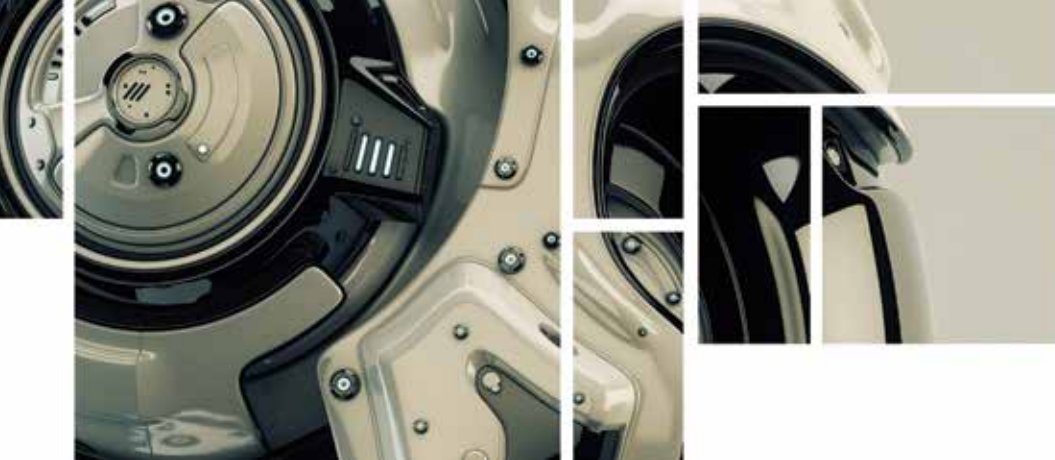


WALORS





HARDWARE CREATION



DIGITAL MAKER AND FABRICATION (BS)

Contemporary society has embraced and come to rely on technology, so much so that it is entrenched in our everyday lives. This shift towards a technology driven society has created the need for technology products to be designed to fit the everyday, busy lives of consumers. If a device does not mesh with a person's lifestyle, it will quickly become obsolete. In all capacities—whether for home, work or leisure use—gaining a firm grasp of what the consumer needs in these devices is essential to moving technology forward. Powerful mobile devices are increasingly replacing the functionality of larger, more cumbersome devices such as the PC.

As this transition takes place, the need for intelligently designed products will continue to grow. Integrated devices and services in cars, homes and offices will interact with wearable devices to give the consumer a content-rich, context-driven experience. Designing, programming and building these devices will give students a firm grasp on the next generation of hardware devices and how these devices will shape the future of society.



HUMAN COMPUTER INTERACTION (BS)

Human-Computer Interaction (HCI) is an interdisciplinary field that attracts researchers, educators and practitioners from many different disciplines. HCI has gained even more attention during recent years as technologies have moved forward at an accelerating pace. HCI now goes beyond keyboards, mice and screens to include various handheld devices and touch-screen interactions. Human-Computer Interaction has its foundations on the interfaces and interactions between electronic devices and the users that rely upon them, that will ultimately lead to the creation of tomorrow's new user interface software and technology.

As technology has moved forward, interaction with it has become more intuitive and complex. This presents the need for well-designed and developed interactions to ensure a positive experience for the user. The study and practice of designing these interactions transforms the human-computer interaction experience, so the computer is no longer a distracting focus of attention but rather an invisible tool that empowers the individual user and facilitates natural and productive human-to-human collaboration. This will allow for the creation of the next generation of interface technologies. The move away from installable software to more mobile apps and cloud-hosted solutions is dramatically changing how people interact with technology and in influencing their expectations from a design standpoint. HCI topics include, but are not limited to, novel uses of computer technologies in education; intelligent interfaces; virtual and augmented reality environments; wearable mobile and ubiquitous computing; and new I/O devices. Social networking: Facebook, Instagram, Twitter, LinkedIn, etc., are also huge influencers of HCI nowadays.



ROBOTICS AND EMBEDDED SYSTEMS (BS)

The world we interact in everyday and the technology that we utilize are built upon the foundation of embedded systems. The Robotics and Embedded Systems degree provides students the engineering foundation for the design, implementation and analysis of embedded systems, with an emphasis in autonomous robotic systems. Building upon the foundation of software engineering, a degree in Robotics and Embedded Systems can span mechanical design, controls, electronics, digital logic design, embedded programming, machine vision, and adaptive algorithm development and design of autonomous robotic systems.

PROGRAM REQUIREMENTS

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36

Minimum Total Semester Credits 120

Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
- Meet minimum Satisfactory Academic Progress Standards at the completion of their program of study.
- Submittal of a completed and approved Application for Degree with the Office of the Registrar.
- Completion of Student Innovation Project and portfolio requirement. Student Innovation Project and portfolio requirements include the submission and review of primarily digital artifacts to demonstrate the student's capabilities within the discipline being studied (Bachelor's degree candidates only).

Upon successfully completing the above requirements and meeting all University graduation requirements put forth in the graduation policy, a Bachelor or Associate of Science degree will be awarded.

General Education

UAT's general education offers students transferable life skills that complement technical skills learned in the majors. Students receive invaluable education in the humanities, mathematics, science, languages, and other topics that build a foundation for discourse and expression that enriches their experience beyond the academic forum. This approach meets widespread expectations of the undergraduate learning experience that honors the motivation for higher education: betterment of self and the world around us.

General education brings into clarity the spectrum of human expression, modes of thought, and perspectives that enable all students to make profound connections between their technical skills and human development. In doing so, it complements the University's technology-intensive environment by making students aware of how the broad spectrum of human experience and knowledge integrates with their technology discipline. Regardless of their selected degree, all students within the University are required to complete the general education curriculum in order to earn their degree from the University

General Education Requirements—Bachelor of Science Degree

Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 18 credit hours, minimum of 3 upper division credits

University Core Courses Bachelor's Degree

The University's Core curriculum addresses the question—what do all students of technology need to know? The Core prepares students to become part of, and be influential within, a globalized, technocentric world. To that end, Core classes engage students in the following ways:

- Core classes address universal concerns of all technological peoples and societies, including legal, ethical, historical and social ramifications of technological advancements.
- Core classes provide global contexts for skills and practices learned within specific majors.
- Core classes offer educational frameworks for students to think independently and practice professional skills-building.
- Core classes promote technological innovation, and invite students to explore their capacities as innovators of the 21st century.

Classes within the Core curriculum complement all of our majors and enable fulfillment of the University's mission to educate students to become innovators. It is essential to the UAT student experience that the challenges they will face in the global community are easily comprehended with regard not only to specific industries and professions, but also to processes of continuous and often exponential change. In order to become thinking innovators, students must be able to comprehend how change occurs and why. Regardless of their selected degree, all students within the University are required to complete the Core curriculum in order to earn their degree from the University.

University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
SIP311 Student Innovation Project I
SIP483 Student Innovation Project II and Portfolio Presentation

Choose one of the following:

BUS200 Entrepreneurship to Market
TCH150 Technology and Society

Choose one of the following:

TCH301 Ethics in Technology
TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:

INT350 Internship
INT400 Internship

Digital Maker and Fabrication (BS)

Courses in bold text are required for a Bachelor of Science in Digital Maker and Fabrication. Courses with an asterisk (*) are required for an Associate of Science in Digital Maker and Fabrication.

Foundational Courses

ART112 Graphic Design Foundational Principles ART121 Beginning Drawing I
ART233 Concept Art
CSC102 Computer Programming Concepts CSC215 C/C++ Programming I
DBM100 3D Build Tools
ENT200 Introduction to Business and Entrepreneurship
HCI101* Introduction to Human-Computer Interaction
HCI102 Human Factors
MTM215 Principles of Interactivity
RBT131 Digital Logic Basic Processor Design
RBT205 Mechanics and Materials
TCH100* Introduction to Design

Skills Development Courses

DBM215 Prototyping Tools and Practice
DBM240 Electromechanical Devices
DBM360 Wearable Technologies
HCI310 Designing Human-Computer Interfaces
RBT173 Introduction to Microcontrollers
RBT211 Arduino Embedded Programming
TCH200 Product Development
TCH270* The Design Process

Synthesis Courses

DBM330 Maker Studio I
DBM430 Maker Studio II
HCI470 Emerging Interface Technologies
RBT307 Physical Computing Studio
TCH405 Technology Product Design Project
TCH410 Advanced Topics in Technology Product Design
TCH491 New Technologies: Innovation, Production and the Market

Human Computer Interaction (BS)

Courses in bold text are required for a Bachelor of Science in Human-Computer Interaction. Courses with an asterisk (*) are required for an Associate of Science in Human-Computer Interaction.

Foundational Courses

ART103 Digital Asset Creation
ART112 Graphic Design Foundational Principles
CIS100 Beginning Web Design
CSC102 Introduction to Programming
DBM100 3D Build Tools
HCI101* Introduction to Human-Computer Interaction
HCI102* Human Factors
HCI225 Sketching and Prototyping
HCI320 Gender and Technologies
MTM215 Principles of Interactivity

Skills Development Courses

ART209 Typography and Layout Design
CIS240 Building Dynamic Websites I
DBM215 Prototyping Tools and Practice
HCI210 Virtual Environments
HCI250 User Experience Design and Testing
HCI310 Designing Human-Computer Interfaces
MTM235 Digital Illustration
RBT173 Introduction to Microcontrollers
TCH200 Product Development

Synthesis Courses

ART375 3D Screen Based Typography
ART388 Special Topics in Art
CIS340 Building Dynamic Websites II
HCI450 Human-Computer Interface Project
HCI470 Emerging Interface Technologies
HCI490 Special Topics in HCI
MTM310 Aesthetic Principles of Interface Design
RBT307 Physical Computing Studio

Recommended Electives

ART121 Beginning Drawing I
RBT131 Digital Logic Basic Processor Design

Robotics and Embedded Systems (BS)

Courses in bold text are required for a Bachelor of Science in Robotics and Embedded Systems. Courses with an asterisk (*) are required for an Associate of Science in Robotics and Embedded Systems.

Foundational Courses

CSC102* Introduction to Programming
CSC215* C/C++ Programming I
RBT131* Digital Logic Basic Processor Design
RBT205 Mechanics and Materials

Skills Development Courses

CSC211 Introduction to Databases
CSC275* C++ Programming II
CSC382 Data Structures and Algorithms
RBT173* Introduction to Microcontrollers
RBT211 Arduino Embedded Programming
RBT231 Autonomous Aerial Vehicles

Synthesis Courses

RBT337 Digital Vision and Sensor Processing
RBT347 Robot Navigation
RBT353 Robotics Competition
RBT389 Machine Learning
RBT421 Robotics Project
RBT479 Mechatronics

Recommended Electives

CSC318 Software Engineering Principles
CSC360 Artificial Life
CSC370 Artificial Intelligence

Associate of Science or Arts

For complete information about program requirements, core and recommended courses and graduation requirements for an Associate's degree, please refer to the University Catalog at uat.edu/uat-catalogs.

Please see www.uat.edu/fastfacts for the latest information about degree program performance and cost.



DIGITAL ARTS



DIGITAL MEDIA (BA)

Digital Media is a multifaceted, interdisciplinary program that provides for the aesthetic, critical and technical perspectives vital for professional careers in contemporary art and design practice. A diverse curriculum is presented, emphasizing aesthetic sensibility, programming literacy, creative expression and technical problem solving across a broad range of digital and physical forms of media communication. Starting with a solid foundation in traditional and digital arts, design, computer programming and interactivity, the program promotes the creation of innovative works that transform the way we communicate. Fostering experimentation, students will explore directions in visual communication design, interface and web design, augmented reality, and responsive and interactive experiences.



DIGITAL VIDEO (BA)

From the big screen of the local multiplex to the small screen of your favorite portable device, and everywhere in between, digital cinema is emerging as the ubiquitous communication medium of the 21st century. The Digital Video degree at UAT prepares students to become the creative technologists who work behind the scenes to bring these productions to life. Through explorations of the aesthetic principles of visual storytelling as established by the 100+ year history of cinema and animation, students can effectively communicate a message to an audience. Through the use and mastery of industry-standard production and post-production tools, Digital Video students apply those principles to produce polished and professional completed works with applications in the diverse industries of film, television, video production, animation, visual effects, and motion graphics.

As innovations in digital image acquisition, tapeless recording workflows, animation, motion capture, post-production and content distribution—to name but a few—continue to become the new standards of this industry, graduates from UAT's Digital Video program will be uniquely positioned to apply new technological solutions to the task of delivering visual content to the ever-hungrier 21st century audience.



WEB DESIGN (BS)

The Bachelor of Science in Web Design combines the critical elements of design, development and marketing to create competitive web professionals. Students in the program will explore topics in web design from aesthetic principles that include 2D design, graphics, typography and color. Building from this base, students will use current tools to design, develop and deploy fully functioning web presences. Additionally, students will gain experience applying new marketing techniques and strategies to optimize web presences in both mobile and traditional modes. Students will research and explore social media strategies and create web experiences designed to persuade the end user. Graduates from the Bachelor's program in Web Design will be prepared for careers as UI designers, web analysts, user experience designers, information architects, digital marketing specialists and others.

PROGRAM REQUIREMENTS

BACHELOR OF ARTS (BA) DEGREE REQUIREMENTS

Minimum General Education Credits 36
 Minimum Total Semester Credits 120
 Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 20
- Minimum Total 300/400 Level Credits 39

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36
 Minimum Total Semester Credits 120
 Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
- Meet minimum Satisfactory Academic Progress Standards at the completion of their program of study.
- Submittal of a completed and approved Application for Degree with the Office of the Registrar.
- Completion of Student Innovation Project and portfolio requirement. Student Innovation Project and portfolio requirements include the submission and review of primarily digital artifacts to demonstrate the student's capabilities within the discipline being studied (Bachelor's degree candidates only).

Upon successfully completing the above requirements and meeting all University graduation requirements put forth in the graduation policy, a Bachelor or Associate of Science degree will be awarded.

General Education

UAT's general education offers students transferable life skills that complement technical skills learned in the majors. Students receive invaluable education in the humanities, mathematics, science, languages, and other topics that build a foundation for discourse and expression that enriches their experience

beyond the academic forum. This approach meets widespread expectations of the undergraduate learning experience that honors the motivation for higher education: betterment of self and the world around us.

General education brings into clarity the spectrum of human expression, modes of thought, and perspectives that enable all students to make profound connections between their technical skills and human development. In doing so, it complements the University's technology-intensive environment by making students aware of how the broad spectrum of human experience and knowledge integrates with their technology discipline. Regardless of their selected degree, all students within the University are required to complete the general education curriculum in order to earn their degree from the University.

General Education Requirements—Bachelor of Arts Degree

Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 18 credit hours, minimum of 6 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 9 credit hours

General Education Requirements—Bachelor of Science Degree

Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 18 credit hours, minimum of 3 upper division credits

University Core Courses Bachelor's Degree

The University's Core curriculum addresses the question—what do all students of technology need to know? The Core prepares students to become part of, and be influential within, a

globalized, technocentric world. To that end, Core classes engage students in the following ways:

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- Core classes provide global contexts for skills and practices learned within specific majors.
- Core classes offer educational frameworks for students to think independently and practice professional skills-building.
- Core classes promote technological innovation, and invite students to explore their capacities as innovators of the 21st century.

Classes within the Core curriculum complement all of our majors and enable fulfillment of the University's mission to educate students to become innovators. It is essential to the UAT student experience that the challenges they will face in the global community are easily comprehended with regard not only to specific industries and professions, but also to processes of continuous and often exponential change. In order to become thinking innovators, students must be able to comprehend how change occurs and why. Regardless of their selected degree, all students within the University are required to complete the Core curriculum in order to earn their degree from the University.

University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
 SIP311 Student Innovation Project I
 SIP483 Student Innovation Project II and Portfolio Presentation

Choose one of the following:

BUS200 Entrepreneurship to Market
 TCH150 Technology and Society

Choose one of the following:

TCH301 Ethics in Technology
 TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:

INT350 Internship
 INT400 Internship

Digital Media (BA)

Courses in bold text are required for a Bachelor of Arts in Digital Media. Courses with an asterisk (*) are required for an associate of Arts in Digital Media.

Foundational Courses

ART103* Digital Asset Creation
ART112* Graphic Design Foundational Principles
 ART12 Beginning Drawing I
 ART260 Art and Technology
 CIS100 Beginning Web Design
MTM215* Principles of Interactivity

Skills Development Courses

ART131 Algorithmic Art
 ART209 Typography and Layout Design
ART255* Visual Communications/Graphics Design
 AUD210 Audio Production for Digital Media
 MTM213 2D Vector Animation
 MTM235 Digital Illustration
 MTM307 Advanced Photoshop

Synthesis Courses

ART342 Digital Painting
 ART375 3D Screen Based Typography
 ART388 Special Topics in Art
 MTM308 Advanced Illustrator
 MTM310 Aesthetic Principles of Interface Design
MTM330 Production Studio I
 MTM371 Multimedia in Context
MTM430 Production Studio II

Digital Video (BA)

Courses in bold text are required for a Bachelor of Arts in Digital Video. Courses with an asterisk (*) are required for an Associate of Arts in Digital Video.

Foundational Courses

ART103* Digital Asset Creation
 ART112 Graphic Design Foundational Principles
 ART121 Beginning Drawing I
 ART233 Concept Art (OR ART234 Storyboarding)
 AUD102 Digital Audio Fundamentals
 DBM150 Introduction to Maker Studio
DVA101* Digital Video Fundamentals
 DVA110 Lighting and Environment Design
DVA130 Movie Theory
 DVA238 Introduction to Directing and Producing
 GAA110 Introduction to Game Art and Animation

Skills Development Courses

AUD210 Audio Production for Digital Media
 DBM240 Electromechanical Devices
 DVA234 Special Effects and Character Makeup
DVA241* Digital Video Production
DVA254 Motion Graphics
 DVA260 Digital Photography
DVA274* Digital Video Editing
 DVA335 Digital Video Cinematography
DVA353* Visual Effects Compositing
 GAA220 3D Modeling Environments and FX
 GAA230 3D Modeling Characters and Vehicles
 GAA330 Characters and Vehicle Animation
 MTM125 Introduction to 3D Studio Max and Maya

Synthesis Courses

DBM330 Maker Studio I
 DBM430 Maker Studio II
 DVA310 Lighting and Environment Design II
 DVA320 3D Material, Lighting and Rendering for Film and Video
DVA323* Digital Video Production Studio I
 DVA334 Special Effects and Character Makeup II
 DVA354 Advanced Motion Graphics
 DVA371 Advanced Digital Video Editing
 DVA451 Advanced Visual Effects
DVA492 Digital Video Production Studio II
DVA493 Digital Video Production Studio III
 DVA494 Digital Video Production Studio IV
 GAA430 Advanced Character Rigging and MoCap Animation

Recommended Electives

GAA240 Game Texturing
 GAA320 Environmental and FX Animation
 GAA440 Advanced Game Character Creation

Web Design (BS)

Courses in bold text are required for a Bachelor of Science in Web Design. Courses with an asterisk (*) are required for an Associate of Science in Web Design.

Foundational Courses

ART103 Digital Asset Creation
 ART112 Graphic Design Foundational Principles
CIS100* Beginning Web Design
CIS120* Web and Social Media Technologies
CSC102* Introduction to Programming
 CSC203 Java Programming I
 HCI101 Introduction to Human Computer Interaction
 HCI102 Human Factors

Skills Development Courses

ART209 Typography and Layout Design
CIS240* Building Dynamic Websites I
 CSC330 Mobile Platform Software Development
 HCI250 User Experience Design and Testing
MKT250* Online Marketing Environments
 MTM213 2D Vector Animation (Flash)
 MTM235 Digital Illustration (Illustrator)
 MTM307 Advanced Photoshop

Synthesis Courses

CIS340 Building Dynamic Websites II
CIS430 Best Practices in Web Production
 MKT330 SEO and Applied Online Marketing
MTM330 Production Studio I
MTM430 Production Studio II

Associate of Science or Arts

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PROGRAMMING



ADVANCING COMPUTER SCIENCE (BS)

The Advancing Computer Science (ACS) degree involves students in the craft of programming. The craft of programming transcends individual programming languages and emphasizes design across multiple scales, from the design of individual programs to complex multi-platform software architectures. The ACS program balances the science of computing and the art of design, with the application of these principles to real-world problems. Graduates in ACS will be prepared for software development positions where understanding of algorithms, computing theory and complex software design are important.



ARTIFICIAL LIFE PROGRAMMING (BS)

Artificial Life Programming derives inspiration from biology to design and build software systems that solve complex real-world problems. The concepts studied in this program compliment the traditional computer science approach by providing additional problem-solving methods and techniques. Students will study and develop applications using evolutionary and genetic algorithms, cellular automata, artificial neural networks, agent based models, and other artificial life methodologies. Artificial life programming can be applied to many areas, including architecture, autonomous systems, computer games, distributed systems, economics and market dynamics, machine intelligence, self-assembly and self- organization and sociology.



ENTERPRISE SOFTWARE DEVELOPMENT (BS)

The Enterprise Software Development degree is focused on preparing graduates to design, code, build, test, deploy and manage software for businesses. Modern businesses depend on software systems to support their processes and to provide a competitive edge. Enterprise software developers apply industry best practices in software development to meet the changing needs of the enterprise. Students will learn to craft quality code that meets requirements and delivers value to the customer. Graduates with this degree will be prepared for careers as software project managers, architects, programmers and others involved in the enterprise software development life cycle.

PROGRAM REQUIREMENTS

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36

Minimum Total Semester Credits 120

Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
- Meet minimum Satisfactory Academic Progress Standards at the completion of their program of study.
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General education brings into clarity the spectrum of human expression, modes of thought, and perspectives that enable all students to make profound connections between their technical skills and human development. In doing so, it complements the University's technology-intensive environment by making students aware of how the broad spectrum of human experience and knowledge integrates with their technology discipline. Regardless of their selected degree, all students within the University are required to complete the general education curriculum in order to earn their degree from the University.

General Education Requirements—Bachelor of Science Degree
Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 18 credit hours, minimum of 3 upper division credits

University Core Courses Bachelor's Degree

The University's Core curriculum addresses the question—what do all students of technology need to know? The Core prepares students to become part of, and be influential within, a globalized, technocentric world. To that end, Core classes engage students in the following ways:

- Core classes address universal concerns of all technological peoples and societies, including legal, ethical, historical and social ramifications of technological advancements.
- Core classes provide global contexts for skills and practices learned within specific majors.
- Core classes offer educational frameworks for students to think independently and practice professional skills-building.
- Core classes promote technological innovation, and invite students to explore their capacities as innovators of the 21st century. Classes within the Core curriculum complement all of our

majors and enable fulfillment of the University's mission to educate students to become innovators. It is essential to the UAT student experience that the challenges they will face in the global community are easily comprehended with regard not only to specific industries and professions, but also to processes of continuous and often exponential change. In order to become thinking innovators, students must be able to comprehend how change occurs and why. Regardless of their selected degree, all students within the University are required to complete the Core curriculum in order to earn their degree from the University.

University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
SIP311 Student Innovation Project I
SIP483 Student Innovation Project II and Portfolio Presentation

Choose one of the following:

BUS200 Entrepreneurship to Market
TCH150 Technology and Society

Choose one of the following:

TCH301 Ethics in Technology
TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:

INT350 Internship
INT400 Internship

Advancing Computer Science (BS)

Courses in bold text are required for a Bachelor of Science in Advancing Computer Science. Courses with an asterisk (*) are required for an Associate of Science in Advancing Computer Science.

Foundational Courses

CIS100 Beginning Web Design
CSC102* Introduction to Programming
CSC202 C# Programming I
CSC203 Java Programming I
CSC215* C/C++ Programming I

Skills Development Courses

CIS240 Building Dynamic Websites I
CSC211 Introduction to Databases
CSC262 C# Programming II
CSC263 Java Programming II
CSC275* C++ Programming II
CSC318 Software Engineering Principles
CSC330 Mobile Platform Software Development
CSC340 Big Data Essentials
CSC350 Software Quality Assurance
CSC360 Artificial Life
CSC382 Data Structures and Algorithms

Synthesis Courses

CIS340 Building Dynamic Websites II
CSC313 Operating Systems Theory
CSC345 High Performance Embedded Systems
CSC413 Advanced Software Development I
CSC445 Advanced Web Programming
CSC453 Advanced Software Development II
MGT456 Big Data Analytics

Recommended General Education Courses

MAT220 Statistics
MAT251 Calculus II

Artificial Life Programming (BS)

Courses in bold text are required for a Bachelor of Science in Artificial Life Programming. Courses with an asterisk (*) are required for an Associate of Science in Artificial Life Programming.

Foundational Courses

CSC102* Introduction to Programming
CSC202 C# Programming I
CSC203 Java Programming I
CSC215* C/C++ Programming I

Skills Development Courses

CSC211 Introduction to Databases
CSC262 C# Programming II
CSC263 Java Programming II
CSC275 C/C++ Programming II
CSC318 Software Engineering Principles
CSC330 Mobile Platform Software Development
CSC350 Software Quality Assurance
CSC360 Artificial Life
CSC382 Data Structures and Algorithms

Synthesis Courses

CSC370 Artificial Intelligence
CSC406 Special Topics in Artificial Life
CSC413 Advanced Software Development I

Enterprise Software Development (BS)

Courses in bold text are required for a Bachelor of Science in Enterprise Software Development. Courses with an asterisk (*) are required for an Associate of Science in Enterprise Software Development.

Foundational Courses

CSC102* Introduction to Programming
CSC202 C# Programming I
CSC203 Java Programming I
CSC215* C/C++ Programming I
MGT102* Management in a Technology Development

Skills Development Courses

CSC211 Introduction to Databases
CSC262 C# Programming II
CSC263 Java Programming II
CSC275 C++ Programming II
CSC318 Software Engineering Principles
CSC330 Mobile Platform Software Development
CSC350 Software Quality Assurance
CSC382 Data Structures and Algorithms
MGT125 Strategic Planning and Analytics
MGT322 Financial Management in a Technology Environment

Synthesis Courses

CSC413 Advanced Software Development I
MGT423 Data Visualization and Mining
MGT441 Business Intelligence and Data Management

Recommended General Education Courses

MAT220 Statistics
MAT251 Calculus II

Associate of Science or Arts

For complete information about program requirements, core and recommended courses and graduation requirements for an Associate's degree, please refer to the University Catalog at uat.edu/uat-catalogs.

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CYBER SECURITY



NETWORK ENGINEERING (BS)

Today's increasingly connected digital world has created an Internet/data-dependent society. Highly skilled Network Engineers are responsible for the design, implementation and maintenance of our networked systems. They must be proficient in both networking and the IT systems. This degree program will provide you with a well-rounded knowledge base from which to draw upon. A strong foundational knowledge of network and systems engineering concepts form the base on which the advanced topics are built. Key concepts such as routing, switching, server operating systems, email systems, IP Telephony, wireless and virtualization will be explored in detail.



NETWORK SECURITY (BS)

A network security specialist is a professional who focuses on ensuring information confidentiality, integrity and availability. This includes the design of information assurance programs, policies, procedures and architecture utilizing the concepts of security by design. Network security utilizes proactive techniques, including defense-in-depth and layered security, to mitigate or eliminate vulnerabilities in information systems and to protect against potential exploitation. Professionals in this career path may be highly technical and practice active (and sometimes aggressive) technical security methodologies to test and verify security implementations at various levels within an organization.



TECHNOLOGY FORENSICS (BS)

A technology forensics specialist is an Information Technology professional who supports the military, corporate, law enforcement and legal communities in the investigation and analysis of digital data. Students in the Technology Forensics degree will learn methods to obtain and document digital information, determine how information was compromised, trace attribution of malicious code and digital artifacts, and reverse engineer data in order to develop mitigations and countermeasures. Topics of study may include methods for discovering data in computers, networks and hand-held devices; recovering deleted, encrypted, corrupted or hidden information; the proper handling of evidence in accordance with laws and regulations; advanced malware detection; reverse engineering; and investigation of malicious code from a variety of sources including both common threat sources and the Advanced Persistent Threat (APT).

PROGRAM REQUIREMENTS

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36

Minimum Total Semester Credits 120

Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
- Meet minimum Satisfactory Academic Progress Standards at the completion of their program of study.
- Submittal of a completed and approved Application for Degree with the Office of the Registrar.
- Completion of Student Innovation Project and portfolio requirement. Student Innovation Project and portfolio requirements include the submission and review of primarily digital artifacts to demonstrate the student's capabilities within the discipline being studied (Bachelor's degree candidates only).

Upon successfully completing the above requirements and meeting all University graduation requirements put forth in the graduation policy, a Bachelor or Associate of Science degree will be awarded.

General Education

AT's general education offers students transferable life skills that complement technical skills learned in the majors. Students receive invaluable education in the humanities, mathematics, science, languages, and other topics that build a foundation for discourse and expression that enriches their experience beyond the academic forum. This approach meets widespread expectations of the undergraduate learning experience that honors the motivation for higher education: betterment of self and the world around us.

General education brings into clarity the spectrum of human expression, modes of thought, and perspectives that enable all students to make profound connections between their technical skills and human development. In doing so, it complements the University's technology-intensive environment by making students aware of how the broad spectrum of human experience and knowledge integrates with their technology discipline. Regardless of their selected degree, all students within the University are required to complete the general education curriculum in order to earn their degree from the University.

General Education Requirements—Bachelor of Science Degree
Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 18 credit hours, minimum of 3 upper division credits

University Core Courses Bachelor's Degree

The University's Core curriculum addresses the question—what do all students of technology need to know? The Core prepares students to become part of, and be influential within, a globalized, technocentric world. To that end, Core classes engage students in the following ways:

- Core classes address universal concerns of all technological peoples and societies, including legal, ethical, historical and social ramifications of technological advancements.
- Core classes provide global contexts for skills and practices learned within specific majors.
- Core classes offer educational frameworks for students to think independently and practice professional skills-building.
- Core classes promote technological innovation, and invite students to explore their capacities as innovators of the 21st century.

Classes within the Core curriculum complement all of our majors and enable fulfillment of the University's mission to educate students to become innovators. It is essential to the UAT student experience that the challenges they will face in the global community are easily comprehended with regard not only to specific industries and professions, but also to processes of continuous and often exponential change. In order to become thinking innovators, students must be able to comprehend how change occurs and why. Regardless of their selected degree, all students within the University are required to complete the Core curriculum in order to earn their degree from the University.

University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
SIP311 Student Innovation Project I
SIP483 Student Innovation Project II and Portfolio Presentation

Choose one of the following:

BUS200 Entrepreneurship to Market
TCH150 Technology and Society

Choose one of the following:

TCH301 Ethics in Technology
TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:

INT350 Internship
INT400 Internship

Network Engineering (BS)

Courses in bold text are required for a Bachelor of Science in Network Engineering. Courses with an asterisk (*) are required for an Associate of Science in Network Engineering.

Foundational Courses

NTS201* Security Essentials

NTW102* Foundations of Network Engineering

NTW214 Network Engineering Hardware

NTW216* Foundations of Systems Administration

NTW275 Network Infrastructure Design I

NTW385 Managing Enterprise Networks

Skills Development Courses

CSC211 Introduction to Databases

NTS370 Shell Scripting for Hackers

NTW245 Applied Mobile Computing and Cloud Collaboration Technologies

NTW250 Scripting for System Administrators

NTW270 Router and Switch Configuration and Administration

NTW280 Virtualization System Technologies and Administration

NTW320 Directory Services Design and Administration

NTW342 Unix/Linux Systems Administration

NTW375 Network Infrastructure Design II

Synthesis Courses

NTW428 The Business of Technology

NTW435 Small Business Network Design

NTW440 Business Continuity/Disaster Recovery

NTW455 Modern Data Center and Cloud Computing Design and Services

Network Security (BS)

Courses in bold text are required for a Bachelor of Science in Network Security. Courses with an asterisk (*) are required for an Associate of Science in Network Security.

Foundational Courses

CFR101 Computer Forensic Essentials

NTS201* Security Essentials

NTS310 Social Engineering

NTS405 Incident Response

NTS426 Reverse Engineering

NTW102* Foundations of Network Engineering

NTW214 Network Engineering Hardware

NTW216* Foundations of Systems Administration

Skills Development Courses

CSC211 Introduction to Databases

NTS225 Programming for Hackers

NTS235 Security Applications

NTS330 Applied Exploits and Hacking

NTS350 Network Security Monitoring

NTS370 Shell Scripting for Hackers

NTS442 Collegiate Cyber Defense Competition

NTS465 Security Evaluation and Assessment Methodology

NTW245 Applied Mobile Computing and Cloud Collaboration Technologies

Synthesis Courses

NTS325 Exploit Development

NTS415 Network Defense and Countermeasures

NTS435 International and Federal INFOSEC Standards and Regulations

NTS445 Incident Response and Management

NTW440 Business Continuity/Disaster Recovery

Recommended Electives

CFR105 File Systems and Structures

CFR230 Investigative Techniques

CIS210 Linux I

MAT220 Statistics

Level I programming course

Level II programming course

Technology Forensics (BS)

Courses in bold text are required for a Bachelor of Science in Technology Forensics. Courses with an asterisk (*) are required for an Associate of Science in Technology Forensics.

Foundational Courses

CFR101* Computer Forensic Essentials

CFR105* File Systems and Structures

CIS210 Linux I

NTS201 Security Essentials

NTW102 Foundations of Network Engineering

NTW214 Network Engineering Hardware

NTW216* Foundations of Systems Administration

Skills Development Courses

CFR225 Operating System Forensics

CFR227 Malware Detection and Analysis

CFR230 Investigative Techniques

CFR235 Mobile Device Forensics

CFR315 Video Forensics

NTS330 Applied Exploits and Hacking

NTS350 Network Security Monitoring

NTS370 Shell Scripting for Hackers

Synthesis Courses

CFR410 Network Forensics

CFR420 Advanced Forensics

CFR470 Corporate and Business Issues in Digital Forensics

NTS415 Network Defense and Countermeasures

NTS435 International and Federal INFOSEC Standards and Regulations

NTS445 Incident Response and Management

Recommended Electives

MAT220 Statistics

Level I Programming course

Associate of Science or Arts

For complete information about program requirements, core and recommended courses and graduation requirements for an Associate's degree, please refer to the University Catalog at uat.edu/uat-catalogs.

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GAME STUDIES



GAME ART AND ANIMATION (BA)

Students in the Game Art and Animation program will gain an insight into what is involved at all levels of game development to create 3D art assets for multiple video game platforms such as PC, consoles, handheld games, Internet, phone and other hybrids. Students will master the artistic principles used in 3D video games art asset creation such as color theory, lighting, shading, anatomy, life drawing, perspective, scene staging, modeling low polygon and high polygon, 3D mesh topology, texturing, rigging, hand key character and prop animations, as well as motion capture and facial animation. Students in this program will be prepared for jobs such as character artist modeler and texture artist, character artist animator and rigger, environment artist modeler and texture artist, environment artist animator, mechanical mesh modeler and texture artist, and mechanical mesh animator and rigger.



GAME DESIGN (BA)

Game Design students focus on the design principles, skills and techniques required to create mechanics, design documents and functioning prototypes for innovative game projects. Game Design students will be exposed to all the tools of the trade, as well as programming and asset creation skill sets. The coursework emphasizes design skills such as strong initial concepts, design documentation, game balancing and play-testing, interactive storytelling and interface design. Students in the Game Design program will also take a critical approach to the study of gameplay, player interaction and community dynamics as well as the unique features of the numerous game platforms available in the marketplace. In team-based projects, design students will work with artists and programmers to create complete projects. Applying all the elements of the game creation process, Game Design students will also develop the leadership skills to see projects through from initial concept to publisher-ready final product.



GAME PROGRAMMING (BS)

Courses in game programming will emphasize the essential issues and the skills required to develop games for multiple platforms such as web, console, PC and mobile devices. These skills have broader applications in related industries such as entertainment, business, research and training. Game programming students begin with the programming principles, skills and techniques shared in all programming disciplines and then specifically focus on game-specific features and techniques. Game programming emphasizes C++ programming, scripting, data handling, DirectX/Open GL development, game engine architecture, gameplay interaction, artificial intelligence, networking and the use of middleware and industry APIs. Students in game programming will also develop a critical approach to the study of gameplay, interaction and design. The UAT game programming student will have a broad, deep skill set and be comfortable on many platforms and with a myriad of languages.



SERIOUS GAME AND SIMULATION (BA)

Gaming technology and practices have become a part of everyday life, and there is a growing expectation that gaming-based technologies and interactions are being embraced by mainstream businesses and organizations. The Serious Game and Simulation degree uses game design as a base and applies the design principles of gaming to serious applications such as corporate training, medical and therapeutic, military and education. As this is a highly technical field, students will be exposed to all the tools of the trade as well as mid-level programming and asset creation skill sets. The coursework emphasizes design skills such as strong initial concepts, design documentation, game balancing and play-testing, interactive storytelling and interface design with an eye towards developments in the Serious Games field. Students in the Serious Games program will also take a critical approach to the study of gameplay, player interaction and community dynamics as well as the unique features of the numerous game platforms available in the marketplace. In team-based projects, design students will work with artists and programmers to create complete projects. Applying all the elements of the game creation process, students will also develop the leadership skills to see projects through from initial concept to publisher-ready final product.

PROGRAM REQUIREMENTS

BACHELOR OF ARTS (BA) DEGREE REQUIREMENTS

Minimum General Education Credits 36
 Minimum Total Semester Credits 120
 Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36
 Minimum Total Semester Credits 120
 Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
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- Submittal of a completed and approved Application for Degree with the Office of the Registrar.
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Upon successfully completing the above requirements and meeting all University graduation requirements put forth in the graduation policy, a Bachelor or Associate of Science degree will be awarded.

General Education

UAT's general education offers students transferable life skills that complement technical skills learned in the majors. Students receive invaluable education in the humanities, mathematics, science, languages, and other topics that build a foundation for discourse and expression that enriches their experience beyond the academic forum. This approach meets widespread

expectations of the undergraduate learning experience that honors the motivation for higher education: betterment of self and the world around us.

General education brings into clarity the spectrum of human expression, modes of thought, and perspectives that enable all students to make profound connections between their technical skills and human development. In doing so, it complements the University's technology-intensive environment by making students aware of how the broad spectrum of human experience and knowledge integrates with their technology discipline. Regardless of their selected degree, all students within the University are required to complete the general education curriculum in order to earn their degree from the University.

General Education Requirements—Bachelor of Arts Degree
 Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 18 credit hours, minimum of 6 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 9 credit hours

General Education Requirements—Bachelor of Science Degree
 Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
- Mathematics and Science—Minimum 18 credit hours, minimum of 3 upper division credits

University Core Courses Bachelor's Degree

The University's Core curriculum addresses the question—what do all students of technology need to know? The Core prepares students to become part of, and be influential within, a globalized, technocentric world. To that end, Core classes engage students in the following ways:

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University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
 SIP311 Student Innovation Project I
 SIP483 Student Innovation Project II and Portfolio Presentation

Choose one of the following:
 BUS200 Entrepreneurship to Market
 TCH150 Technology and Society

Choose one of the following:
 TCH301 Ethics in Technology
 TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:
 INT350 Internship
 INT400 Internship

Game Art and Animation (BA)

Courses in bold text are required for a Bachelor of Arts in Game Art and Animation. Courses with an asterisk (*) are required for an Associate of Arts in Game Art and Animation.

Foundational Courses

ART233 Concept Art
 ART234 Storyboarding
 ART240 Figure and Character Sculpting
GAA105* Game Art and Animation Fundamentals

GAA110* Introduction to Game Art and Animation
GAM125* Introduction to Game Development

Skills Development Courses

GAA220* 3D Modeling Environments and FX
GAA230 3D Modeling Characters and Vehicles
GAA240 Game Texturing
 GAA320 Environmental and FX Animation
 GAA330 Characters and Vehicles Animation
 GAA360 UI Design and Animation

Synthesis Courses

GAA420 Advanced Game Environment Creation
 GAA430 Advanced Character Rigging and MoCap Animation
 GAA440 Advanced Game Character Creation
 GAA450 Advanced Materials, Shaders and Lighting
 GAA490 Industry Professional Development
GAM281 Production Studio I
GAM381 Production Studio II
 GAM481 Production Studio III

Game Design (BA)

Courses in bold text are required for a Bachelor of Arts in Game Design. Courses with an asterisk (*) are required for an Associate of Arts in Game Design.

Foundational Courses

GAM101* Introduction to Game Design
GAM113* Introduction to Game Tools
GAM125* Introduction to Game Development
GAM170* Game Design Workshop I

Skills Development Courses

GAM175 Game Testing and Analysis
 GAM200 Critical Game Studies
GAM218 Game Scripting for Designers
 GAM235 Game AI Concepts
GAM310 Level Design

Recommended Elective

GAM150 Evolution of Electronic Games

Game Programming (BS)

Courses in bold text are required for a Bachelor of Science in Game Programming. Courses with an asterisk (*) are required for an Associate of Science in Game Programming.

Foundational Courses

CSC102* Introduction to Programming
 CSC202 C# Programming I
 CSC203 Java Programming I
CSC215* C/C++ Programming I
GAM104* Introduction to Game Programming
GAM125* Introduction to Game Development
GAM205* Gameplay Programming Concepts

Skills Development Courses

CSC275 C++ Programming II
CSC382 Data Structures and Algorithms
 GAM175 Game Testing and Analysis
GAM240* Game Engine Programming I
 GAM275 Mobile Game Programming
 GAM303 Applied Game AI Concepts
 GAM333 Scripting Integration
 PHY350 Physics Game Programming

Synthesis Courses

GAM281 Production Studio I
 GAM324 Graphics Programming
 GAM338 Advanced Gameplay Programming
 GAM341 Game Tools Development
 GAM361 Multiplatform Programming
GAM381 Production Studio II
 GAM481 Production Studio III
 GAM495 Industry Professional Development

Recommended Electives

CSC262 C# Programming II
 CSC263 Java Programming II
 CSC313 Operating Systems Theory
 CSC413 Advanced Software Development I

Recommended General Education Courses:

MAT251 Calculus II
 MAT342 Linear Algebra

Serious Game and Simulation (BA)

Courses in bold text are required for a Bachelor of Arts in Serious Game and Simulation. Courses with an asterisk (*) are required for an Associate of Arts in Serious Game and Simulation.

Foundational Courses

ART103 Digital Asset Creation
GAM101 Introduction to Game Design
GAM113 Introduction to Game Tools
GAM115* Introduction to Serious Games
GAM125* Introduction to Game Development
GAM170 Game Design Workshop
 HCI101 Introduction to Human-Computer Interaction

Skills Development Courses

GAM175 Game Testing and Analysis
 GAM200 Critical Game Studies
GAM218 Game Scripting for Designers
 GAM260 Instructional Design
GAM310 Level Design
 HCI210 Virtual Environments
 HCI310 Designing Human-Computer Interfaces

Synthesis Courses

GAM281 Production Studio I
 GAM375 Rapid Game Prototyping and Experimental Gameplay
 GAM380 Serious Game Design
GAM381 Production Studio II
 GAM404 Applied Game Development
 GAM481 Production Studio III
 GAM495 Industry Professional Development

Associate of Science or Arts

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ADVANCING BUSINESS TECHNOLOGIES



BUSINESS TECHNOLOGY (BS)

This cutting-edge program is designed to prepare students for top jobs in today's technologically oriented business world. By combining dynamic and synergistically chosen curriculum from UAT's existing course requirements, students learn a unique combination of technical, strategic, critical, financial, analytical and managerial skills that allow them to excel in such high-demand areas as strategic management, global business, innovation, technology product development, and project management in start up, private and public sector firms.

In recent years, the field of business technology has grown rapidly in conjunction with advances in technology, new business models, regulatory issues, development methodology, managing cross functional and international teams, strategic management, innovation and go-to-market strategies thus creating a demand for these dynamic cross functional skills.



TECHNOLOGY STUDIES (BS)

The Technology Studies program draws from a foundation designed to guide students through key aspects of the history and application of technology in the context of entrepreneurship, management and innovation. Technology Studies students gain competitive lifelong skills in strategic thinking, information analysis, presentation and modern marketing. Students gain literacy in a variety of technologies in social contexts, to scan for and report on technological change, and to evaluate disruptive and emerging technologies with respect to often-conflicting values, agendas and policy proposals.

Students are challenged to find their own creative visions with respect to technological innovation, management, marketing and entrepreneurship. Many paths are possible through this degree resulting in professionals capable of building strategic, entrepreneurial, policy and/or foresight competencies per the student's preference. In turn, the degree is a foundation for a wide variety of careers, including marketing, management and entrepreneurial positions.

PROGRAM REQUIREMENTS

BACHELOR OF SCIENCE (BS) DEGREE REQUIREMENTS

Minimum General Education Credits 36

Minimum Total Semester Credits 120

Within 120 minimum credit hours, the following requirements also apply:

- Minimum Degree-Specific Credits 30
- Minimum Total 300/400 Level Credits 39

GRADUATION REQUIREMENTS

- Successful completion of an approved program of study.
- Successful completion of the minimum credits required by UAT's accrediting body for the desired degree.
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- Submittal of a completed and approved Application for Degree with the Office of the Registrar.
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General Education Requirements—Bachelor of Science Degree
Minimum 36 total general education credit hours, including:

- TCH115 Thinking Strategies
- Humanities and Social Sciences—Minimum 12 credit hours, minimum of 3 upper division credits, including:
 - ENG101 Composition I
 - ENG102 Composition II
 - COM226 Communication in Technology
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University Core Courses Bachelor's Degree

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University Core Courses—Bachelor's Degree

LAW370 Legal Issues in Technology
SIP311 Student Innovation Project I
SIP483 Student Innovation Project II and Portfolio Presentation
Choose one of the following:
BUS200 Concept to Market
TCH150 Technology and Society

Choose one of the following:
TCH301 Ethics in Technology
TCH310 Technology, Ethics, and Society

AND at least 3 credits in an internship:
INT350 Internship
INT400 Internship

Business Technology (BS)

Courses in bold text are required for a Bachelor of Science in Business Technology. Courses with an asterisk (*) are required for an Associate of Science in Business Technology.

Foundational Courses

ENT200 Introduction to Business and Entrepreneurship
MGT102 Management in a Technology Environment
MGT220 Project Management
TCH230 Innovation Frameworks

Skills Development Courses

ENT305 Entrepreneurial Operations
MGT215 Strategic Planning and Analytics
MGT230 Organizational Development
MGT322 Financial Management in a Technology Environment
MGT324 Managing Change and Innovation
MGT330 Leading Knowledge Workers
MKT120 Marketing
MKT250 Online Marketing Environments
TCH200 Product Development

Synthesis Courses

MGT423 Data Visualization and Mining
MGT425 Trends in Business Technology
MGT441 Business Intelligence and Data Management
MGT450 ROI Based Decision Making and Negotiations
MGT456 Big Data Analytics
MKT320 New Media Communications and Marketing
MKT330 SEO and Applied Online Marketing
NTW428 The Business of Technology
TCH405 Technology Product Design Project
TCH490 Forecasting Emergent Technologies
TCH491 New Technologies, Innovation, Production and the Market

Technology Courses

Students within the Business Technology major will complete a minimum of 15 credits of coursework drawn from the Foundational, Skills Development or Synthesis areas of a different technology major.

Technology Studies (BS)

Courses in bold text are required for a Bachelor of Science in Technology Studies. Courses with an asterisk (*) are required for an Associate of Science in Technology Studies.

Foundational Courses

(One TCH course required)
CIS120 Web and Social Media Technologies
ENT200 Introduction to Business and Entrepreneurship
MGT102 Management in a Technology Environment
TCH220 Military Technology
TCH230 Innovation Frameworks
TCH250 Networked Society

Skills Development Courses

ENT305 Entrepreneurial Operations
MGT324 Managing Change and Innovation
MKT250 Online Marketing Environments
TCH200 Product Development

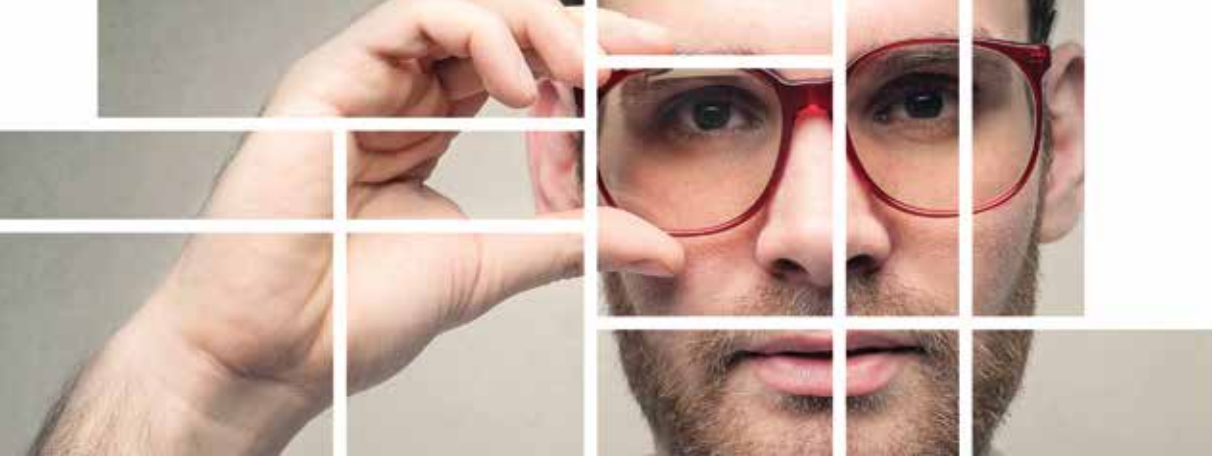
Synthesis Courses

ENT405 Business Planning for Entrepreneurs
MGT425 Trends in Business Technologies
MKT320 New Media Communication and Marketing
TCH425 Politics, Power and Technology
TCH451 Contemporary Issues in Technology
TCH490 Forecasting Emergent Technologies
TCH491 New Technologies: Innovation, Production and the Market

Associate of Science or Arts

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GRADUATE DEGREE PROGRAMS



DEVELOPING LEADING EDGE SOFTWARE

Software development and computer science are continuously evolving. Today's software developer needs to stay on top of these changes. New algorithms, code designs including design patterns, and new programming languages are being developed to capture new architectures and paradigms in these fields. The Advancing Computer Science Masters degree aims at capturing the fluid nature of software development and advance the field through development of cutting edge research and applications.



MANAGING NETWORK SECURITY AND PROTECTING INFORMATION

The program is designed around the skills associated with coordinating security efforts related to information technology and many other fields relating to security initiatives and standards. Students will discover the importance of a comprehensive system-wide information security program to ensure that appropriate policies, standards and procedures designed to protect the security of information are documented and followed. The Information Assurance degree reflects the application of theory and an alignment with industry standards and guidelines.



LEADING GAME PRODUCTION TEAMS

The Game Production and Management program offers students the opportunity to utilize skills to analyze and produce complete works in the electronic gaming arena. Students will move through curriculum designed to build leadership and production skills applicable to the gaming industry allowing them to implement and maintain complete production pipelines. In addition, students will have the opportunity to evaluate recent trends in game technology, from critical studies to emerging genres and platforms. The curriculum will provide students with the background and experiences needed to navigate the game industry and lead an effective production team in entertainment or serious based games.



LEADING TECHNOLOGY INNOVATION

Knowing how the changing technology landscape affects the strategic planning of an organization is a necessity in today's business world. Technology Leadership offers skills for the professional moving into management and administration. The program allows students to expand their skills into the business realm, enabling them to manage projects and collaborate with teams, be entrepreneurial and understand legal issues associated with business and technology.

PROGRAM REQUIREMENTS

GRADUATION REQUIREMENTS

Students enrolled in the Master of Science program will graduate with a Master of Science degree when they have:

1. Successfully completed the required core classes and met all objectives.
2. Successfully completed the minimum number of required degree-specific credit hours.
3. Achieved a cumulative GPA of at least 3.0/4.0.
4. Successfully completed and presented the Graduate Innovation Project.
5. Completed the Application for Graduation.

UNIVERSITY CORE OBJECTIVES.

1. Systematic Problem-solver: Analyze complex situations and synthesize holistic solutions while managing change and uncertainty.
2. Insightful Investigator: Utilize qualitative and quantitative research and other knowledge acquisition methods to gather, synthesize and assess data.
3. Innovation Leader: Complete an innovative project utilizing an iterative process while overcoming leadership and team challenges.
4. Entrepreneur: Set and achieve goals that facilitate project completion, optimize value, enhance competitive advantage, and accommodate change.
5. Effective Communicator: Demonstrate integrity, ethics, self-awareness, and purpose while communicating with people and organizations.

UNIVERSITY CORE COURSES

- MSC555 Project Management
- MSC660 Makerspace in Action
- MSC680 Innovation and Creation
- MSC681 Design and Production
- MSC682 Innovation and the Market
- MSC683 Continuing Project (as needed)
- MSC686 Topics in Emerging Technologies

Advancing Computer Science Degree Courses

Degree Courses

- MSE539 Algorithms, Frameworks, and Design Patterns
 - MSE540 Software Development Paradigms
 - MSE571 Application Testing and Metrics
 - MSE678 Software Architecture
 - MSE688 Mobile Development
- And choose one of the following:*
- MSE673 Advanced Programming Project
 - MSE683 Internship

Technology Leadership Courses

Degree Courses

- MSE528 Strategic and Organizational Leadership
 - MSE544 Data Visualization, Metrics and Analysis
 - MSE546 SEO, Social and Market Development Strategies
 - MSE624 Managing People in a Technology Environment
 - MSE649 Managing Change and Innovation
- And choose one of the following:*
- MSE639 Advanced Topics in Technology Leadership
 - MSE683 Internship

Game Production and Management Courses

Degree Courses

- MSE501 Game Production and Documentation
 - MSE503 Game Marketing and Advertising
 - MSE504 Critical Game Studies
 - MSE509 Game Processes and Pipeline
 - MSE545 The Business of Gaming
- And choose one of the following:*
- MSE505 Serious Games and Instructional Design
 - MSE603 Game Project
 - MSE683 Internship

Information Assurance Courses

Degree Courses

- MSE507 Introduction to Information Assurance
 - MSE508 Governance and Risk Management
 - MSE511 Business Continuity/Disaster Recovery
 - MSE520 International and Federal INFOSEC Standards and Regulations
 - MSE631 Information Assurance Management
- And choose one of the following:*
- MSE506 Security Assessment and Evaluation
 - MSE584 Active Defense
 - MSE683 Internship

Associate of Science or Arts

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