	Biology or Physical Science	3
	<b>Semester total:</b>	15

### Section VII: Faculty

Thor Anderson..... Ph.D. in Instructional Technology, Utah State University  
 Trudy Christensen ..... Ph.D. in Instructional Psychology and Technology, BYU  
 Paul Cheney ..... Ph.D. in Instructional Technology, University of Virginia  
 Li Liu..... Ph.D. in Computer Science, University of Alabama  
 Rodayne Esmay ..... MFA in Illustration, Syracuse University  
 Anthony Romrell ..... MFA in Animation, Utah State University  
 Marty Clayton ..... MFA in 2D and 3D Animation, Savannah College of Art and Design  
 Arlen Card ..... MA in Music, Brigham Young University  
 Mike Wisland . MS in Electrical Engineering Digital Signal Processing, Missouri Institute of Science & Technology  
 Mike Harper ..... MS in Geography Education, Utah State University  
 Kim Brown ..... MA in Instructional Technology, Utah State University  
 Dennis Lisonbee ..... MA in Communication, Brigham Young University  
 Robert Trim..... MBA in Business, University of Phoenix  
 Duane Andersen..... MFA in Art, State University of New York at Buffalo

**Program Description – Full Template**  
**Utah Valley University**  
**Bachelor of Science in Web Design and Development with emphases in Web and App Development**  
**and Interaction and Design**

**Section I: The Request**

The Digital Media Department in the School of Technology and Computing at Utah Valley University (UVU) requests approval to offer a Bachelor of Science (BS) in Web Design and Development with emphases in Web and App Development and Interaction and Design effective Fall Semester, 2015. This program was approved by the UVU Board of Trustees on December 4, 2014.

**Section II: Program Description**

**Complete Program Description**

Web Design and Development fuses together the design, development, and delivery of rich media content through the medium of the Internet to hand held mobile devices as well as desktop computers. The curriculum integrates these digital mediums to entertain, educate, and communicate ideas and information through meaningful human interaction. This program provides motivated and dedicated students the opportunity to work with professionally active faculty members committed to the future of digital disciplines. In addition to proposing a new degree in Web Design and Development, The Department of Digital Media is also proposing new degree programs in Digital Audio, Digital Cinema, and Animation and Games.

**Purpose of Degree**

The current emphasis in Internet Technologies within the Digital Media Degree program available at UVU provides students with a broad set of skills related to designing and developing for Internet delivered content and applications. Recent graduates, board members, and constant innovation in the field now require graduates who have more depth and less breadth. In order to accommodate this change, a new degree program that does not share core classes with other Digital Media emphasis area (Audio Production, Cinema Production, and Gaming and Animation) is needed.

While growth may be a possibility as additional resources become available, the overriding reason for this change is the preparedness level of the students that can currently be handled with existing resources (faculty, staff, labs).

**Institutional Readiness**

The Web Design and Development degree program will stay within the current Digital Media Department at UVU. No additional administrative support will be needed. The delivery of undergraduate courses will continue in its current form. In order to accommodate the current student enrollment demand, faculty members are already expanding the online and blended course offerings to take advantage of limited lab space.

The Utah Cluster Acceleration Partnership Executive Summary released in 2011 identifies the global need for more digitally created content. The digital media industry is constantly changing with advancements in technology, changing consumer preferences, and the innovations of creators and artists. Utah Valley University has led the Utah Cluster Acceleration Partnership as the primary convener. Students in the Digital Media Department learn to create digital media content to fill the demand for more digitally created

and delivered content. A majority of digital media content is instantly made available throughout the worldwide infrastructure of the Internet, making virtually all-digital media companies global in nature and directly impacted by worldwide markets. Approval of a new bachelor's degree in Web Design and Development will better prepare UVU students to meet this growing demand. The Cluster Acceleration Partnership has been authorized and sponsored by the Utah System of Higher Education, the Utah Department of Workforce Services, and the Utah Governor's Office of Economic Development.

The Bachelor of Science in Digital Media with its four emphasis areas will still be offered to students who enter Digital Media before Fall Semester, 2015. Students enrolling at the university have seven years to complete a degree before they must switch to a newer catalog. Since no classes taught under the current Digital Media degree are being discontinued, students can either continue to earn a degree in Digital Media with an emphasis or they can elect to switch to one of the four new degree programs.

Digital Media has two dedicated advisors who have been part of the planning process to create the new degree from a previous emphasis. They will be able to guide students through the transition process and work with the DGM faculty to make any class substitutions when necessary.

### Departmental Faculty

The faculty of the UVU Digital Media department are committed to teaching students the latest Internet Technology skills. In order to accomplish this, many of them are participating in their field professionally.

Faculty Category	Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation
<b>With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)</b>			
Full-time Tenured	2		2
Full-time Non-Tenured	2		2
Part-time Tenured			
Part-time Non-Tenured	1		1
<b>With Master's Degrees</b>			
Full-time Tenured	7	0.75	7.75
Full-time Non-Tenured	3		3
Part-time Tenured			
Part-time Non-Tenured	7		7
<b>With Bachelor's Degrees</b>			
Full-time Tenured			
Full-time Non-Tenured			0
Part-time Tenured			
Part-time Non-Tenured	17		17
<b>Other</b>			

Full-time Tenured			0
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	16		16
<b>Total Headcount Faculty</b>			
Full-time Tenured	9	0.75	9.75
Full-time Non-Tenured	5	0	5
Part-time Tenured	0		0
Part-time Non-Tenured	41	0	41
<b>Total Department Faculty FTE</b> (As reported in the most recent A-1/S-11 Institutional Cost Study for “prior to program implementation” and using the A-1/S-11 Cost Study Definition for the projected “at full program implementation.”)	55	0.75	55.75

### Staff

No additional support staff will be required for the first five years. Additional adjunct instructors will be added as the department expands the online course offerings.

### Library and Information Resources

The Utah Valley University Library cultivates a dynamically changing collection of eBooks, videos, streamed videos, and books that relate to computer technologies. Digital Media (DGM) themed holdings are a subset of such a collection. As the influence of technology continues to expand, UVU Library’s DGM collection development will match its content and direction. Interestingly enough, DGM technology itself is transforming the library media that describe it, insomuch that much of the current collection of print books and hard media is giving way to a wave of DGM items represented by eBook, streamed video, and web content. This transition is accentuated by the preferences of the average DGM information patron, which enjoys (and often prefers) information that is instantly available over the internet.

DGM related items in the UVU collection span many technologies and professional practices. Major categories of DGM information topics and sources include (but are not limited to) audio recording and sound mixing technologies, pre and post production of audio, music video, TV and movie production, filmmaking, gripology, game animation techniques and practices, animation technologies (Adobe Flash, etc.), 3-D modeling, web development best practices, HTML5, DVD authoring, mobile device programming, server side programming languages (such as PHP), and e-learning.

Initial “one-stop-shopping” for articles/books/videos relating to Digital Media can be done by means of the UVU Library website’s OneSearch feature, which allows a single search to simultaneously span multiple databases and includes a search of the library catalog’s books, eBooks, and videos. (Each individual database can also be searched within the scope of the respective database website.)

There is also much access to DGM periodical database articles at the library. The IEEE Xplore Digital Library Database provides access to approximately 5083 journal titles, conference proceedings, technical standards, eBooks, and educational courses. The Association for Computing Machinery (ACM) Digital

Library Database provides access to approximately 20 DGM related journal titles. And the Computer Source Database provides access to approximately 254 DGM related journal titles.

Full text access to the thousands of journal articles is licensed to UVU library patrons. Nevertheless, off-campus web access to library patrons is enabled by means of an LDAP login authentication layer that is enforced by the UVU Library EZProxy server.

The Library catalog contains print books, eBooks (Safari, NetLibrary, EBSCO and eBrary), videos (DVD, Blue Ray, VHS), as well as databases of streamed video (Films on Demand, American History in Video, etc.). Most materials for DGM are covered in the Library of Congress call number area QA76 (Computer Science). Other significant call numbers are: HF5718 (Multimedia in Business), MT723 (MP3, Digital Audio, MIDI, etc.), N7433 (Computer Art), TK6680 (Digital Video), and TR897 (Computer Graphics/Animation). Additional call numbers may apply as this subject is given attention by numerous minor subject areas.

Current catalog holdings are estimated as follows:

DGM related books:	300
DGM related eBooks:	400
DGM related videos:	30
DGM related streamed videos:	20

A patron may often seek information (articles, books, etc.) that are not directly owned or licensed by UVU Library. In such cases, a desired item may be accessed from other libraries throughout the United States by means of the Interlibrary Loan Service (ILL). A requested article full text is emailed to a requester within one business day. Print books are generally located, received, and made available within seven business days. In addition, UVU Library patrons have access to check out items from partner libraries of higher education in the Utah/Idaho/Nevada area (Brigham Young University, University of Utah, Utah State University, etc.) by means of a Utah Academic Library Consortium (UALC) agreement.

Mark Stevens is currently the UVU liaison librarian for faculty and student support for Information Technologies and Digital Media. He can be contacted for additional information:

Mark Stevens MS/CS, MS/MLIS  
UVU Systems Librarian  
800 W University Pkwy LI 319c  
Orem, Utah 84058-5999  
801-863-8155 (office)

### **Admission Requirements**

There are no matriculation requirements for students to take undergraduate classes in the proposed Bachelor of Science in Web Design and Development other than the admission requirements established by the institution. However, enrollment in upper level courses is limited by the available lab space. After the second year, students will be required to submit a portfolio of their work to be reviewed by the faculty prior to advancing into upper-division coursework in the four-year program. This restriction is necessary due to the limited number of faculty and lab space available. Students who do not meet the portfolio standards have several choices. They can retake classes with low grades, improve their portfolio, and then reapply. They can pursue a Bachelor of Science in Technology Management with an emphasis in Digital Media



without financial consequences or loss of time. Or they can transfer the majority of their credits toward the Associate of Applied Science (AAS) in Digital Communication Technology.

### Student Advisement

The School of Technology and Computing currently employs two dedicated advisors for Digital Media. These advisors counsel students for the AAS degree and the four emphasis areas in the BS degree. They would continue to advise students in the AAS degree, as well as guide students into one of the four new degrees replacing the four emphasis areas.

### Justification for Graduation Standards and Number of Credits

The Bachelor of Science in Web Design and Development requires 120 credits to graduate. This includes 35 credits of general education. The remaining required and elective credits are related to the discipline.

### External Review and Accreditation

The Department of Digital Media has an advisory board from industry and education with expertise in Audio Production, Cinema Production, Animation and Games, and Web Design and Development. Input from the board has not only informed the shape of the new proposed degree in Web Design and Development but has also pushed for its creation. This proposed degree and associated courses have been on the main focus of the Digital Media curriculum committee since Fall Semester, 2013.

### Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students

Data Category	Current – Prior to New Program Implementation	Projected				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Data for Proposed Program</b>						
Number of Graduates in Proposed Program	0	0	0	20	25	30
Total # of Declared Majors in Proposed Program	-	30	110	150	160	180
<b>Departmental Data – For All Programs Within the Department</b>						
Total Department Faculty FTE (as reported in Faculty table above)	31.80	32.05	32.30	32.30	32.30	32.55
Total Department Student FTE (Based on Fall Third Week)	615	618	622	623	623	624
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	19.3	19.3	19.2	19.3	19.3	19.2

Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here:_____)	NA	NA	NA	NA	NA	NA
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**Expansion of Existing Program**

Digital Media has seen an overall growth in the number of students enrolled as well as the number of graduates from the program. The program is being developed from an area of emphasis to a stand-a-lone degree to respond to industry and student demand.

**Section III: Need**

**Program Need**

The Department of Digital Media is producing generalists with a broad range of skills covering film, audio, animation, and Internet technologies. Employment opportunities in the Web Design and Development field require a greater depth of knowledge than graduates currently have. In order to meet the growing demand for a highly skilled workforce, students need to take more classes in Web Design and Development in place of courses in audio, cinema, and animation.

**Labor Market Demand**

The institution reported that a recent search on the Indeed.com website for the term "web design" in the Salt Lake City area pulls up over 450 available jobs. A search for "web design" on the Department of Workforce Services for Utah website resulted in 484 available positions. The 2010-2020 Employment Projections from the Department of Workforce Services website shows a 3.4 growth rate for web developers. The Bureau of Labor Statistics shows the median annual wage for web developers is \$62,500 in 2012, and employment opportunities for web developers is projected to grow 20 percent from 2012 to 2022, faster than the average for all occupations. Demand will be driven by the growing popularity of mobile devices and ecommerce.

**Student Demand**

There are currently 140 students in the Internet Technologies emphasis. With the lab space and faculty available UVU has the ability to graduate 28 students per year in the proposed program. There is clearly more demand than capacity at this time. With the current Digital Media Degree, graduates have too much breadth and not enough depth. For example, students interested in developing apps for mobile phones are still required to take classes in animation and in audio, which they have stated they don't need or use. Graduates, and the advisory board, have encouraged the Digital Media Department to provide greater depth in courses so that students are able to compete for jobs in the marketplace. This need would be met by creating a separate Web Design and Development degree.

**Similar Programs**

This program at UVU is the only four-year program dedicated to Web Design and Development requiring 85 credits in the content area. Other intuitions in Utah offer similar programs in related fields, but they required fewer credits in the content area.

Southern Utah University has three courses in Web Design (3250, 4250, 4300) offered by the Art department. They do not have a degree in this area.

The University of Utah does not have a Web Design degree or any classes with Web or Internet in the titles.

Utah State University has four Web Design courses from four different programs. They also have a two-year IT Support and Web Development degree.

Salt Lake Community College has a two-year Web Design emphasis in their Visual Art & Design AAS degree. This emphasis requires 22 credits related to Web Design.

Weber State has Web Design courses in their Network Management Technology minor. They also have a Web Design track offered by their Art department.

Snow College has an AAS degree in Desktop Publishing/Web Design. This two-year AAS only has two courses about web design (BT1801 & BT2120).

Dixie State University has a Bachelor of Arts in Communication and New Media with four classes related to Internet and web development.

The new BS in Web Design and Development at Utah Valley University will require 85 credits specific to learning web application design and development, responsive mobile web design and development, digital magazine publishing, user experience design, content management systems, and virtual reality authoring. Additionally, students will learn markup, server and client side scripting, source code version control and Frameworks, Javascript, and other emerging technologies.

### **Collaboration with and Impact on Other USHE Institutions**

Utah Valley University currently has an agreement with Snow College to accept their courses into its program. Students transferring from other intuitions are evaluated on a case-by-case basis. Schools offering a two-year program would benefit by having a direct path to a four-year degree at UVU.

### **Benefits**

Utah Valley University is currently offering an emphasis in Internet Technologies, which provides graduates to fill the many job opportunities available in the state. The benefit to making this change is that future graduates will be more prepared to compete for higher paying job opportunities. Higher wages equate to higher taxes for the state coffers and everyone wins.

### **Consistency with Institutional Mission**

The Utah Board of Regents' Policy R312.4.2.3 states that Utah Valley University, as a teaching institution "prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community." The proposed Web Design and Development degree would allow graduates to become professionally competent people who practice lifelong learning in order to keep up with the latest technology and apply their knowledge to solving problems in the workplace.

## **Section IV: Program and Student Assessment**

## Program Assessment

The proposed Bachelor of Science in Web Design and Development will produce skilled graduates who demonstrate critical thinking to analyze and propose creative solutions, and apply their foundational knowledge of Web Design and Development to solve real world problems presented in UVU's local community.

The department will internally review student portfolios upon acceptance into the program: after the first two years and again upon graduation. The portfolio review which occurs before the junior year will be conducted by a team of faculty who look over the submitted portfolios to make sure the student is capable of success in the upper-division course work. The second review happens during the senior year when student work as a team to provide a solution for a not-for-profit organization. These senior projects are presented in a showcase at the end of the senior year and evaluated by a team of faculty.

By graduation, the students in this degree will have a website showing a portfolio piece from each upper division class. These can be used for review to see how well graduates are performing in the various areas of Web Design and Development. This portfolio can also be used in helping students show potential employers their capabilities.

Graduates of the program will demonstrate skills in application development for mobile devices, responsive web design and development, building digital assets, digital magazine publishing, and user experience design.

## Expected Standards of Performance

### *Program Goals*

1. Markup a website using semantically appropriate HTML5 tags.
2. Use media queries and mobile first design to create responsive page templates.
3. Use a custom, responsive template to build a site in multiple content management systems.
4. Photograph and assemble both object and panoramic virtual reality experiences.
5. Build single page web and mobile applications using JavaScript Frameworks.
6. Implement API endpoints and connect to data stores with Serverside Languages.
7. Implement user experience design strategies to build applications and web sites that lead to a call to action.
8. Design simple and understandable user interfaces and interactions for desktop, mobile, and web.
9. Design and build digital publications using video, audio, photographic, and textual assets which can be published as digital magazines.
10. Create complete rich internet applications using the latest technologies and processes.
11. Participate in a team to create and present a major project for a non-profit organization.

### *Goal Measurement*

1. Success of each student is monitored at the end of every course at the upper division level with a portfolio piece. These portfolio pieces are collected and saved for future evaluation.
2. Evaluation is conducted to assure success in student learning.
3. Employers are surveyed to determine quality of program graduates.

Each course has a final project that becomes a piece in their portfolio. The final portfolio is used to help the student get a job and as a summative assessment item.

Section V: Finance

Department Budget

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget - Prior to New Program Implementation	Departmental Budget					
		Year 1 (2015-16)		Year 2 (2016-17)		Year 3 (2017-18)	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
<b>Personnel Expense</b>							
Salaries & Wages	\$1,086,664	\$6,563	\$1,093,227	\$13,650	\$1,100,314	\$26,026	\$1,112,690
Benefits	\$521,762	\$696	\$522,458	\$1,447	\$523,209	\$9,811	\$531,573
<b>Total Personnel Expense</b>	<b>\$1,608,426</b>	<b>\$7,258</b>	<b>\$1,615,684</b>	<b>\$15,097</b>	<b>\$1,623,523</b>	<b>\$35,837</b>	<b>\$1,644,263</b>
<b>Non-personnel Expense</b>							
Travel	\$0	\$0	\$0	\$0	\$0	\$1,000	\$1,000
Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Current Expense	\$30,000	\$1,000	\$31,000	\$1,000	\$31,000	\$2,500	\$32,500
<b>Total Non-personnel Expense</b>	<b>\$30,000</b>	<b>\$1,000</b>	<b>\$31,000</b>	<b>\$1,000</b>	<b>\$31,000</b>	<b>\$3,500</b>	<b>\$33,500</b>
<b>Total Expense (Personnel + Current)</b>	<b>\$1,638,426</b>	<b>\$8,258</b>	<b>\$1,646,684</b>	<b>\$16,097</b>	<b>\$1,654,523</b>	<b>\$39,337</b>	<b>\$1,677,763</b>
<b>Departmental Funding</b>							
		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 5</b>
Appropriated Fund	\$1,638,426	\$8,258	\$1,646,684	\$16,097	\$1,654,523	\$39,337	\$1,677,763
Other:							
Special Legislative Appropriation							
Grants and Contracts							
Special Fees/Differential Tuition							
<b>Total Revenue</b>	<b>\$1,638,426</b>	<b>\$8,258</b>	<b>\$1,646,684</b>	<b>\$16,097</b>	<b>\$1,654,523</b>	<b>\$39,337</b>	<b>\$1,677,763</b>
<b>Difference</b>							
Revenue - Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$89		\$89		\$89		\$90

## Funding Sources

In addition to the tuition revenue from enrollment, funding for this program will be prioritized high for allocation from Acute Equity legislative appropriation to provide program offerings to meet regional need in STEM programs.

## Reallocation

No funds will need to be reallocated for this new degree.

## Impact on Existing Budgets

The existing budget will fund the current faculty, labs, and adjuncts. The current number of graduates can still be sustained. The goal of creating a new Bachelor of Science in Web Design and Development is to change the requirements so students can take more depth classes and fewer breath classes.

### Section VI: Program Curriculum

Course Prefix and Number	Title	Credit Hours
General Education Courses		
ENGL 1010	Introduction to Writing	3
ENG 2010 or ENGL 2020	Intermediate Writing--Humanities/Social Sciences or Intermediate Writing--Science and Technology	3
MATH 1030	Quantitative Reasoning (recommended for Humanities or Arts majors)	3
MATH 1040	Introduction to Statistics (recommended for Social Science majors)	
MATH 1050	College Algebra (recommended for Business, Education, Science, and Health Professions majors)	
HIST 2700 & HIST 2710 or HIST 1700 or HIST 1740 or POLS 1000 or POLS 1100	US History to 1877 and US History since 1877  American Civilization  US Economic History  American Heritage  American National Government	3
PHIL 2050	Ethics and Values	3
HLTH 1100 or PES 1097	Personal Health and Wellness or Fitness for Life	2
Biology		3
Physical Science		3
Additional Biology or Physical Science		3
Humanities Distribution		3
Fine Arts Distribution		3
Social/Behavioral Science		3
	Sub-Total	35

### Discipline Core Requirements

Course Prefix and Number	Title	Credit Hours
Required Courses		
ART 1420*	Introduction to Graphic Design	3
COMP 301R	Digital Lecture Series	1
DGM 1110	Digital Media Essentials I	4
DGM 2120	Web Essentials	3
DGM 2240	Interaction Design	3
DGM 2250	Principles of Digital Design	3
DGM 2271	Digital Design I	3
DGM 3110	Corporate Issues in Digital Media	3
DGM 312G	Digital Media for Intercultural Communication	3
DGM 3220	Digital Media Project Management	3
DGM 3271	Digital Design II	3
DGM 3750	Media Traffic and Analytics	3
DGM 4000	Writing for Digital Media	3
DGM 4310	Senior Projects I	3
DGM 4410	Senior Projects II	3
Sub-Total		44

### Required Courses for Interaction and Design Emphasis (with New Courses in Bold)

Course Prefix and Number	Title	Credit Hours
Required Courses for Interaction and Design EMPHASIS		
ART 1410*	Typography I	3
DGM 2341	Digital Output for Mobile Media	3
DGM 2260	Immersive Authoring I	3
DGM 2270	Digital Publishing I	3
DGM 3261	Authoring for Virtual Reality Experiences	3
DGM 3240	Interaction Design Colloquium	3
DGM 3260	Immersive Authoring II	3
DGM 3270	Digital Publishing II	3
DGM 3280	Authoring for Adaptive Media I	3
DGM 4610	Designing Technology-based Training	3
Sub-Total		30
Emphases Electives for Interaction and Design Emphasis—Complete 11 credits from the following:		
DGM 1600	Introduction to Scripting (3.0)	
DGM 2320	Digital Photography and Compositing I (3.0)	
<b>DGM 2280</b>	<b>Digital Effects I (3.0)</b>	
DGM 320R	Advanced Topics in Digital Media Design (1.0)	
DGM 3320	Digital Photography and Compositing II (3.0)	
<b>DGM 4280</b>	<b>Authoring for Adaptive Media II (3.0)</b>	
DGM 4620	Producing Technology-based Training (3.0)	
DGM 2760	Web Languages I (3.0)	
Sub-Total		11

### Required Courses for Web and Application Development Emphasis

Course Prefix and Number	Title	Credit Hours
Required Courses		
DGM 1600	<b>Introduction to Scripting</b>	3
DGM 2740	Principles of Web Languages	3
DGM 2760	Web Languages I	3
DGM 2780	Web Tools and Frameworks I	3
DGM 3740	Web Content Management	3
DGM 3760 or INFO 3422	Web Languages II or PHP Web Application Development	3
DGM 3780	Web Tools and Frameworks II	3
DGM 3790	Rich Internet Application Development I	3
DGM 4790	Rich Internet Application Development II	3
	Sub-Total	27
Emphases Electives for Web and Application Development Emphasis—Complete 14 credits from the following:		
CS 1400 or INFO 1200	Fundamentals of Programming (3.0) or Computer Programming I for IS/IT (3.0)	
CS 1410 or INFO 2200	Object-Oriented Programming (3.0) or Computer Programming II for IS/IT	
CS 2420	Introduction to Algorithms and Data Structures (3.0)	
DGM 2260	Immersive Authoring I (3.0)	
DGM 2270	Digital Publishing I (3.0)	
<b>DGM 2341</b>	<b>Digital Output for Mobile Media (3.0)</b>	
DGM 3261	Authoring for Virtual Reality Experiences (3.0)	
DGM 3280	Authoring for Adaptive Media I (3.0)	
<b>DGM 4280</b>	<b>Authoring for Adaptive Media II (3.0)</b>	
	Sub-Total	14

\*As an agreement between the Digital Media Department and the Art Department, The Web Design and Development degree will require ART 1420 Introduction to Graphic Design (no prerequisites) and ART 1410 Typography and Layout I. ART 1410 has two prerequisites: ART 1120 2-D Design and ART 1400 Graphic Computer Applications. These prerequisites will be substituted for DGM students with the alternate prerequisites of DGM 1110 and DGM 2250.

### Program Schedule for Web Design and Development > Web and Application Development Emphasis

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
ART 1420	Introduction to Graphic Design	3
DGM 1110	Digital Media Essentials I	4
MATH 1030 MATH 1040 MATH 1050	Quantitative Reasoning Introduction to Statistics College Algebra	3
American Institutions	See List	3



Fine Arts	See List	3
	<b>Semester total:</b>	16
<b>Spring of First Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 2120	Web Essentials	3
DGM 2240	Interaction Design	3
DGM 2250	Principles of Digital Design	3
ENGL 1010	Introduction to Writing	3
DGM Elective	See List	3
	<b>Semester total:</b>	15

<b>Fall of Second Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 2271	Digital Design I	3
DGM 1600	Introduction to Scripting	3
ENGL 2010 or ENGL 2020	Intermediate Writing – Humanities/Social Sciences Intermediate Writing – Science and Technology	3
DGM Elective	See List	3
HLTH 1100 or PES 1097	Personal Health and Wellness Fitness for Life	2
	<b>Semester total:</b>	14
<b>Spring of Second Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 2740	Principles of Web Languages	3
DGM 2760	Web Languages I	3
DGM 2780	Web Tools and Frameworks I	3
Biology	See List	3
Social/Behavioral Science	See List	3
	<b>Semester total:</b>	15

<b>Fall of Third Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
PHIL 2050	Ethics and Values	3
DGM 3740	Web Content Management	3
DGM 3760 or INFO 3422	Web Languages II or PHP Web Application Development	3

DGM 3780	Web Tools and Frameworks II	3
DGM 3790	Rich Internet Application Development I	3
	<b>Semester total:</b>	15
<b>Spring of Third Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 3110	Corporate Issues in Digital Media	3
DGM 3220	Digital Media Project Management	3
DGM 3271	Digital Design II	3
DGM 3750	Media Traffic and Analytics	3
DGM 4790	Rich Internet Application Development II	3
	<b>Semester total:</b>	15

<b>Fall of Forth Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM Elective	See List	2
Biology or Physical Science	See List	3
COMP 301R	Digital Lecture Series	1
DGM 312G	Digital Media for Intercultural Communication	3
DGM 4310	Senior Projects I	3
DGM 4000	Writing for Digital Media	3
	<b>Semester total:</b>	15
<b>Spring of Forth Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 4410	Senior Projects II	3
Physical Science	See List	3
Humanities	See List	3
DGM Elective	See List	3
DGM Elective	See List	3
	<b>Semester total:</b>	15

**Program Schedule for Web Design and Development > Interaction and Design Emphasis**

<b>Fall of First Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
Art 1420	Introduction to Graphic Design	3

DGM 1110	Digital Media Essentials I	4
MATH 1030 MATH 1040 MATH 1050	Quantitative Reasoning Introduction to Statistics College Algebra	3
American Institutions	See List	3
Fine Arts	See List	3
	<b>Semester total:</b>	16
<b>Spring of First Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
ART 1410	Typography I	3
DGM 2120	Web Essentials	3
DGM Elective	DGM Elective See List	2
Humanities	Humanities See List(choose one)	3
ENGL 1010	Intro to Writing	3
	<b>Semester total:</b>	14

<b>Fall of Second Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 2240	Interaction Design	3
DGM 2271	Digital Design I	3
DGM 2341	Digital Output for Mobile Media	3
DGM Elective	See List	3
Biology	See List	3
	<b>Semester total:</b>	
<b>Spring of Second Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 2260	Immersive Authoring I	3
DGM 2270	Digital Publishing I	3
DGM 2250	Principles of Digital Design	3
Biology or Physical Science	See List	3
Social of Behavioral Science	See List	3
	<b>Semester total:</b>	15

<b>Fall of Third Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
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DGM 3261	Authoring for Virtual Reality Experiences	3
DGM 3240	Interaction Design Colloquium	3
DGM 3260	Immersive Authoring II	3
COMP 301R	Digital Lecture Series	1
ENGL 2010 or ENGL 2020	Intermediate Writing – Humanities/Social Sciences Intermediate Writing – Science and Technology	3
HLTH 1100 or PES 1097	Personal Health and Wellness Fitness for Life	3
	<b>Semester total:</b>	16
<b>Spring of Third Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 3270	Digital Publishing II	3
DGM 3271	Digital Design II	3
DGM 3280	Authoring for Adaptive Media I	3
DGM 3110	Corporate Issues in Digital Media	3
DGM 3220	Digital Media Project Management	3
	<b>Semester total:</b>	15

<b>Fall of Forth Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 4310	Senior Projects I	3
DGM 3750	Media Traffic and Analytics	3
DGM 4610	Designing Technology-based Training	3
DGM 4000	Writing for Digital Media	3
DGM Elective	See List	3
	<b>Semester total:</b>	15
<b>Spring of Forth Year (Course Prefix and Number)</b>	<b>Course Title</b>	<b>Credit Hours</b>
DGM 4410	Senior Projects II	3
Physical Science	See List	3
DGM 312G	Digital Media for Intercultural Communication	3
PHIL 2050	Ethics and Values	3
DGM Elective	See List	3
	<b>Semester total:</b>	15

## Section VII: Faculty

Thor Anderson..... Ph.D. in Instructional Technology, Utah State University  
Trudy Christensen ..... Ph.D. in Instructional Psychology and Technology, BYU  
Paul Cheney..... Ph.D. in Instructional Technology, University of Virginia  
Li Liu..... Ph.D. in Computer Science, University of Alabama  
Rodayne Esmay .....MFA in Illustration, Syracuse University  
Anthony Romrell ..... MFA in Animation, Utah State University  
Marty Clayton ..... MFA in 2D and 3D Animation, Savannah College of Art and Design  
Arlen Card ..... MA in Music, Brigham Young University  
Mike Wisland .MS in Electrical Engineering Digital Signal Processing, Missouri Institute of Science & Technology  
Mike Harper.....MS in Geography Education, Utah State University  
Kim Brown .....MA in Instructional Technology, Utah State University  
Dennis Lisonbee.....MA in Communication, Brigham Young University  
Robert Trim..... MBA in Business, University of Phoenix