

# Multimedia Arts & Technologies

Multimedia is a field of study and an industry emerging from the synthesis of communication networks and cross-disciplinary media development processes. The advent of digital technologies, media authoring, storage and distribution, in conjunction with traditional media production processes, has created this confluence of what is often referred to as new media, digital media or multimedia.

The Multimedia Arts curriculum develops students' aesthetic and technical competence by providing training in state-of-the-art software, production processes, theory and concepts. The program prepares students for employment in applied media industries or for transfer to media programs at 4-year institutions. Our courses give students a core background in art, design and technical skills in media development, production and distribution.

Currently, the program offers two fields of study with a number of electives. These electives range in specialization from web design and development authoring, sound design and engineering, to 3-D animation and effects compositing. Students may seek an Associate in Arts Degree or pursue a more rigorous and concentrated Certificate.

Along with faculty and staff who bring a passion for teaching and support into the classroom, our program offers a state-of-the-art Digital Arts Center, including over 150 computers, scores of scanners, digital design, editing, animation and audio workstations, along with digital video/still cameras, lighting equipment and a video production studio.

## Faculty & Offices

Michael Gallegos, *Chair* (A-170, ext. 2914)  
 Stephen DaVega (A-175, ext. 3570)  
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## Degrees, Certificates and Skills Competency Award

Associate in Arts Degree, Media Arts  
 Certificate of Achievement, Media Arts  
 Associate in Arts Degree, Animation  
 Certificate of Achievement, Animation  
 Skills Competency Award,  
 Web Marketing & Media Design  
 Skills Competency Award,  
 Media Design & Development  
 Skills Competency Award, Mobile Media Core  
 Department Award, Game Design

### A.A. Degree: Animation

#### Department Requirements (33 units)

##### *Recommended Course Sequence*

##### **Year 1 — Fall**

ART 124A — Classical Animation I .....	3
MAT 131 — Digital Imaging I .....	3
MAT 136/DRFT 136 — Computer Animation I .....	3

##### **Year 1 — Spring**

ART 141 — 3-D Design: Form and Space .....	3
MAT 103 — Introduction to Multimedia .....	3
MAT 137/DRFT 137 — 3-D Effects Animation .....	3

##### **Year 2 — Fall**

MAT 138/DRFT 138 — 3-D Character Animation.....	3
MAT 139/DRFT 139 — 3-D Lighting and Rendering .....	3
FP 181 — Principles of Audio Production <i>or</i> .....	3

One course from Elective course list below.

##### **Year 2 — Spring**

MAT 133 — Digital Imaging III <i>or</i> .....	3
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One course from Elective course list on next page.

MAT 201 — Multimedia Arts Practicum <i>or</i>	
MAT 205 — Portfolio Development and Professional Practices .....	3

**Elective Courses:**

GDP 118 — Creative Thinking.....	3
MAT 141 — 3-D Modeling .....	3
MAT 145 — Video Game Design.....	3
MAT 152 — Compositing for Animation.....	3
MAT 180 — Introduction to Audio & Video for Multimedia <b>or</b> MUS 121A — Introduction to Audio & Video for Multimedia .....	3
MAT 201 — Multimedia Arts Practicum .....	3
MAT 205 — Portfolio Development and Professional Practices .....	3

*Note: A course may not be used to satisfy more than one requirement (double counting is not allowed).*

**Certificate of Achievement: Animation**

**Department Requirements (39 units)**

*Recommended Course Sequence*

**Year 1 — Fall**

ART 124A — Classical Animation I .....	3
MAT 131 — Digital Imaging I.....	3
MAT 136/DRFT 136 — Computer Animation I .....	3

**Year 1 — Spring**

ART 141 — 3-D Design: Form and Space .....	3
MAT 103 — Introduction to Multimedia .....	3
MAT 137/DRFT 137 — 3-D Effects Animation .....	3

**Year 2 — Fall**

MAT 138/DRFT 138 — 3-D Character Animation.....	3
MAT 139/DRFT 139 — 3-D Lighting and Rendering .....	3
FP 181 — Principles of Audio Production <b>or</b> .....	3

One course from Elective course list to follow.

**Year 2 — Spring**

MAT 133 — Digital Imaging III <b>or</b> .....	3
One course from Elective course list below.	
MAT 145 — Video Game Design <b>or</b> .....	3
One course from Elective course list below.	
MAT 152 — Compositing for Animation <b>or</b> .....	3
One course from Elective course list below.	
MAT 201 — Multimedia Arts Practicum <b>or</b> MAT 205 — Portfolio Development and Professional Practices .....	3

**Elective Courses:**

GDP 118 — Creative Thinking.....	3
MAT 141 — 3-D Modeling .....	3
MAT 180 — Introduction to Audio & Video for Multimedia <b>or</b> MUS 121A — Introduction to Audio & Video for Multimedia .....	3
MAT 201 — Multimedia Arts Practicum .....	3
MAT 205 — Portfolio Development and Professional Practices .....	3

*Note: A course may not be used to satisfy more than one requirement (double counting is not allowed).*

**A.A. Degree: Media Arts**

**Department Requirements (33-34 units)**

ART 120 — Fundamentals of Drawing.....	3
ART 140 — 2-D Design: Composition and Color .....	3
GDP 114 — Graphic Design.....	3
MAT 103 — Introduction to Multimedia .....	3
MAT 116 — Flash I .....	3
MAT 131 — Digital Imaging I.....	3
MAT 153 — Web Design I .....	3
MAT 201 — Multimedia Arts Practicum <b>or</b> MAT 205 — Portfolio Development and Professional Practices .....	3

Select three courses from the following:\*\*

CIS 107 — Database Systems.....	4
CS 111 — HTML, Web Technologies and Webmastering .....	3
CS 115 — JavaScript and Dynamic HTML.....	3
CS 116 — Web Server Programming.....	3
FP 181 — Principles of Audio Production.....	3
GDP 118 — Creative Thinking.....	3
MAT 117 — DVD Authoring .....	3
MAT 121 — Computer Interface Design.....	3
MAT 133 — Digital Imaging III.....	3
MAT 140 — Designing Online Educational Materials.....	3
MAT 154 — Web Design II: Integration .....	3
MAT 155 — Web Design III: Advanced .....	3
MAT 180 — Introduction to Audio and Video for Multimedia <i>or</i> .....	3
MUS 121A — Introduction to Audio and Video for Multimedia .....	3
MAT 182 — Webcasting.....	3
MAT 201 — Multimedia Arts Practicum.....	3
MAT 205 — Portfolio Development and Professional Practices.....	3
MAT 216 — Flash II.....	3
MUS 120A — Sound Recording and Electronic Music.....	3
MUS 120B — Sound Recording and Electronic Music.....	3

\*\*The following courses have been approved by the MAT department as possible substitutes to fulfill the three-course elective requirement: GDP 110, GDP 113, MAT 112, MAT 130, and MAT 132/PHOT 180, MAT 145.

*Recommended Course Sequence: Digital Artists*

**Year 1 — Fall**

ART 140 — 2-D Design: Composition and Color .....	3
MAT 103 — Introduction to Multimedia .....	3
MAT 131 — Digital Imaging I.....	3

**Year 1 — Spring**

ART 120 — Fundamentals of Drawing.....	3
GDP 114 — Graphic Design.....	3
MAT 132/PHOT 180 — Digital Imaging II.....	3

**Year 2 — Fall**

MAT 112 — Digital Drawing.....	3
MAT 133 — Digital Imaging III.....	3
MAT 153 — Web Design I.....	3

**Year 2 — Spring**

MAT 116 — Flash I.....	3
MAT 201 — Multimedia Arts Practicum <i>or</i> MAT 205 — Portfolio Development and Professional Practices.....	3

*Recommended Course Sequence for Web Designers*

**Year 1 — Fall**

ART 140 — 2-D Design: Composition and Color .....	3
MAT 103 — Introduction to Multimedia .....	3
MAT 131 — Digital Imaging I.....	3

**Year 1 — Spring**

ART 120 — Fundamentals of Drawing.....	3
GDP 114 — Graphic Design.....	3
MAT 153 — Web Design I.....	3

**Year 2 — Fall**

MAT 116 — Flash .....	3
MAT 154 — Web Design II: Integration .....	3
GDP 113 — Typography.....	3

**Year 2 – Spring**

MAT 155 — Web Design III: Advanced *or*  
 MAT 216 — Flash II .....3  
 MAT 201 — Multimedia Arts Practicum *or*  
 MAT 205 — Portfolio Development and  
 Professional Practices .....3

*Recommended sequence for Audio Specialists*

**Year 1 — Fall**

ART 140 — 2-D Design: Composition and Color .....3  
 MAT 103 — Introduction to Multimedia .....3  
 MAT 131 — Digital Imaging I .....3

**Year 1 — Spring**

ART 120 — Fundamentals of Drawing .....3  
 GDP 114 — Graphic Design .....3  
 MAT 153 — Web Design I .....3

**Year 2 — Fall**

MAT 116 — Flash .....3  
 FP 181 — Principles of Audio Production .....3  
 MUS 120A — Sound Recording and Electronic Music .....3

**Year 2 — Spring**

MUS 120B — Sound Recording and Electronic Music .....3  
 MAT 201 — Multimedia Arts Practicum *or*  
 MAT 205 — Portfolio Development and  
 Professional Practices .....3

*Note: A course may not be used to satisfy more than one requirement (double counting is not allowed).*

**Certificate of Achievement:  
 Media Arts**

**Department Requirements (27-28 units)**

*Recommended Course Sequence*

**Semester 1**

GDP 110 — Media Design .....3  
 MAT 103 — Introduction to Multimedia .....3  
 MAT 131 — Digital Imaging I .....3

**Semester 2**

GDP 114 — Graphic Design I .....3  
 MAT 153 — Web Design I .....3  
 JOUR 110 — Contemporary Mass Media .....3

**Semester 3**

FS 101 — Introduction to Film *or* .....3  
 FS 101H — Introduction to Film, Honors .....4  
 PHOT 109 — Photo I .....3  
 MAT 201 — Multimedia Arts Practicum *or*  
 MAT 205 — Portfolio Development and  
 Professional Practices .....3

**College Requirements**

For complete information, see “Graduation Requirements” in the *Catalog* Index.

**Skills Competency Award:  
 Web Marketing & Media Design**

**Department Requirements (12 units)**

GDP 110 — Media Design .....3  
 MAT 131 — Digital Imaging I .....3  
 MAT 153 — Web Design I .....3  
 MKT 220/CIS 220 — Introduction to  
 Electronic Commerce .....3

*Students must complete the above courses with a grade of “C” or higher or credit in all courses.*

## Skills Competency Award: Media Design & Development

### Department Requirements (15 units)

CS 128 — Flash Programming.....	1.5
CS 190 — Video Game Programming .....	3
MAT 116 — Flash I.....	3
MAT 145 — Video Game Design.....	3
MAT 178 — Web Design for Mobile Devices.....	1.5
MAT/FP 179 — Media for Mobile .....	3

*Students must complete the above courses with a grade of “C” or higher or credit in all courses.*

## Skills Competency Award: Mobile Media Core

### Department Requirements (6 units)

MAT/MKT 164 — Online and Mobile Marketing .....	3
MAT 176 — Wireless and Media .....	1.5
MAT 177 — Case Studies in Mobile Media .....	1.5

*Students must complete the above courses with a grade of “C” or higher or credit in all courses.*

## Department Award: Game Design

### Department Requirements (15 units)

MAT 116 — Flash I.....	3
MAT 121 – Interface Design .....	3
MAT 131 — Digital Imaging I.....	3
MAT/DRFT 136 — Computer Animation I .....	3
MAT 145 — Video Game Design.....	3

*Students must complete the above courses with a grade of “C” or higher or credit in all courses.*

### Recommended Courses:

MAT 103 — Introduction to Multimedia .....	3
MAT 130 — Fundamentals of Digital Animation .....	3
MAT/DRFT 137 — 3-D Effects Animation.....	3
MAT 290 — Work Experience in Multimedia .....	1-4

### Recommended Course Sequence

#### Semester 1

MAT 131 — Digital Imaging I.....	3
MAT/DRFT 136 — Computer Animation I .....	3

#### Semester 2

MAT 116 — Flash I.....	3
MAT 121 – Interface Design .....	3
MAT 145 — Video Game Design.....	3

## Course Descriptions

### MAT 102 — Web Design Basics (0.5) F, S

Students learn the use of tools for web page design and construction. Includes how to insert images, make links, create tables, use html, and manage websites by creating actual web pages.

### MAT 103 — Introduction to Multimedia (3) F, S — CSU, UC

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to multimedia, including production processes, tools, techniques, trends and design principles and production requirements of interactive multimedia: development for CD-ROM, the World Wide Web, kiosks, portable disks and videotape. Provides a comprehensive look at the concepts and principles of digital media, visual literacy and the influence on business, education, art, science and culture.

### MAT 104 — Digital Imaging Basics (0.5) F, S

Introduction to Adobe PhotoShop digital imaging processes used to create and edit images for various media.

### MAT 105 — Survey of Multimedia Tools (3) F, S — CSU

*Skills Advisories: Eligibility for ENG 100 and ENG 103.  
Course Advisories: MAT 103.*

Overview of tools and applications used to produce interactive multimedia, including software applications, peripherals and hardware. Major applications for design, photo processing, web design, authoring and video. Evaluation and description of the strengths of each program and potential for integration of production applications.

**MAT 107 — Digital Art Tools and Techniques**  
**(3) F, S — CSU**

Use of popular computer art tools (Photoshop, Illustrator and Painter) for creating images and graphics for websites, CDs and print. Covers a range of tasks and functions of each software: tool palettes, customization of settings, masking techniques, filters and plug-ins and file formats. Students learn by creating images and artwork for use in multimedia projects.

**MAT 109/ COMP 137B — Informational Graphics for the Web**  
**(0.5) S**

Overview of how to create and publish web pages, using informational graphics, from existing office application files (MS Word, Excel, PowerPoint, Filemaker, etc.).

**MAT 112 — Digital Drawing**  
**(3) F, S, Summer — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to the powerful computer art tool of Illustrator. Use of Illustrator to create new works of art for various media: print, the web and CD-ROMs. How to use this tool's type, layout features, filters and other applications.

**MAT 113 — Dreamweaver**  
**(3) F, S — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Students learn how to use a popular tool for web page design and construction called Dreamweaver. Includes how to inset images, create frames, make links, use forms, and manage websites by creating actual web pages.

**MAT 115 — Director I**  
**(3) F, S — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to Director, Lingo and Shockwave to produce sophisticated animations and movies. Includes authoring, creating a simple movie using sound and tempo control parameters; interactivity in the form of buttons, looping and nonlinear navigation; creating a projector, stand-alone applications, the elements of scripting, making interactive movies with user feedback and control; cursor commands, behaviors, authoring-level Lingo, multiple movies and casts; lists, parent/child objects, audio files, video files, and Xtras and XObjects.

**MAT 116 — Flash I**  
**(3) F, S, Summer — CSU**

*Course Advisories: MAT 131 and MAT 154.*

Flash, a powerful animation tool for the web, is used to create stunning sites that stream through the bandwidth with vector-based graphics. It allows the creation of fully interactive, fully animated websites that are extremely compact.

**MAT 117 — DVD Authoring**  
**(3) — CSU**

DVD Authoring is for advanced Multimedia students who are interested in showcasing their content in a DVD format. Using audio, video, graphics, animation and text materials that have been previously created and edited, DVD authoring software orchestrates them into a DVD that can be played on a DVD player or a suitably equipped computer.

**MAT 119 — Painter I**  
**(3) F, S — CSU**

Students use Painter software for creating fine art images and graphics for websites, CDs and print. Covers a range of tasks and functions of the software: tool palettes, customization of settings, masking techniques, filters and plug-ins and file formats. Students learn by creating images and artwork for use in multimedia projects.

**MAT 121 — Computer Interface Design**  
**(3) — CSU**

*Prerequisites: MAT 131.*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Advanced Photoshop techniques (filters, masks, postscripts and more) while simultaneously learning principles of human-computer interaction: use of colors, icon, typography and navigation influence on the designing of interfaces. How to design visually pleasing and highly functional screens for multiple uses, including stand-alone kiosks, the web, or CD-ROMs. Students should have solid skills in Photoshop.

**MAT 126 — Introduction to Illustrator**  
**(1.5)**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to the powerful computer art tool of Illustrator. Use Illustrator to create new works of art and illustration for various media. Use Illustrators tools, type, layout features, filters and other applications.

**MAT 127 — Introduction to Dreamweaver  
(1.5)**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Students learn how to use a popular tool for web page design and construction. Includes how to insert images, create frames, make links, use forms, and manage websites by creating actual web pages.

**MAT 128 — Digital Video in Flash  
(1.5)**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Flash, a powerful multimedia tool for the Web, can be used to incorporate compressed digital video into web pages without the need of a video player. Students create custom and dynamic interfaces for their Flash video content, and incorporate traditional flash content, such as animation, bitmap graphics and sound.

**MAT 130 — Fundamentals of Digital  
Animation**

**(3) F, S — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

*Course Advisories: Art 124A*

Introduction to digital animation, including production processes, tools, techniques, trends and opportunities. Examines the issues and limitations of various digital image and animation formats as to resolution, color and motion. Provides an overview of various industries utilizing digital animation, including terminology and methodology.

**MAT 131 — Digital Imaging I**

**(3) F, S, Summer — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to the image processing capabilities of PhotoShop to create and edit images and to prepare images for various media (print, World Wide Web). No prior knowledge of PhotoShop is required, but participants are expected to be proficient with routine computer operations. Includes installation, preferences, tool selections, channels, layers, filters text, paint tools, saving, effects, masks, adjustment layers.

**MAT 132/PHOT 180 — Digital Imaging II  
(3) F, S — CSU**

*Prerequisites: MAT 131.*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

*Course Advisories: PHOT 109*

Fundamentals of digital printing technologies in RGB: creating master archive files for print/web applications; drum scanning negatives, transparencies (slides) and flat art; simulating traditional alternative process; digital infrared and special effects; contrast and curve control; optimum sharpening methods; digital retouching and masking methods; and large format printing. Basic knowledge of Adobe PhotoShop beneficial. Emphasis on creating a digital portfolio through a series of conceptual assignments.

**MAT 133 — Digital Imaging III**

**(3) F — CSU**

*Prerequisites: PHOT 180/MAT 132*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Advanced Photoshop course which builds on skills learned in PHOTO 180/MAT 132. Students work on projects which challenge their creativity and technical ability. Working with this image manipulation software, students develop complex personal projects.

**MAT 136/DRFT 136 — Computer Animation I**

**(3) F, S, Summer — CSU**

*Skills Advisories: MATH 1 and eligibility for ENG 103.*

*Course Advisories: ART 124A and ART 140 and ART 141 and DRFT 131/ENGR 131.*

Fundamentals of computer animation, including modeling, animation and rendering. Focus on computer animation tools and techniques. Builds a solid foundation for developing character animation and special-effect sequences.

**MAT 137/DRFT 137 — 3-D Effects Animation**

**(3) F, S — CSU**

*Prerequisites: DRFT 136/MAT 136.*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Advanced 3-D computer animation course on dynamic effects, utilizing particles, rigid-bodies and soft-bodies. Techniques for creating natural phenomena, such as waterfalls and blowing leaves, are explored along with methods for simulating physical interactions, such as a chair falling down a staircase or a cube of gelatin dropping onto a plate.

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**MAT 138/DRFT 138 — 3-D Character Animation**

**(3) F, S — CSU**

*Prerequisites:* DRFT 136/MAT 136.

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Advanced 3-D computer animation course on character animation, including character design, modeling techniques for bodies, heads, hands and feet, skeletal and muscle systems, facial animation and lip-synching to dialogue.

**MAT 139/DRFT 139 — 3-D Lighting and Rendering**

**(3) F, S — CSU**

*Prerequisites:* MAT 136/DRFT 136.

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Advanced 3-D computer animation course on the art and science of lighting and rendering. Techniques for creating photo-realistic computer-generated imagery explored, including lighting, shadowing, texture mapping and shader manipulation.

**MAT 140 — Designing Online Educational Materials**

**(3) — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103;

*Course Advisories:* MAT 103.

Educators, including multimedia designers, are creating learning experiences that are student-centered, inquiry-oriented, and where interactivity and entertainment are maximized. Students learn instructional design strategies. Role-playing, simulations or problem-based learning are achieved by creating a website that simultaneously educates and entertains. Students select the topic and the audience: corporations, schools or the home-schooled.

**MAT 141 — 3-D Modeling**

**(3) F, S — CSU**

*Prerequisites:* MAT 136/DRFT 136

Fundamentals of 3-D modeling, texturing, lighting and rendering. Focus on 3-D modeling tools and techniques. Builds a solid foundation for designing and modeling products, characters, sets and props for animation, product advertisements, movies and video games.

**MAT 145 — Video Game Design**

**(3) F, S — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103

*Course Advisories:* MAT 103.

Introduces students to the field of computer gaming. A broad historical perspective of the computer gaming industry to understand and identify market trends that determine successful gaming software. Includes how to develop creative script writing, navigational schemes and interface designs for games. Students learn skills by reviewing stellar artifacts and designing and developing a game.

**MAT 146/ENG 146 — Writing for Multimedia (3) — CSU**

*Skills Advisories:* Eligibility for ENG 110 or ENG 110H.

Introduction to the role of creative directors and interactive writers in multimedia projects for commercial, educational or entertainment projects. Includes how to develop storyboards, structure information, develop navigational schemes, and specify interface designs; develop brainstorming and storytelling skills, write for non-linearity, understand target audiences, and captivate attention. Students review stellar artifacts and develop storyboards, interface designs and scripts.

**MAT 152 — Compositing and Visual Effects for Animation**

**(3) F, S, Summer — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Introduction to compositing and visual effects for computer animation. Working with Maya image sequences and alpha channel information. Color manipulation, filtering, keying (blue/green screen processing), camera tracking, rotoscoping and layering are used to create photo-realistic visual effects sequences.

**MAT 153 — Web Design I**

**(3) F, S, Summer — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

*Course Advisories:* ART 140.

Covers the process of designing, publishing and publicizing websites. Students learn how to communicate with clients, create detailed storyboards, negotiate a contract, set production schedules, design interfaces, develop content, and understand the job market in web design. Significant emphasis on designing attractive yet highly functional sites. Course is project-driven where students learn by redesigning a pre-existing website, or creating a new one.



**MAT 154 — Web Design II: Integration**  
**(3) F, S — CSU**

*Prerequisite:* MAT 153.

Students learn how to use popular Web design tools (Image Ready, Dreamweaver and Flash) for optimizing images and creating websites. Covers a range of tasks and functions of each software. Students learn the software by designing and creating a website.

**MAT 155 — Web Design III: Advanced**  
**(3) S — CSU**

*Prerequisites:* MAT 154.

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

*Course Advisories:* MAT 153.

The integration of multimedia elements in website design. Topics include graphics preparation, video, sound and animations on the web, communicating online, and designing for interactivity. Students should be familiar with creating a basic web page, formatting and downloading images, FTP, and understanding website structure. Students develop websites using SoundEdit, Flash, Director's Shockwave, Image Ready and Premiere.

**MKT 164/MAT 164 — Online and Mobile Marketing**  
**(3) — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103

Introduction to those components needed to develop effective online and search engine marketing (SEM) strategies. Emerging digital media and mobile advertising campaign development are emphasized. Includes search engine optimization (SEO), paid placement ads, keyword identification, placement strategies, SEM research and management tools, and advertising applications in mobile marketing and video advertising.

**MAT 176 — Wireless and Media**  
**(1.5) F — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Introduction to the development, formats, specifications and distribution of media as it relates to applications and technologies in wireless networks. Covers the fundamentals of media development and distribution, via applications, telecoms, production companies, platforms, operating systems, technologies and the underlying infrastructures of wireless networks that make this possible.

**MAT 177 — Case Studies in Mobile Media**  
**(1.5) F — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Introduction to case studies in mobile media development and distribution. Covers real world models of mobile media content, entertainment creation and their distribution methods, using existing companies and organizations as examples.

**MAT 178 — Web Design for Mobile Devices**  
**(1.5) S — CSU**

*Course Advisories:* MAT 153 and MAT 154

Introduction to graphic content production for mobile devices. Emphasizes principles of interface design for a small screen and information design for interactivity on a limited area; graphic compression for cell phones; and how to minimize size of graphic-interface elements while keeping the desired appearance.

**MAT 179/FP 179 — Media for Mobile Devices**  
**(3) F, S — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103

*Course Advisories:* FP 114 and FP 170 and FP 175.

Introduction to media production for mobile devices, including the practicalities of producing content for mobile phones, portable gaming consoles and video i-pods. Includes specific format, content and technologies for mobile deployment; distribution of media for both video and audio podcasting; and broadcast protocols to PDAs, phones and other devices.

**MAT 180/MUS 121A — Introduction to Audio and Video for Multimedia**  
**(3) — CSU**

*Skills Advisories:* Eligibility for ENG 100 and ENG 103.

Introduction to the concepts and procedures of multimedia audio and video production, emphasizing the creation, editing and retooling of audio and video files for multimedia projects; fundamentals of camera operation, lighting, nonlinear audio and video editing software and storyboarding for interactive media. Students utilize hard disk recording software, samplers, computers, video recorders and digital editing equipment.

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**MAT 182 — Webcasting**

**(3) — CSU**

*Prerequisites: MAT 180/MUS 121A.*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Webcasting is broadcasting, via the World Wide Web. The concepts and techniques for delivering live and on-demand audio and video broadcasts on the web, digital audio and video processing, compression techniques and interface design. Course utilizes samplers, hard disk recorders, World Wide Web servers and digital audio/video recording and editing equipment.

**MAT 183 — Radio Production I**

**(3) S — CSU**

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Introduction to fundamentals of radio production, including studio and field work. Covers producing, managing, scheduling and broadcasting/multicasting for a modern radio station. Through basic studio exercises and productions, including commercials, public service announcements, interview programs and general programming, students learn the tools of the medium, radio station formats and the creation of radio programming.

**MAT 194 — SOMA Training**

**(0.5)**

Variable-unit course for students who want to gain tutoring skills, including how to organize tutorial sessions, refer students to campus services, help students develop problem-solving strategies, and offer application assistance. Overview of tools and applications used to produce interactive multimedia, including software applications, peripherals and hardware. Major applications for design, photo processing, web design, authoring and video.

**MAT 195 — DVD Authoring Basics**

**(0.5)**

Basics of DVD authoring, including how to author and record a DVD, using state-of-the-art software.

**MAT 196 — Flash Basics**

**(0.5)**

Basic introduction to Flash, a powerful animation tool for the web which allows the creation of fully interactive, fully animated websites that are extremely compact.

**MAT 197— Dreamweaver Basics**

**(0.5)**

Basic introduction to Dreamweaver, a popular tool for web page design and construction.

**MAT 198 — PhotoShop Basics**

**(0.5)**

Basic introduction to the image processing capabilities of PhotoShop to create and edit images and to prepare images for various media.

**MAT 199 — Topics in Multimedia**

**(0.5-3) F, S — CSU**

*Skills Advisories: Eligibility for ENG 100.*

Introduction to basic multimedia skills and applications. A series of .5 to 3-unit workshops featuring multimedia hardware and software, tools and techniques in preparation for the use of multimedia to combine text, sound, video and graphics for a given application. Workshop topics are dynamic and change to reflect industry trends.

**MAT 199A — Topics in Multimedia:**

**Cybersummer — Introduction to Multimedia**

**(1) — CSU**

Abbreviated introduction to multimedia, including production processes, tools, techniques, trends and design principles; production requirements of interactive multimedia development for CD-ROM, the World Wide Web, kiosks, portable disks and videotape. Provides an overview of the concepts and principles governing the world of digital media, visual literacy and the influence on business, education, art, science and culture.

**MAT 200 — Multimedia Development (3)**

**F, S — CSU**

*Course Advisories: MAT 103.*

*Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Students work in collaboration to design and produce small-scale multimedia products. Working with the instructor, students design projects, create storyboards, write scripts, and create media, including interfaces. Students learn the production cycle for multimedia artifacts and how to communicate effectively in multimedia teams.

**MAT 201 — Multimedia Arts Practicum****(3) F, S — CSU***Skills Advisories: Eligibility for ENG 100.*

In this capstone course, Media Arts students are assigned to project teams according to their skills and goals. Collaborating with other students, each team works toward producing a website, video, interactive kiosk, etc., for campus-based or community clients. Course is for the person who has taken several Media Arts courses (web design, audio, video, animation, digital-design) and is nearing completion of the program.

**MAT 205 — Portfolio Development and Professional Practices****(3) F, S — CSU***Prerequisite: MAT 103**Skills Advisories: Eligibility for ENG 100 and ENG 103.**Limitation on Enrollment: Students must have completed all requirements for a degree or certificate, except courses taken concurrently.*

In this final course, students learn how to prepare for media arts careers (web design, digital design, audio, animation and video). Communicating with prospective employers through cover letters and interviews, designing and developing resumes and portfolios/reels, and using online resources for job hunting are covered. Course is for the person who has taken several Media Arts courses (web design, audio, video, animation, digital design) and is nearing completion of the program.

**MAT 206 — Animation Portfolio****(3) F, S — CSU***Prerequisites: MAT 136/DRFT 136.**Skills Advisories: Eligibility for ENG 100 and ENG 103.*

Students learn how to prepare for self-managed and flexible careers in computer animation, including communicating verbally and in writing with prospective employers, designing and developing effective résumés and sample reels, and presenting work or project ideas.

**MAT 213 — Dreamweaver II****(3) — CSU***Skills Advisories: Eligibility for ENG 100 or 103.**Course Advisories: MAT 113.*

Builds on existing knowledge of Dreamweaver and pushes the program to its limits. Integrates a wide variety of multimedia into students' websites, such as Flash, PHP, sound, video and blogging. Students learn by creating more advanced multimedia projects than in Dreamweaver I.

**MAT 216 — Flash II****(3) S — CSU***Prerequisites: MAT 116.*

Students use Flash software for creating web sites, interactive art pieces and animations. Covers a range of tasks and functions of the software: tool palettes, customization of settings, masking techniques, vector graphics, filters and plug-ins, outputting and inputting file formats, and action scripting.

**MAT 290 — Work Experience in Multimedia****(1-4) F, S — CSU***Skills Advisories: Eligibility for ENG 100.**Course Advisories: MAT 103.**Consists of 75-300 hours of work (1-4 units) in employment, plus 2 hours of individual student/faculty conferencing.*

Supervised employment of students with the intent of creating student awareness of work opportunities, assisting them to acquire desirable work habits, and providing them with experiences in multimedia and related industries. Students perform assigned responsibilities as an employee, follow employer's policies, write individual learning objectives, keep a record of time worked, fill out a student data sheet, and secure an employee evaluation.