

DIGITAL MEDIA ARTS (BS)

Director: Ben Dunkle, MFA

Introduction

The Digital Media Arts (DMA) program, offered through the Communication Studies Department, focuses on converging fields of digital design, animation, video and interactive media. DMA majors take a core set of courses and choose one or more concentrations to specialize in web design, graphic design, digital filmmaking and game design. Students often complete dual majors and minors that combine important cross-functional skill sets, including Communication Studies, Business/Marketing, Computer Science, Fine Arts and others. For more information, please go to the DMA website (<https://www.canisius.edu/academics/programs/digital-media-arts>).

Qualifications

Digital Media Arts majors must have a cumulative GPA of at least 2.00, including a minimum grade of C- in all digital media arts courses. It is expected that students in the program must have a GPA much higher than 2.0 to continue as a DMA major and all majors are subject to review relative to their continuation in the program. Transfer students and students changing their major to DMA should meet with the program director to develop an appropriate course of action based on transferred courses, previous coursework and student's interests.

Advisement

All students should have an advisor in the major and should contact the department directly to have an advisor assigned if they do not already have one. Meetings with academic advisors are required prior to students receiving their PIN for course registration each semester. All majors should work closely with their advisor in discussing career expectations, choosing their major electives, developing their entire academic program and planning their co-curricular or supplemental academic experiences.

Digital Media Arts majors are assigned a Communication Studies Department faculty adviser in the fall of their freshman year.

A Unique Learning Environment

State-of-the-art facilities provide a 100% hands-on approach to learning. Students learn how to use cutting-edge software, including Adobe Creative Cloud, Final Cut Pro, Ableton Live, Maya, Mudbox, Unity game engine and a wide range of web development tools, including WordPress content management and blogging software — all running at with the most up-to-date versions available. Our HD (high definition) video equipment, green screen and media center allow student to create professional grade films and TV programs.

Double Majors

Students who wish to expand their educational opportunities may decide to declare a double major. The decision may be based on career goals or planned graduate studies. Before a student declares a double major, it is important to meet with the appropriate academic departments for advisement. Some double major combinations can be completed within the minimum 120 credit hour degree requirement, but in some cases additional course work may be required. In order to declare a double major, the student must complete the appropriate double major request form and get the signature of each department chairperson and the appropriate associate

dean. Please note that students will receive only one degree, regardless of the number of majors they complete.

IMPORTANT: Students should carefully examine the rules for dual majors in the department handbook (available in the department office).

Learn Outside the Classroom

Students in the DMA program have numerous opportunities to engage in theoretical and applied research with faculty and third-party institutions. Our faculty is highly engaged in local community of designers, artists, developers and filmmakers, and as a result our students can take advantage of opportunities to learn and practice real-world skills and collaborate with professionals in their area of interest. Some of these opportunities include: Canisius College Video Institute, WordCamp Buffalo, Buffalo Game Space, DMA Student Club, Fusion Gaming Society, Communication Studies Internship Program, Canisius Earning Excellence Program, among others. For more information, please visit our Extended Learning Opportunities page (<https://www.canisius.edu/academics/programs/digital-media-arts/digital-media-arts-extended-learning-opportunities>).

Internships

DMA students are encouraged to participate in at least one internship within their area of interest. All internships require prior approval and are available to juniors and seniors who meet the criteria. Internships are a culminating opportunity to apply the theory and skills developed in the classroom, in a real-world setting. Some examples of companies where Canisius students have interned are: WGR-55, Snyacor Inc., Moog Inc., Moore Wallace, Perfect Parallel, Chameleon Communications, Eastco Multimedia Solutions, Buffalo Science Museum, Daily Post, Buffalo Spree magazine, Traffic East Magazine, The Martin Group, Computers for Children Inc., among others.

Minors in Other Disciplines

Minors provide students the opportunity to pursue additional interests but generally do not require as many courses as a major. Minors generally range from five to eight required courses. The minors page (<http://catalog.canisius.edu/undergraduate/minors>) provides a complete list of minors and provides links to each minor. Some majors and minors can be completed within the minimum 120 credit hour degree requirement, but in some cases additional coursework may be required. Students must complete the appropriate minor request form.

Curriculum

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All undergraduate students must complete either the Canisius Core Curriculum (<http://catalog.canisius.edu/undergraduate/academics/curricular-information/core-curriculum>) or the All-College Honors Curriculum (<http://catalog.canisius.edu/undergraduate/academics/curricular-information/all-college-honors-program>). Many schools refer to their college-wide undergraduate requirements as "general education" requirements. We believe that the core curriculum and the honors curriculum are more than a series of required classes; they provide the basis for a Jesuit education both with content and with required knowledge and skills attributes that are central to our mission.

Free Electives

Students may graduate with more but not less than 120 credit hours. Free electives are courses in addition to the Core Curriculum or Honors Curriculum and major requirements sufficient to reach the minimum of 120 credit hours required for graduation.

Major Requirements

The Digital Media Arts degree in the Communication Studies Department focuses on design for web and print, video production/post-production, 3D modeling, animation, interaction and game design in a 13-course, 39-credit major. The program is organized into 4 concentrations to help students choose DMA elective courses that are most relevant to their area of study. These concentrations are: graphic design, web design, digital filmmaking and game design. State-of-the-art facilities are featured at the Digital Media Arts' home in Lyons Hall. For more information, please visit the courses and curriculum section of the DMA website (<http://www.canisius.edu/dma/courses>).

Code	Title	Credits
DMA 201	Introduction to Digital Media	3
DMA 212	2D Graphics	3
DMA 213	3D Graphics	3
DMA 214	Digital Design Concepts	3
DMA 215	Digital Media Culture	3
DMA 216	Digital Media Law	3
DMA 217	Interaction Design	3
DMA 218	Motion Graphics	3
Total Credits		24

Senior Project and Portfolio Requirement

Digital Media Arts majors are required to complete a Senior Project and Portfolio course before graduating from the program. Students register for the course with a professor's approval based on their progress in the major and chosen concentration. The following DMA electives fulfill this requirement for each of the concentrations:

Code	Title	Credits
Graphic Design		
DMA 363	Print Design	3
DMA 393	Advertising Design	3
Web Design		
DMA 370	Designing for Mobile Devices	3
DMA 442	Advanced Web Design	3
Digital Filmmaking		
DMA 399	Social Documentary (qualifies as Core Capstone)	3
Game Design		
DMA 450	Serious Games	3
DMA 354	Game Development	3

DMA Elective Courses by Concentration

In addition to DMA major requirements, students complete 5 courses in a given concentration, one of which fulfills Senior Project and Portfolio requirement. A number of courses from other programs such as Fine Arts Studio (FAS) or Communication Studies (COM) or Computer Science (CSC) count as DMA electives, however, at least 3 out of 5 electives have to have a DMA prefix (e.g. DMA 395 - Digital Illustration)

Graphic Design

Graphic design is an integral component of communication studies and digital media arts. It's how we present what we're trying to say. Talented and skilled graphic designers are in demand in a wide range of areas, including advertising/marketing industries, education institutions, athletics departments, corporations, and non-profits. As a student in this

concentration, you will complete projects focusing on typography, color theory, layout, and illustration in a wide-ranging field of applications and formats. You'll become an expert in creativity-focused software such as Adobe Photoshop and Adobe Illustrator. You'll learn to be a creative problem solver, designing unique, engaging and visually dynamic solutions to complex problems. And you'll build a stunning portfolio that proves it.

For more information about Graphic Design concentration, please e-mail Professor Ben Dunkle (dunkleb@canisius.edu).

Graphic Design Courses

Code	Title	Credits
DMA Courses		
DMA 363	Print Design	3
DMA 384	Typography	3
DMA 395	Digital Illustration	3
DMA 393	Advertising Design	3
Qualified Non-DMA Courses		
COM 311	Principles of Advertising	3
COM 315	Advertising and the Creative Process	3
FAS 110	Two-Dimensional Design	3
FAS 130	Three-Dimensional Design	3
FAS 120	Drawing I	3
FAS 140	Introduction to Still Photography	3
FAS 150	Color	3
FAS 170	Studio Painting I	3
PHI 291	Philosophy of Art	3

Web Design

The web design concentration will equip students with the skills and understanding needed to succeed in a constantly evolving field. Fluency in front-end technologies such as HTML, CSS, JavaScript are supplemented with core design skills. Advanced topics include WordPress, PHP, MySQL, e-commerce, social media and server management. Graduates can expect to meet the growing industry demand for web designers with a degree, portfolio and resume uniquely positioned to help them succeed.

For more information about Web Design concentration, please e-mail Professor Ben Dunkle (dunkleb@canisius.edu).

Web Design Courses

Code	Title	Credits
DMA Courses		
DMA 342	Introduction to Web Design	3
DMA 370	Designing for Mobile Devices	3
DMA 442	Advanced Web Design	3
Qualified Non-DMA Courses		
CSC 108	Introduction to Web Computing	3
CSC 111	Introduction to Programming	3
CSC 380	Web Development	3
FAS 141	Digital Photography	3
ISB 455	ECommerce	3
ISB 470	Cyber Security	3

Digital Filmmaking

Advances in SRL, GoPro and 4K digital cinema cameras have brought filmmaking workflows to the computer lab. Digital Media Arts majors combine production skills of working with cameras, lighting, broadcast

and audio equipment through the Digital Filmmaking Concentration. DMA filmmaking alums work as professional Independent Filmmakers, Commercial Video Producers, Editors, Motion Graphics and Special Effects Artists.

For more information about Digital Filmmaking concentration, please e-mail Professor Jamie O'Neil (oneilj@canisius.edu).

Digital Filmmaking Courses

Code	Title	Credits
DMA Courses		
DMA 385	Digital Filmmaking	3
DMA 387	Commercial Filmmaking & Video	3
DMA 399	Social Documentary	3
DMA 309	Music Technology	3
DMA 310	Digital Audio/Music Production	3
Qualified Non-DMA Courses		
COM 325	Media Literacy	3
COM 361	Introduction to TV Production	3
COM 374	Film History	3
COM 375	Film Classics	3
COM 376	Film Genres	3
COM 491	Video Institute I	3
COM 492	Video Institute II	3
ENT 201	Entrepreneurial Mind-Set and Foundations	3
SOC 324	Visual Sociology	3

Game Design

Why study game design? The video game industry has been driven by phenomenal technological innovation and creativity. It's a constantly growing field and is expanding into areas such as simulation (e.g. medical, sports and product simulations), advertising, training and education, moving well beyond pure entertainment. As a Digital Media Arts major concentrating in Game Design, you will learn game design theory and history, character design, character animation, level design and mobile game development, using cutting-edge, industry standard tools. Students are also encouraged to take courses in Fine Arts Studio to strengthen their artistic skills as well as in Computer Science to learn more about the programming aspect of game development.

For more information about Game Design concentration, please e-mail Dr. P.J. Moskal (moskalp@canisius.edu).

Game Design Courses

Code	Title	Credits
DMA Courses		
DMA 346	Video Games-History/Technique	3
DMA 347	Electronic Game Design	3
DMA 351	Game Level Design	3
DMA 352	Character Design	3
DMA 354	Game Development	3
DMA 355	Character Animation	3
DMA 371	Game Design for Mobile Devices	3
DMA 450	Serious Games	3
Qualified Non-DMA Courses		
CSC 111 & 111L	Introduction to Programming and Introduction to Programming Laboratory	4

CSC 112 & 112L	Data Structures and Data Structures Laboratory	4
CSC 127 & 127L	Introduction to Game Design and Intro to Game Design Laboratory	4
CSC 360 & 360L	Intelligent Systems and Intelligent Systems Laboratory	4
FAS 120	Drawing I	3
FAS 131	Sculpture I	3
FAH 109	History of Architecture	3
PHI 291	Philosophy of Art	3

Learning Goals & Objectives

Student Learning Goal 1

Majors will design and construct effective messages through the use of digital tools.

Student work will:

- Objective A: Show awareness of "target audience" or demographic;
- Objective B: Exhibit control of focal point and control of visual attention of audience;
- Objective C: Exhibit clarity in communication, visual impact, aesthetic appeal;
- Objective D: Exhibit understanding of how to present portfolio and discuss his/her work.

Student Learning Goal 2

Majors will evince technical prowess in digital media.

Students will:

- Objective A: Execute a project that makes optimal use of software, coding/programming languages, and platforms;
- Objective B: Carry out basic tasks in a wide variety of digital media areas, including interactive design, digital video and audio editing, graphic manipulation, digital illustration, digital typography, 3-d modeling and animation;
- Objective C: Understand and be able to define concepts and terminology pertaining to a wide variety of digital media areas.

Courses

DMA 201 Introduction to Digital Media **3 Credits**
 Introduces the fundamentals of digital systems and technologies through class lecture and hands-on approaches. Software and hardware used for web design, multimedia, video production, graphics and audio production.
Fulfills College Core: Field 3 (Literature and the Arts)
Offered: every fall & spring.

DMA 212 2D Graphics **3 Credits**
 This course will familiarize students with techniques, file formats and applications for creation of 2D graphics. Students will develop digital image creation skills along with effective workflow habits.
Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.
Offered: every spring.

- DMA 213 3D Graphics** 3 Credits
This course is an introduction to digital 3D graphics for illustration, simulation, animation and game design. Students using Autodesk Maya, Mudbox and Unity game engine software will learn basic techniques of modeling, texturing, lighting and animation as they draw inspiration for their projects from the rich history of visual arts. This course is a prerequisite for all 300 level production courses that are part of the Game Design concentration.
Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.
Fulfills College Core: Field 3 (Literature and the Arts)
Offered: every spring.
- DMA 214 Digital Design Concepts** 3 Credits
Introduces the conceptual, perceptual and manual skills in traditional graphic design. Topics include typography and visual communication, color theory, the principles of form, structure, spatial design and photo manipulation.
Fulfills College Core: Field 3 (Literature and the Arts)
Offered: on campus every fall, and online every summer.
- DMA 215 Digital Media Culture** 3 Credits
Explores how digitization impacts our personal, business, cultural, institutional and international lives. Also examines the ways in which digital media transform communication and expression.
Fulfills College Core: Field 5 (Social Sciences)
Offered: every fall.
- DMA 216 Digital Media Law** 3 Credits
Introduces a wide range of legal and ethical issues in cyberspace, including: the First Amendment, copyright, fair use, libel, hate speech, pornography, obscenity, privacy, commercial speech and national security.
Offered: every spring.
- DMA 217 Interaction Design** 3 Credits
This course is an introduction to programming for designers using JavaScript and JavaScript based libraries such as JQuery, CreateJS and JavaScript for Unity game engine. Students will learn principles of Interaction Design and User-Centered Design to build interactivity into web pages for the purpose of advertising, training and entertainment.
Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.
Offered: every fall.
- DMA 218 Motion Graphics** 3 Credits
This course covers the fundamentals of key-frame based animation in Adobe After Effects. Students produce motion graphics for informational presentations, such as commercials and PSAs, as well as typographic effects and logo spins for movie trailers, video intros and promotional digital marketing projects.
Offered: every fall.
- DMA 309 Music Technology** 3 Credits
Explore music sequencing, midi, audio plug-ins and other tools used by professional musicians, sound designers and multimedia specialists. No music background required.
- DMA 310 Digital Audio/Music Production** 3 Credits
Learn fundamental techniques of digital audio and music production using current technologies in digital recording, software and audio post-production. Discuss current trends in audio production and the tools used for composing electronic music. No music background required.
Fulfills College Core: Field 3 (Literature and the Arts)
- DMA 342 Introduction to Web Design** 3 Credits
Introduction to the state of the art, on-line multimedia publishing. Working individually and in teams, students learn to publish well-designed World Wide Web documents that communicate effectively.
- DMA 346 Video Games-History/Technique** 3 Credits
This course provides an analytical and historical approach to the advancement of entertainment software. Encompassing cultural, professional, business, and scientific and technical evolution, the History of Video Games will communicate the socio-cultural impact of interactive entertainment on society.
- DMA 347 Electronic Game Design** 3 Credits
This course covers the art, craft and business of creating electronic games. Develop your own game concept, learn the basics of interactive authoring and produce a storyboard. Emphasis is placed on understanding the gaming industry and the languages of game design.
- DMA 351 Game Level Design** 3 Credits
Creating a game level takes planning, artistic and technical skill, user testing, and understanding of designer's vision. In this course students learn how to design game levels that provide challenges, support the story and are exciting to explore and interact with.
Prerequisite: minimum grade of C- in DMA 213 or permission of instructor.
- DMA 352 Character Design** 3 Credits
This course is a comprehensive overview of 3D character design and development for games and simulations. Students start the process with concept sketches, then continue with modeling and rigging. The final result is an optimized, fully rigged character, ready for animation and real-time rendering in a game engine.
Prerequisite: minimum grade of C- in DMA 213 or permission of instructor.
- DMA 354 Game Development** 3 Credits
This course is a hands-on overview of interactive techniques and game design approaches for development of games and simulations. Students explore concepts of procedural rhetoric, interactive storytelling, iterative design and teamwork as they develop a working prototype of a game or simulation.
Prerequisite: minimum grade of C- in DMA 213 or permission of instructor.
Offered: fall of even-numbered years.
- DMA 355 Character Animation** 3 Credits
Character animation is one of the most important elements of game design. Students learn essential techniques and principles to create convincing, interactive character animations for games and simulations.
Prerequisite: DMA 213 or permission of instructor.
- DMA 363 Print Design** 3 Credits
Focuses on critical topics in layout, folding, binding and printing, as well as critical/creative issues in magazine, publication and high-end corporate design.
Prerequisite: minimum grade of C- in DMA 212 or DMA 214.
Offered: spring of odd-numbered years.
- DMA 370 Designing for Mobile Devices** 3 Credits
Proliferation of mobile devices in our society has had great effect on how information is distributed, how content is produced and how people interact with digital content. In this course students learn how to create and design content targeted for mobile screens, and how to take advantage of mobile specific functionality such as touch, multi-touch, GPS and accelerometer.
Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.
Offered: spring of even-numbered years.
- DMA 371 Game Design for Mobile Devices** 3 Credits
Mobile platforms have become very popular for distribution of games. In this course students learn how to design and develop 2D and 3D mobile games with user-centric approach. Students explore game design techniques that take advantage of mobile specific hardware functionality such as: accelerometer, multi-touch and GPS.
Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.

<p>DMA 384 Typography 3 Credits</p> <p>This course will focus on typography as an element of graphic design. Through assignments, class discussion, and reading, students can expect a greater understanding of how typography can enhance creativity and communication.</p>	
<p>DMA 385 Digital Filmmaking 3 Credits</p> <p>This course introduces advanced SLR and digital cinema camera lens techniques for narrative filmmaking (shooting dramatic and comedic scenes). Production demos include lighting for filmmaking, boom mics, and camera support systems for dolly, crane and steady-cam shots. Final Cut and Adobe Premiere software is used to learn the techniques of narrative film editing.</p> <p>Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.</p>	
<p>DMA 387 Commercial Filmmaking & Video 3 Credits</p> <p>Students create short-form TV and Web video commercials, learn camera and lens techniques for shooting action B-roll (sports, how-to, music video etc.) promotional videos, and branded films. This course also covers wireless audio and LED lighting equipment for run-and-gun interview shooting, a crucial skill for broadcast, advertising or documentary work.</p> <p>Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.</p>	<p>DMA 450 Serious Games 3 Credits</p> <p>This course is an overview of a growing genre of Serious Games or games for purposes other than entertainment. Students learn about games for education, health, social change, marketing and training. The course concludes with a working prototype of a serious game, developed by small teams of students. This course fulfills Senior Project and Portfolio requirement for Game Design concentration.</p> <p>Prerequisite: minimum grade of C- in DMA 351, or DMA 354, or DMA 371, or permission of instructor.</p> <p>Offered: fall of odd-numbered years.</p>
<p>DMA 393 Advertising Design 3 Credits</p> <p>Offers experienced design students a series of challenging projects and exercises, characteristic of those found in the advertising industry. Projects will undergo proposal, development, and critique in a group setting. Projects will be done in collaboration with COM 320-Advertising Writing. This course fulfills Senior Project and Portfolio requirement for Graphic Design concentration.</p> <p>Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.</p> <p>Offered: spring of even-numbered years.</p>	<p>DMA 488 Internship I Seminar 3-9 Credits</p> <p>Student experientially learns communication functions in compatibly matched professional setting, locally or out-of- town. Faculty and on-site supervision. Seminar required. Pass/fail. May be repeated as DMA 498, 12-credit limit for DMA 488 and DMA 498 combined. Applications on Communication Studies Department website.</p> <p>Prerequisite: junior or senior standing, minimum overall GPA of 2.50, minimum digital media arts average of 2.70, & approval by department faculty.</p> <p>Offered: fall & spring.</p>
<p>DMA 395 Digital Illustration 3 Credits</p> <p>Don't violate copyrighted imagery off the web -- create your own! You don't have to know how to draw to create stunning graphics. Use Adobe CS to learn approaches, techniques and current trends of professional illustrators.</p> <p>Prerequisite: minimum grade of C- in DMA 201 or permission of instructor.</p>	<p>DMA 491 Video Institute I 1-3 Credits</p> <p>Students produce significant projects in video, film, and television. See Dr. Irwin or Professor O'Neil for additional information.</p>
<p>DMA 399 Social Documentary 3 Credits</p> <p>This course fulfills the Senior Project and Portfolio requirement for the Digital Filmmaking concentration. Students examine a survey of important documentary photographers and filmmakers in order to understand the social function and ethical issues of documentary images. With the skills of the filmmaker, students realize how engagement with social issues is a key ingredient to their professional success in the industry.</p> <p>Prerequisite: minimum grade of C- in DMA 201, JRN 201, or permission of instructor.</p> <p>Fulfills College Core: Core Capstone</p> <p>Offered: every spring.</p>	<p>DMA 492 Video Institute II 3 Credits</p> <p>Students produce significant projects in video, film, and television. See Dr. Irwin or Professor O'Neil for additional information.</p> <p>Prerequisite: DMA 491</p>
<p>DMA 442 Advanced Web Design 3 Credits</p> <p>This course is for students with a serious interest in web design. It aims to explore the current state of web design techniques and trends including responsive web design, custom WordPress themes, and e-commerce development. This course fulfills Senior Project and Portfolio requirement for Web Design concentration.</p> <p>Prerequisite: minimum grade of C- in DMA 342, or CSC 108, or DMA 217, or permission of instructor.</p> <p>Offered: spring of odd-numbered years.</p>	<p>DMA 493 Video Institute III 3 Credits</p> <p>Students produce significant projects in video, film, and television. See Dr. Irwin or Professor O'Neil for additional information.</p> <p>Fulfills College Core: Core Capstone</p> <p>DMA 494 Video Institute IV 3 Credits</p> <p>Students produce significant projects in video, film, and television. See Dr. Irwin or Professor O'Neil for additional information.</p> <p>Fulfills College Core: Core Capstone</p> <p>DMA 499 Independent Study 3 Credits</p> <p>Independent studies require an application and approval by the associate dean.</p> <p>Prerequisite: permission of the instructor, department chair, & associate dean.</p>