Arts Technology Communication and Media

**ATCM 1100** Freshman Seminar (1 semester credit hour) This course will introduce incoming freshmen to the intellectual and cultural environment of the School of Arts, Technology, and Emerging Communication. Students will learn about plans of study, career paths, research, and the connections to other fields and disciplines. Required for all freshmen in the School of Arts, Technology, and Emerging Communication; open to all non-ATEC majors. Corequisite: **UNIV 1010**. (1-1) Y

**ATCM 2300** Introduction to Technoculture (3 semester credit hours) In this foundational course students consider about the complex relationship between technology and culture. They will study evocative objects to raise questions about the history, impact, and implications of the co-evolution of technology and society. (3-0) S

**ATCM 2301** Computer Imaging (3 semester credit hours) Introduction to digital image-making and manipulation using contemporary software applications. Graphic, photographic, and computational tools and methods are presented and applied to art and design problems. Computer images are prepared for multiple delivery environments, including the Internet, games, animation, and others. (0-3) S

**ATCM 2302** Design I (3 semester credit hours) Provides foundational knowledge of visual structure and problem solving in two- and three-dimensional design. Students will be introduced to design methodology and design processes with emphasis on the formal principles of composition and organization. (0-3) S

**ATCM 2303** Project Management for Arts, Technology, and Emerging Communication I (3 semester credit hours) Introduction to project management and professional practice. Course examines various aspects of project management in the digital age, including team building, group dynamics, communication, collaborative practice, pipeline development, and presentation. (0-3) S

**ATCM 2304** Exploration of Arts, Technology, and Emerging Communication (3 semester credit hours) This course is geared towards incoming Arts, Technology, and Emerging Communication students and will review and examine the major areas of concentration available within the major. Upon completion, students will better understand the various areas of study ATEC offers. (3-0) Y

**ATCM 2305** Computer Animation Processes (3 semester credit hours) This course is geared towards incoming Arts, Technology, and Emerging Communication (ATEC) students and will examine the major areas of an animation production pipeline, including pre-production, production, and post-production. This course includes discussion of all areas of computer animation including digital modeling, texturing, rigging, animation, and lighting. Upon completion, students will better understand the animation options ATEC offers and how best to plan their remaining semesters. (3-0) Y

**ATCM 2320** Critical Media Research Foundations (3 semester credit hours) This course focuses on scholarly research and writing. Students will practice critical media analysis supported by close reading; learn how to identify and incorporate appropriate secondary sources; and learn to build arguments through thesis-driven writing. While a number of media will be examined in the course, the chief emphasis will be on developing media literacy in support of research and writing rather than on the particular details of any one medium. Prerequisite or Corequisite: **RHET 1302**. (3-0) Y
ATCM 2321 Reading Media Critically (3 semester credit hours) This writing-intensive course teaches students how to apply the foundational concepts and approaches of multiple schools of critical theory to mass media. Prerequisite: ATCM 2320. (3-0) Y

ATCM 2322 Media History (3 semester credit hours) This course examines the history of emerging media by foregrounding the relationship between new media technologies and cultural, social, political, economic, and epistemological transformations. Possible topics include the shift from orality to writing, the social impacts of the printing press, the rise of broadcast media, and the development of the Internet. Prerequisite: ATCM 2321. (3-0) Y

ATCM 2335 Internet Studio I (3 semester credit hours) This course presents core web technologies and the process of website development. Topics explored include but are not limited to prototyping and design, development, information architecture and website launch. Prerequisite: ATCM 2301. (0-3) S

ATCM 2345 Sound Design (3 semester credit hours) Introduction to sound design where the main goal is to show and explain the role of sound in single or multiple aspects of the field, including multimedia productions, animation, video games, movies, and live performances. (0-3) S

ATCM 2355 Survey of Digital Fabrication (3 semester credit hours) This course is designed to provide students with a broad overview of and introduction to digital fabrication processes. In this course, a combination of lectures and hands-on activities are used to expose students to the hardware and software tools associated with digital fabrication processes. (0-3) Y

ATCM 2365 Game Design Fundamentals (3 semester credit hours) Introductory survey of game design, development, production, and studies, intended for incoming students in Arts, Technology, and Emerging Communication. This course covers aspects of all areas of game design and development, including game systems and level design, art and animation, programming, sound design, narrative, and game production management. The course also serves as an introduction to play and game studies, academic writing, critical analysis, and games research. Upon completion, students will better understand their options in the games pathway in ATEC, as well as how best to plan their remaining semesters. (3-0) S

ATCM 2380 Communication and Social Science Theories (3 semester credit hours) This course introduces students to theoretical models used to study communication and media from a social scientific perspective, with specific focus on mass media processes and effects. (3-0) Y

ATCM 2385 Media and Communication Research Methods I (3 semester credit hours) This course examines modes of social scientific inquiry into the impact of mediated communication, emphasizing content analysis. Prerequisite: PSYC 2317. (3-0) Y

ATCM 3300 Code Plus Culture (3 semester credit hours) At the intersection of theory and practice, in this course students will consider how code affects culture and how culture informs code. Topics may include: the ideology of programming languages; how social, national, gendered, and racial formations are reflected in coding culture; political philosophies of free/open-source/proprietary software; the sociality of coding platforms; the semiotic, cultural, and legal implications of hacking and remixing; maker culture and code; or code as discourse. This course includes the study of code in theory and operation. Prerequisite: A TCM 2300. (3-0) R

ATCM 3301 Digital Content Design (3 semester credit hours) This writing-intensive course blends theory
and practice to increase the effectiveness of text prepared for digital media. Students will design, compose, and evaluate information to improve audiences' utility and satisfaction. Topics include the organization, logical development, structuring, and ethical presentation of information. Prerequisite: RHET 1302. (3-0) S

ATCM 3303 Project Management for Arts, Technology, and Emerging Communication II (3 semester credit hours) Continuing study in project management, team management, and production. Topics include business and marketing planning, presentation strategies, and advanced methods for team building and communication. Prerequisite: ATCM 2303. (0-3) T

ATCM 3304 Character Design (3 semester credit hours) Exploration of character design as a fundamental aspect of storytelling, and as the lens through which theories, principles, and practices of narrative across media can be understood. Students in the course will examine character design for games, animation, and other visual and interactive media. Prerequisite: ATCM 2305 or ATCM 2365. (0-3) T

ATCM 3305 Computer Animation I (3 semester credit hours) This course presents the concepts, tools and techniques used in 3D key frame animation. Topics will include squash and stretch, anticipation, overlapping motion and timing. Students will learn to animate using per-existing rigs and set-ups. Prerequisite: ATCM 2305 or ATCM 2365. (0-3) S

ATCM 3306 Modeling and Texturing I (3 semester credit hours) This course presents basic concepts and fundamentals of computer modeling and texture creation. The principles and techniques covered are universal and can be applied to animation and gaming, as well as other visualization areas. This course does not require any previous 3D animation experience and will assume all students are new to 3D modeling and texturing, and industry professional software. Prerequisite: ATCM 2305 or ATCM 2365. (0-3) S

ATCM 3307 Lighting and Composition I (3 semester credit hours) This course presents basic concepts and fundamentals of digital lighting and basic composition. The principles and techniques covered are universal and can be applied to both animation and gaming, as well as other visualization areas. This course does not require previous 3D animation experience and will assume all students are new to 3D lighting and industry professional software. Prerequisite: ATCM 2305 or ATCM 2365. (0-3) S

ATCM 3308 Rigging I (3 semester credit hours) This course presents the concepts, tools, and techniques used in 3D animation for setting up clean and efficient 3D rigs that are easily able to be animated. Topics will include hierarchical structures, joints and bones, constraints, creating useful and predictable deformations, and setting up simple and intuitive control structures for use in animation. Introductory animation techniques will also be covered. Prerequisite: ATCM 2305 or ATCM 2365. (0-3) S

ATCM 3309 Pre-Production Design I (3 semester credit hours) This course focuses on techniques used to develop ideas into viable animation concepts. Students will learn methods to break down ideas, write log lines and treatments, create concept art, and produce storyboards and story reels. Prerequisite: ATCM 2305 or ATCM 2365 or instructor consent (0-3) Y

ATCM 3310 Procedural Animation (3 semester credit hours) This course introduces fundamentals of 3D computer graphics and animation through procedural methods. Prerequisites or Corequisites: (ATCM 2305 and CS 1335) or instructor consent required. (0-3) Y

ATCM 3311 Tools Development for Arts, Technology, and Emerging Communication (3 semester credit
hours) Exploration of processes and practices in tools, engine, and pipeline development for games, animation, and other digital media. Prerequisite: CS 2335. (0-3) S

ATCM 3320 Critical Media Theories (3 semester credit hours) This course examines the development of theories of media, with an emphasis on understanding the role of the Internet in contemporary life. Prerequisite or Corequisite: ATCM 2321. (3-0) Y

ATCM 3321 Networked Identities (3 semester credit hours) This course considers digital media and identities, with a focus on gender, sexuality, race, ethnicity, disability, class, age, and/or nationality. Topics will include how such identities are represented in media and how people use media to reshape such representations. Prerequisite: ATCM 3320. (3-0) Y

ATCM 3323 Reading in a Networked Era (3 semester credit hours) This course examines literature's transformation in the era of electronic networks. Topics may include the history of writing and technology; how new reading practices, distribution channels, and publication industry developments influence literature; emerging literary and popular genres; participatory publics, remix cultures, and virality; literature's position within a media ecology of video games, movies, and television. Prerequisite: ATCM 2320. (3-0) T

ATCM 3330 Digital Art and Social Practice (3 semester credit hours) The course introduces students to digital media arts production informed by social engagement. A project-intensive practice will explore art as experience, performance, and pedagogy. Prerequisites: ATCM 2335 and ATCM 3320. (0-3) Y

ATCM 3331 Critical Making (3 semester credit hours) This course situates technological practices of Do It Yourself and communal making as a social phenomenon with a history that precedes the digital. Students will learn about connections to women's domestic work; suburban hobbyist practices; the craft labor of indigenous cultures; and so forth. The class also includes the study of theories of critical design and making, with opportunities to practice these approaches in coursework. Prerequisite: ATCM 2320. (3-0) T

ATCM 3335 Internet Studio II (3 semester credit hours) Explores advanced methods and techniques related to web design and production. Students will explore and implement a range of new web technologies and how to best serve user needs with these new interactions. Prerequisite: ATCM 2335. (0-3) Y

ATCM 3336 Design Research Methods (3 semester credit hours) This course will explore a variety of behavioral and attitudinal design research methods, including the planning, analysis, and execution of quantitative and qualitative methods. Topics also include the ethical concerns related to understanding users and how to communicate research results. (3-0) T

ATCM 3337 Interaction Design I (3 semester credit hours) Study of human-machine interaction for a variety of applications. Students explore rapid prototyping, user interface (UI) and user experience (UX) design skills that can be applied to various domains such as web-based publishing, mobile app development, game development, and entertainment and artistic performances. New devices and interactions are explored. Prerequisite: ATCM 2335. (0-3) Y

ATCM 3338 Motion Graphics I (3 semester credit hours) This course is an introduction to the concepts, tools, and techniques used in graphic design to enhance a communicated message through animation. Students will work with image, text, audio, and movement to create dynamic visual communication pieces. Prerequisite: ATCM 2301. (0-3) S
**ATCM 3340** Design II (3 semester credit hours) Continuing exploration of design principles and practices, with an emphasis on three-dimensional design, time and motion, human perception, and critique. Prerequisite: **ATCM 2302**, (0-3) Y

**ATCM 3345** Audio Technologies (3 semester credit hours) This class presents and explains the principles of audio and digital audio technologies. The course lays out the fundamentals of audio and computer equipment and technologies: microphones, loudspeakers, mixing boards, digital converters, digital audio formats, digital processors, audio compression, amplification, stereophonic, surround and multi-phonic diffusion. Prerequisite: **ATCM 2345**, (0-3) R

**ATCM 3346** Audio Productions Lab I (3 semester credit hours) This course explores the psychological implications as well as the artistic, cultural and social dimensions of the use of audio in films, games, and various other applications. Topics include recording, editing, processing and diffusing recorded material. Students will learn how to select a voice, an instrument, and/or a sound effect for auditory presentations and direct recording sessions. May be repeated for credit as projects vary (6 semester credit hours maximum). Prerequisite: **ATCM 2345**, (0-3) R

**ATCM 3350** Digital Video Production I (3 semester credit hours) Introduction to digital video production examining shooting, editing, and nonlinear post-production techniques. Students will work individually and in teams to produce short video projects. A variety of delivery environments may be explored, including web, mobile, and DVD. Prerequisite: **ATCM 2302**, (0-3) S

**ATCM 3355** Computer Modeling for Digital Fabrication (3 semester credit hours) This course is designed to provide students with a broad overview of computer modeling techniques associated with fabrication processes. In this course students will learn to apply 3D modeling software, rendering programs, image processing software, and vector based graphics to digital fabrication processes. Emphasis will be placed on proper file preparation for output devices. Prerequisite: **ATCM 2345** or **ATCM 2301** or **ATCM 3306** or instructor consent required. (0-3) T

**ATCM 3356** Projection Mapping Lab (3 semester credit hours) This course explores the activation of form and space with moving images. Students will learn to animate static objects through projection mapping techniques, including the workflows needed to create dynamic objects and immersive environments. Emphasis will be placed on applications and workflows that combine animation and sculptural expression. Prerequisite: **ATCM 2302** or **ATCM 2345** or **ATCM 3306** or **ATCM 3355** or instructor consent required. (0-3) R

**ATCM 3357** Digital Fabrication Lab I (3 semester credit hours) This course explores the relationship between digital fabrication and traditional artistic practice. Students use digital fabrication tools as a means of exploring their own creative ideas. In this course students will apply techniques and processes to create work that reflects their own creative vision. Emphasis will be placed on the conceptual underpinning of their ideas and the processes and techniques used to execute them. Registration for this course will be based on the faculty's review of the student's portfolio. Prerequisites: **ATCM 2355** or **ATCM 3355** and instructor consent required. (0-3) T

**ATCM 3365** Game Design I (3 semester credit hours) This course presents principles and techniques of interactive game design, including but not limited to game mechanics, player dynamics, social and multiplayer structures, statistics and game theory, and systems analysis. Students will work individually
and in teams to create original interactive games as well as learn fundamentals of focus testing, usability testing, and critique. Course focuses on both analog and digital games. Prerequisite: ATCM 2365. (0-3) Y

**ATCM 3366** Game Studies I (3 semester credit hours) Introduction to critical game studies, including analysis of digital and analog games as cultural artifacts, logical systems, technological objects, social media experiences, virtual communities, and narrative expressions. This course presents the fundamentals of academic writing and research in game studies, including analysis, criticism, rhetoric, and ludology. Prerequisite: ATCM 2365. (0-3) Y

**ATCM 3367** Level Design I (3 semester credit hours) This course focuses on methods and techniques in level design for interactive games, including paper design, white boxing, flow, pacing and challenge balancing, user feedback, and event scripting. Prerequisite or Corequisite: ATCM 3365. (0-3) Y

**ATCM 3368** Scripting for Games I (3 semester credit hours) This course explores concepts and best practices of scripting and programming for digital game development. Students will utilize various scripting and programming languages to create basic mechanics, complex game systems, and scripted scenarios. Students will learn proper syntax and code structure as well as how to manipulate objects during run-time. Prerequisite or Corequisite: ATCM 3365. (0-3) Y

**ATCM 3369** Games and Narrative I (3 semester credit hours) This course explores the unique challenges of storytelling in games through practical techniques for narrative creation. Students in this course will analyze game design principles, storytelling structures across media, and traditional writing processes to improve their understanding of narrative structures for games. Course covers both experimental and traditional interactive forms. Prerequisite: ATCM 3365. (3-0) Y

**ATCM 3370** Virtual Environments (3 semester credit hours) This course explores methods and techniques used in the design, development, and implementation of 3D virtual environments in interactive game engines. Topics include aesthetics, architecture, scripting, and deployment. Prerequisite: ATCM 2365. Prerequisite or Corequisite: ATCM 3306. (0-3) Y

**ATCM 3371** User Experience Design for Games (3 semester credit hours) Exploration of user experience design principles as they relate to digital game development. This research-based course focuses on how gameplay and interaction can be effectively communicated to players through user interface design. Prerequisite: ATCM 2365. (0-3) T

**ATCM 3372** Sound Design for Animation and Games (3 semester credit hours) Exploration of sound design principles, soundscapes, voice acting, and music as they relate to digital game development. Students in the course will examine key concepts of sound design for games within the constraints of interactive media, gameplay requirements, and virtual environments. Prerequisites: ATCM 2345 and (ATCM 2305 or A TCM 2365). (0-3) T

**ATCM 3375** Game Systems Design (3 semester credit hours) Exploration of the systems, simulations, and processes that are the foundation of digital games. Students will examine the structural links between mechanics, systems, strategy, and game experience. Prerequisite: ATCM 3365. (3-0) T

**ATCM 3376** History of Games (3 semester credit hours) Exploration of the history and culture of digital and analog games, from the early days of the computer industry to the beginning of the 21st century. Students in the course will investigate the origins of game design principles and mechanics that influence modern
game design philosophy and the field of game studies. Prerequisite: ATCM 3365 or ATCM 3366. (3-0) T

**ATCM 3380 Media Psychology** (3 semester credit hours) This course will examine evidence for the role that psychology plays in the production and consumption of media with particular emphasis on how emerging media complicates how human beings process and are impacted by media. Topics of discussion may include emotional response, arousal, memory, and attention. Prerequisite: ATCM 2380. (3-0) Y

**ATCM 3381 Media and Communication Research Methods II** (3 semester credit hours) This course continues the study of social scientific inquiry into the impact of mediated communication, emphasizing surveys and experiments. Prerequisite: ATCM 2385. (3-0) Y

**ATCM 3382 Communicating Social Science** (3 semester credit hours) This course focuses on analyzing, practicing, and developing strategies to communicate social scientific research about mediated communication topics, including research projects and their findings with specialist and non-specialist audiences. Students will employ both traditional and new media forms of communicating research relating to mediated communication. (3-0) Y

**ATCM 3383 Media Structures, Regulations, and Policies** (3 semester credit hours) Examines law, policy, and regulations of broadcast and networked media and their relationship to broader social, political, and economic systems. Considers what modes of representation and communication they afford and constrain. (3-0) T

**ATCM 3385 Social Networks** (3 semester credit hours) This course introduces the theoretical perspectives and practical applications of the study of social networks with emphasis on the impact of communication technologies on the creation, maintenance, and transformation of social networks in contemporary media environments. Students will also learn to analyze and visualize networks. (3-0) Y

**ATCM 3386 Human Communication Online** (3 semester credit hours) This course explores how humans communicate and interact with and through technology. Topics may include intrapersonal, interpersonal, group, and organizational levels of computer-mediated communication. Prerequisite: ATCM 2380. (3-0) Y

**ATCM 3388 Attitudes and Behaviors** (3 semester credit hours) This course examines the relationship among beliefs, attitudes, and behavior. Topics include attitude formation, attitude measurement, persuasion and attitude change, the attitude-behavior relationship, interpersonal influence, and general theories of behavioral prediction. (3-0) S

**ATCM 3395 Topics in Arts, Technology, and Emerging Communication** (3 semester credit hours) Study of principles, techniques, and/or theories related to Arts, Technology, and Emerging Communication. May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (0-3) R

**ATCM 4304 World Building** (3 semester credit hours) Continuing exploration of narrative across media through the lens of world building. Students in the course will explore world building for games, animation, transmedia storytelling, and other visual and interactive media forms. Prerequisite: ATCM 3304. (0-3) T

**ATCM 4305 Computer Animation II** (3 semester credit hours) This course is a further exploration of ideas and principles and concepts utilized in the Computer Animation I course. This class will focus on mechanics, movement of the human body and translation into believable performances through
animation. Registration for this course will be based on the faculty's review of the student's portfolio. Prerequisites: ATCM 3305 and department consent required. (0-3) Y

**ATCM 4306**  Modeling and Texturing II (3 semester credit hours) This advanced level course builds on the topics and workflows presented in Modeling and Texturing I. Advanced modeling and texturing concepts and fundamentals are discussed and examined. The principles and techniques covered are geared towards feature film and television work, but also apply to video game model creation. Areas covered include mesh, visualization, proper mesh flow on organic surfaces, digital sculpting and 3D painting applications. Prerequisites: ATCM 3306 and department consent required. (0-3) Y

**ATCM 4307**  Lighting and Composition II (3 semester credit hours) This advanced level course builds on the topics and workflows presented in Lighting and Composition I. Advanced lighting and compositing fundamentals are discussed and examined. The principles and techniques covered are geared towards feature film and television work. Areas covered include Global Illumination, image based lighting (IBL), and node based compositing. Prerequisites: ATCM 3307 and department consent required. (0-3) Y

**ATCM 4308**  Rigging II (3 semester credit hours) This course is a continuation of the Rigging I course and will continue with concepts, tools and techniques used in 3D animation for setting up clean and efficient 3D rigs that are easily and intuitively animated. Topics will include squash and stretch capabilities in rigs, basic MEL scripting, simple dynamics, facial rigs, and basic animation principles for complex rigs. Registration for this course will be based on the faculty's review of the student's portfolio. Prerequisites: ATCM 3308 and department consent required. (0-3) Y

**ATCM 4309**  Pre-Production Design II (3 semester credit hours) This course focuses on the creation of story reels and animatics for an animation production. Topics will include creation of character artwork, set and prop designs, color keys, and other pre-production elements. Emphasis will be placed on creating production ready assets able to be used by production artists. Prerequisites: ATCM 3309 and department consent required. (0-3) T

**ATCM 4310**  Motion Capture Animation (3 semester credit hours) In this group project based course, students practice the motion capture pipeline from calibrating the system to editing data and applying data to 3D characters and follow the 3D computer animation production process to complete short animations. End products are expected to be high quality animations appropriate for professional demo reels. Prerequisite: ATCM 3306 or ATCM 3307 or ATCM 3308. (0-3) Y

**ATCM 4312**  Digital Sculpting (3 semester credit hours) This class takes an artistic based approach to the creation of 3D polygonal geometry. Students will focus on critical concepts including proportion, form, and translation of 2D designs to 3D figures. Various tools and techniques will be discussed allowing for the creation of custom workflows and methodologies. Prerequisites: ATCM 4306 and department consent required. (0-3) T

**ATCM 4313**  Special Effects (3 semester credit hours) This course presents procedural methods, such as particle systems and dynamics, for the creation of visual effects used in films and animation. Students learn a variety of procedural methods and problem-solving skills needed to effectively produce and direct visual effects sequences. Prerequisite: ATCM 3305 or ATCM 3306 or ATCM 3307 or ATCM 3308. (0-3) R

**ATCM 4315**  Computer Animation III (3 semester credit hours) In this course students will establish an understanding of acting and body language as it pertains to animation. Students will continue to build a
vocabulary of terms and concepts and develop their constructive, technical, and aesthetic ability to critique as it relates to animation as an art form. Students will continue to develop a practical understanding of the specific computers and software used in the course as it pertains to the animation workflow. Prerequisites: **ATCM 4305** and department consent required. (0-3) Y

**ATCM 4316** Animation Lab I (3 semester credit hours) This advanced course mimics an animation studio environment. All major areas of production are represented and work together to create a fully realized 3D animated short. This course utilizes various aspects of all areas of computer animation including story development, layout, modeling, texturing, rigging, animation and lighting, rendering/compositing, sound design, and project planning and management. This is a two semester sequence course. May be repeated for credit as projects vary (6 semester credit hours maximum). Prerequisites: ([ATCM 3305](#) or [ATCM 3306](#) or [ATCM 3307](#) or [ATCM 3308](#)) and department consent required. (0-3) Y

**ATCM 4317** Animation Lab II (3 semester credit hours) This course is a continuation of the Animation Lab I course. The course mimics an animation studio environment where all major areas of production are represented and work together to create a fully realized 3D animated short. This course utilizes various aspects of all areas of computer animation including story development, layout, modeling, texturing, rigging, animation and lighting, rendering/compositing, sound design, and project planning and management. May be repeated for credit as projects vary (6 semester credit hours maximum). Prerequisites: **ATCM 4316** and department consent required. (0-3) Y

**ATCM 4319** Topics in Animation (3 semester credit hours) Course offers a further exploration of ideas and principles utilized in the animation process. Sections may be devoted to a single aspect of animation or to a variety of subjections in the field. May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (0-3) R

**ATCM 4320** Political Economy of Digital Media (3 semester credit hours) This course examines the relationships among digital media, economic logics, and social and political institutions. Topics may include intellectual property; the politics of algorithms; digital labor; peer production; intellectual property; and emerging economies such as virtual currencies, barter economies, and markets in biolabor. Prerequisite: **ATCM 3320**. (3-0) Y

**ATCM 4322** Disability, Technology, and Media (3 semester credit hours) This course provides a critical understanding of disability in relation to technology and media. Students will investigate how social constructions of ability and disability influence technology development and media representations; the relationship between the attention economy and representations of bodies, illness, health, and minds; the role of media and technology in constructing norms; and visual rhetorics of the abnormal. Prerequisite: **ATCM 3321** or instructor consent required. (3-0) T

**ATCM 4323** Feminism, Technology, and Media (3 semester credit hours) This course examines feminist approaches to critical technology and media studies. Students learn the history of women in technology fields; feminist approaches to theorizing the relationship between social constructions of gender and technology and media development and use; media's use in the dissemination and development of feminist thought and practices; and the articulation of gender in such media as film, television, and social media. Prerequisite: **ATCM 3321** or instructor consent required. (3-0) T

**ATCM 4325** Race, Technology, and Media (3 semester credit hours) In this course, students learn about
media and technology's inscription within the histories of Western racism and colonialism; how structural racism affects technology development, the media industries, and media representations; and how race is articulated in media and technology, including in film, television, social media, and videogames.
Prerequisite: ATCM 3321 or instructor consent required. (3-0) T

ATCM 4326 Mediated Textuality (3 semester credit hours) This writing-intensive class introduces students to multimodal composition. The class focuses on understanding the signifying strategies of, and relationships between, different media formats in their analog and digital forms. Students will learn to convey narratives and ideas in multiple media formats. Prerequisite: ATCM 3320. (3-0) Y

ATCM 4327 Privacy and Surveillance (3 semester credit hours) This course examines issues in privacy and surveillance, including state, corporate, and peer surveillance; shifting definitions of public and private; sousveillance; and the relationship between inequalities and surveillance practices. (3-0) T

ATCM 4330 Culture Jamming (3 semester credit hours) This practice-intensive course explores digital production in relation to theories of tactical media and culture jamming. Areas of investigation may include social media, mobile media, software, hardware, platforms, and networked performances. Prerequisites: A TCM 2335 and ATCM 3320. (0-3) Y

ATCM 4334 Topics in Critical Media Studies (3 semester credit hours) May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (3-0) R

ATCM 4337 Interaction Design II (3 semester credit hours) Explores advanced methods and techniques of interaction design, successful user-centered design, and engaging time-based media in digital and physical mediums with and without visible user interfaces. Prerequisite: ATCM 3337. (0-3) T

ATCM 4338 Motion Graphics II (3 semester credit hours) This course builds on the principles introduced in Motion Graphics I. Students will continue to explore techniques used in graphic design to enhance a communicated message through a variety of animation techniques. Students will work with image, text, audio, and movement to create dynamic visual communication pieces. Prerequisite: ATCM 3338. (3-0) Y

ATCM 4340 Strategic Design (3 semester credit hours) Applies principles of traditional design to big picture systemic challenges such as health care, education, and climate change. Students will redefine how problems are approached, identify opportunities, and deliver more complete and resilient solutions by crafting decision-making. Prerequisite: ATCM 2335 or ATCM 3337. (0-3) Y

ATCM 4345 Digital Audio Processing (3 semester credit hours) This course presents and develops the theoretical and technical principles of digital audio processing and sound synthesis as well as hands-on applications and experiments. The course will present and use: spectral processors such as single and multi-band filters, dynamic processors (expanders, compressors, noise gate), complex dynamic spectral processors (noise reduction, cross synthesis). Prerequisite: ATCM 3345. (0-3) R

ATCM 4346 Audio Productions Lab II (3 semester credit hours) This course is a continuation of Audio Productions Lab and explores the psychological implications as well as the artistic, cultural, and social dimensions of the use of audio in films, games, and for various other applications. Students will record, edit, process, and diffuse recorded material as well as learn how to select a voice, an instrument, and a sound effect; they will write for auditory presentations and direct recording sessions. May be repeated for credit as projects vary (6 semester credit hours maximum). Prerequisite: ATCM 3346. (0-3) R
ATCM 4350 Digital Video Production II (3 semester credit hours) Students will explore cinematography, editing, and storytelling in video intended for networked distribution. Prerequisite: ATCM 3350. (0-3) Y

ATCM 4357 Digital Fabrication Lab II (3 semester credit hours) This course explores the relationship between digital fabrication and traditional artistic practice. Students will focus on a specific aspect of digital fabrication and its relationship to their creative ideas. In this course students will use project-based approaches to apply techniques and processes they have learned to create work that reflects a strong clear artistic vision. Emphasis is on a critical dialogue about the conceptual basis of their ideas and the processes and techniques used to realize them. Registration for this course will be based on the faculty's review of the student's portfolio. Prerequisites: ATCM 3357 and instructor consent required. (0-3) R

ATCM 4364 Topics in Design and Production (3 semester credit hours) Study of principles of interaction design, sound, video, digital fabrication, projection mapping, or other forms of creative production involving technology. May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (0-3) R

ATCM 4365 Game Design II (3 semester credit hours) Advanced study of interactive game design, focusing on methods and techniques for rapid digital prototyping, mechanical iteration, tuning, and balancing. Students in the course will examine both successes and failures to improve on successive iterations of a game mechanic, concept, or experience. Prerequisites: ATCM 3365. (0-3) Y

ATCM 4366 Game Studies II (3 semester credit hours) Advanced research in game studies with a focus on critical analysis, research methodologies, and the application of principles from related academic fields. Students in this course will explore an original research topic in game studies. Prerequisite: ATCM 3366. (3-0) T

ATCM 4367 Level Design II (3 semester credit hours) Exploration of advanced methods and techniques in level design for interactive games, including contextual player guidance, challenge scaffolding, indexical storytelling, complex event scripting, and asset management. Prerequisite: ATCM 3367. (0-3) T

ATCM 4368 Scripting for Games II (3 semester credit hours) Exploration of advanced methods and techniques in scripting and programming for interactive games, including procedural generation as a tool for game development. Prerequisite: ATCM 3368. (3-0) T

ATCM 4373 Animation for Games (3 semester credit hours) This course builds upon the foundational principles explored in Animation I. Students will learn and practice animation processes, from preparation and planning to animating a fully rigged character using key frame animation, to implementation into a game engine to create a real-time, immersive user experience. Prerequisite: ATCM 3305. (3-0) Y

ATCM 4375 Game Design III (3 semester credit hours) Advanced research in interactive game design and development, focusing on experimental, educational, and simulation-based games. Students in the course will develop original games individually and in teams, with an emphasis on mechanical innovation, technical achievement, and unique player experiences. Prerequisite: ATCM 4365. (3-0) T

ATCM 4376 Game Production Lab I (3 semester credit hours) This course functions as a simulation of the game development industry and is intended for students who have completed substantial coursework in game development and design. Students in the course develop selected original game concepts through multiple iterations and milestones, culminating in a professional-level release. Registration for this course...
will be based on the faculty's review of the student's portfolio. May be repeated for credit as topics vary (6 semester credit hours maximum). Instructor consent required. (0-3) Y

**ATCM 4379** Topics in Games (3 semester credit hours) Study of multidisciplinary topics in game design, development, production, and studies. Sections may be devoted exclusively to a single topic or to a variety of topics in the field. May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (0-3) R

**ATCM 4380** Communication, Media, and Information Technology (3 semester credit hours) This course examines the interactions among mass media, new media technology, and individuals. Topics include how communication shapes our perceptions, how mass media affect our attitudes and behaviors, and how the rise of new media technology complicates our understanding of the relationship between mass media and everyday citizens. (3-0) T

**ATCM 4381** Message Effects Research Design (3 semester credit hours) This class explores current research, theory, and statistical methods in assessing the impacts of messages that are designed to have persuasive effects. Research from mass communication, interpersonal communication, social psychology, political science, journalism, and advertising will be considered. Prerequisite: ATCM 3380. (3-0) T

**ATCM 4382** Intervention Design and Testing (3 semester credit hours) Building on the message effects research design course, students in this course are expected to design and test their own prosocial intervention or campaign messages that achieve attitudinal or behavioral change. Prerequisites: ATCM 3380 and ATCM 4381. (3-0) T

**ATCM 4384** Ethics in New Media, Technology, and Communication (3 semester credit hours) Engaging classical ethical theory from an applied perspective, this class will explore ethical issues in mass, social, and emerging media with particular attention to how media content producers behave in the larger social, cultural, and political framework. (3-0) T

**ATCM 4385** Children and Media (3 semester credit hours) This course will examine the role of media in the lives of children and how developmental differences influence how they process and respond to the media. Major areas of consideration include children's responses to media violence, educational media, and play with media. Prerequisite: ATCM 3380. (3-0) T

**ATCM 4386** Journalism in the Networked Age (3 semester credit hours) This course will examine how new media technology and changing relationships between journalists and audiences affect the nature, potential, and limitations of contemporary journalism to inform, engage, and entertain the public. (3-0) T

**ATCM 4388** Political Communication (3 semester credit hours) This course examines political communication from different perspectives, including topics such as how audiences make sense of political messages, how the mass media shape perceptions and attitudes toward politics and politicians, or how political issues are communicated in the mass media. (3-0) T

**ATCM 4394** Topics in Mediated Communication (3 semester credit hours) Advanced study of multidisciplinary topics in mediated communication. May be repeated as topics vary (6 semester credit hours maximum). Department consent required. (3-0) R

**ATCM 4395** Advanced Topics in Arts, Technology, and Emerging Media (3 semester credit hours) Study of
advanced principles, techniques, and/or theories related to Arts, Technology, and Emerging Communication. May be repeated for credit as topics vary (6 semester credit hours maximum). Department consent required. (0-3) R

ATCM 4397 Senior Seminar (3 semester credit hours) Culminating course in Arts, Technology, and Emerging Communication. Students in this course will engage in the creation of an advanced creative and/or research project related to their pathway's central questions. Restricted to students enrolled in their last long semester at UT Dallas. Department consent required. (0-3) S

ATCM 4398 Capstone Project (3 semester credit hours) Culminating independent study in Arts, Technology, and Emerging Communication. Under a faculty member's direction, students will engage in the creation of an advanced creative and/or research project related to their pathway's central questions. Restricted to students enrolled in their last long semester at UT Dallas. Instructor consent required. (3-0) S

ATCM 4399 Senior Honors in Arts, Technology, and Emerging Communication (3 semester credit hours) Intended for students conducting independent research for an honors thesis or project. Students will develop an advanced creative and/or research project and paper related to their pathway's central questions. Restricted to students majoring in Arts, Technology, and Emerging Communication who are within one semester of graduation and who meet honors requirements. Instructor consent required. (3-0) Y

ATCM 4V96 Independent Study in Arts, Technology, and Emerging Communication (1-3 semester credit hours) Independent study under a faculty member's direction. Signature of instructor and Associate Dean on project proposal required. May be repeated for credit as topics vary (6 semester credit hours maximum). Prerequisites: Upper-division standing and completion of all lower-division requirements in ATEC and instructor consent required. ((1-3)-0) R

**Arts and Technology**

ATEC 3325 Computer Mediated Communication (3 semester credit hours) This writing-intensive course will explore how we use technology to communicate, share knowledge, and develop social structures. This course will also introduce students to new media theoretical perspectives and scholarship as they critically analyze new media and cyberculture. Prerequisite: RHET 1302. (3-0) S

ATEC 3331 Sound Design for Linear and Non-linear Media (3 semester credit hours) This class uses soundtrack analyses and listening exercises, lectures and short projects addressing the various components of a sound track: voices, sound effects, ambient sound, and music and the various techniques implied in production and post-production (field recording, post-synchronization of dialogues, editing, foley, mastering, etc.). Prerequisite: ATEC 2385. (0-3) R

ATEC 3332 Additive Processes in Digital Fabrication Studio (3 semester credit hours) This studio course places an emphasis on 3D printing as a digital fabrication process. Students will learn to use 3D modeling software to create models for 3D printing. In this course both polygonal and nurbs modeling techniques will be used to create 3D printed forms. Students will also engage in a dialogue about the implications of additive manufacturing processes to contemporary artistic practice. Emphasis will be placed on proper file preparation for output devices. Prerequisite: ATEC 2324 or ATEC 2382 or ATEC 3317 or instructor consent
AECT 3334 Laser Cutting in Digital Fabrication Studio (3 semester credit hours) This studio explores the relationship between laser cutting, engraving, and vector graphics in digital fabrication processes. Students will learn both two-dimensional and three-dimensional applications for this tool. In this course students will learn a variety of techniques for generating vectors based output and using them to create both two-dimensional and three-dimensional forms. Emphasis will be placed on applications development and proper file preparation for output devices. Prerequisite: ATEC 2324 or ATEC 3324 or ATEC 3317 or instructor consent required. (0-3) R

AECT 3335 Scanned Data in Digital Fabrication Studio (3 semester credit hours) This studio explores the relationship between 3D scanned data and digital fabrication processes. Students will learn a variety of processes and methods for translating real world objects into digital form. In this course students will explore the implications of these technologies to contemporary artistic practice. Emphasis will be placed on an exploration of scale and the ways that scanned data can be manipulated artistically through digital fabrication. Prerequisites: ATEC 2324 or ATEC 3324 or ATEC 3317 or ATEC 3332 or instructor consent required. (0-3) R

AECT 3338 Digital Applications in Sculpture (3 semester credit hours) This studio explores the relationship between digital fabrication and traditional sculpture practice. Students will learn to use a variety of digital fabrication tools for traditional sculptural processes. In this course students will learn a variety of techniques for applying digital fabrication as a means and intermediate step in the process of sculpture. Emphasis will be placed on applications development and the creation of sculptural objects that extend the digital fabrication processes. Prerequisite: ATEC 2324 or ATEC 3324 or ATEC 3317 or ATEC 3332 or instructor consent required. (0-3) R

AECT 4329 Advanced Projects in Digital Fabrication Studio (3 semester credit hours) This studio course explores the relationship between digital fabrication and traditional artistic practice. Students will develop a proposal outlining a project that will be executed using digital fabrication techniques. The proposal will be executed over the course of the semester and documented in both written and visual form. Focus on a specific aspect of digital fabrication will provide the framework for a critical analysis of their ideas through individual and group critiques. Emphasis will be placed on the production of work and a discussion of its relationship to contemporary artistic practice. Registration for this course will be based on the faculty's review of the student's portfolio. Prerequisites: ATEC 4325 and instructor consent required. (0-3) R

AECT 4341 Digital Marketing Design (3 semester credit hours) This course provides an overview of ways web, social media, mobile technologies, games, and other media formats may be used to create and design communications programs. The course provides an overview of these media and how they may be used to create a marketing-based communications plan. Prerequisite: ATEC 3384. (0-3) R

AECT 4347 Design Innovation Workshop (3 semester credit hours) This advanced course focuses on broad design research to yield insights about what users find desirable, what is technologically possible, and what is valuable to the business enterprise that will ultimately invest in, develop, and build new products and services. Prerequisite: ATEC 3361 or ATEC 3363. (0-3) Y

AECT 4374 Topics in Digital Design (3 semester credit hours) Advanced digital design methods that explore specific design-oriented areas of interest. Sections may be devoted to a single aspect of design or to a
variety of subjects in the field. May be repeated for credit as topics vary (9 semester credit hours maximum). Department consent required. (0-3) Y

**Arts Technology and Emerging Communication**

**Emerging Media and Communication**

**EMAC 3328** The Digital Society (3 semester credit hours) This course will examine the way the digital network changes our society. Students will examine various shifts that have occurred in our public and private lives as a result of the digital network. The class will cover a range of issues which, depending on the instructor, may include social networks, privacy, journalism, politics, and intellectual property, among others. May be repeated for credit as topics vary (6 semester credit hours maximum). Prerequisite: EMAC 232. (3-0) Y

**EMAC 4380** Capstone Project (3 semester credit hours) Culminating course in Emerging Media and Communication. Students will engage in the creation of an advanced creative and/or research project exploring emerging media and communication. Restricted to students majoring in Emerging Media and Communication who are enrolled in their last long semester at UT Dallas. Instructor consent required. (3-0) S

**EMAC 4399** Senior Honors in Emerging Media and Communication (3 semester credit hours) Intended for students conducting independent research for an honors thesis or project. Students will engage in the creation of an advanced creative and/or research project and paper exploring the interaction of emerging media and communication. Restricted to students majoring in Emerging Media and Communication who meet honors requirements and are enrolled in their last long semester at UT Dallas. Signature of instructor and second reader on proposed project outline required. Instructor consent required. (3-0) S

**EMAC 4V71** Independent Study in Emerging Media and Communication (1-3 semester credit hours) Independent study under a faculty member's direction. Signature of instructor and Associate Dean on proposed project outline required. May be repeated for credit (9 semester credit hours maximum). Prerequisites: Upper-division standing and completion of all lower-division requirements in EMAC and instructor consent required. ([1-3]-0) R

**Interdisciplinary Studies-Arts Technology and Emerging Communication**

**ISAE 2121** Careers for ATEC Majors (1 semester credit hour) This course provides students with assistance in exploring careers related to Arts, Technology, and Emerging Communication fields and in making effective career decisions. (1-0) R

**ISAE 4V50** Internship (1-3 semester credit hours) Students undertake a new learning experience at a supervised work situation related to their academic interests. An internship provides exposure to a
professional working environment, application of theory to working realities, and an opportunity to test
skills and clarify goals. May be repeated for credit (6 semester credit hours maximum). Department
consent required. ([1-3]-0) S