

The Digital Animation & Visual Effects School

Addendum to 2020 Catalog

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The DAVE School is not enrolling in any of the programs listed in this addendum at this time.

Animation Program – Program Description

Animation Bachelor Program

The Bachelor's Degree in Animation provides students with a practical application to the animation process. This course will guide students through the primary principles and pipeline needed to start them on an entry-level career path. The students will learn and understand principles of movement, storytelling, acting, rigging, and performance using a variety of software.

120 Semester Credits

Core Courses (60 Credit Hours Required)

ANI 100 – History of Animation	3.0 Credits
ANI 150 – Visual Storytelling	3.0 Credits
ANI 175 – Acting for Animators	3.0 Credits
ANI 190 – Drawing for Animators I	3.0 Credits
ANI 250 – Introduction to 2D Animation	3.0 Credits
ANI 310 – Introduction to 3D Animation	3.0 Credits
ANI 330 – Rigging for 3D Animators	3.0 Credits
ANI 340 – Drawing for Animators II	3.0 Credits
ANI 342 – Previsualization	3.0 Credits
ANI 345 – Physical Animation	3.0 Credits
ANI 355 – Body Animation I	3.0 Credits
ANI 359 – Facial Animation	3.0 Credits
ANI 360 – Creature Animation I	3.0 Credits
ANI 370 – Character Animation I	3.0 Credits
ANI 450 – Body Animation II	3.0 Credits
ANI 460 – Creature Animation II	3.0 Credits
ANI 470 – Character Animation II	3.0 Credits
ANI 480 – Stylized Animation	3.0 Credits
ANI 490 – Student Animation Showcase	3.0 Credits
MOGA 405 – Career Development	3.0 Credits

General Education Courses (36 Credit Hours Required)

The required general education component must include at least one course from each of the following groups: Humanities, Mathematics and the Sciences, and Social Sciences.

Elective Courses (24 Credit Hours Required)

Animation Program – Course Descriptions

ANI 100 – History of Animation

3.0 Credits

The purpose of this course is to provide a historical look the evolution of animation from art form to industry. Students will learn from various perspectives from before the invention of film to present day. The course will explore the different tools and technology used in animation as well as the various techniques used to produce animation.

ANI 150 – Visual Storytelling

3.0 Credits

The purpose of this course is to give students an understanding of how to construct and tell a story visually. The course will explore how the history of story and character has evolved into modern day storytelling and will introduce students to the art of visual storytelling and film language. Students will learn various techniques such as scriptwriting, storyboarding, and the art of the story pitch.

ANI 175 – Acting for Animators

3.0 Credits

The purpose of this course is to provide students with the basic acting theory that helps explain the differences between stage and film acting. The course demonstrates how to apply acting theory to animated characters or creatures. Students who complete this course will have a solid understanding of actor vs. animator, moving illustrations, acting principles, power centers and active listening.

ANI 190 – Drawing for Animators I

3.0 Credits

The purpose of this course is to give students a comprehensive understanding of basic observational drawing techniques and principles. This course will introduce students to the art of drawing through a digital medium using 2D drawing software. Students who complete this course will have a solid understanding core drawing concepts such as line, form, volume, shading and rendering, and perspective.

ANI 250 – Introduction to 2D Animation

3.0 Credits

The purpose of this course is to give students a comprehensive understanding of 2D animation fundamentals. This course will introduce students to the art and techniques of hand drawn animation through the use of a digital medium. Students who complete this course will have a solid understanding of timing and spacing, anticipation and overshoot, bounces and follow through, and squash and stretch.

Prerequisite: ANI 190

ANI 310 – Introduction to 3D Animation

3.0 Credits

The purpose of this course is to give students a comprehensive understanding of 3D animation fundamentals. This course will introduce students to 3D animation software and will focus on the principles of animation. Students who complete this course will have a solid understanding of primitive 3D modeling and rigging concepts, basic 3D animation workflow, and 3D motion graph editing.

ANI 330 – Rigging for 3D Animators**3.0 Credits**

The purpose of this course is to provide students with a comprehensive understanding of the animation setup process. This course will introduce students to the fundamental concepts of rigging and how it pertains to the 3D animation process. Students who complete this course will have a solid understanding of rigging topics such as constraints and deformers, joints, skinning, and control systems, as well as animation topics such as space switching, animating constraints, and baking keyframes.

Prerequisite: ANI 310

ANI 340 – Drawing for Animators II**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Drawing for Animators I. This course will introduce students to art of drawing the human form. Students who complete this course will have a solid understanding of basic human anatomy and proportion, and capturing the spirit of a pose through gesture drawing.

Prerequisite: ANI 190

ANI 342 – Previsualization**3.0 Credits**

The purpose of this course is to build upon concepts learned in Visual Storytelling and Intro to 3D Animation. The course will introduce students to digital video and audio editing techniques and will focus on the production process of a 3D animatic. Students who complete this course will have a solid understanding of 3D camera animation, character staging and scene setup, video editing and directing, and proxy animation.

Prerequisite: ANI 310 and ANI 150

ANI 345 – Physical Animation**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Intro to 3D Animation. This course will introduce the fundamental concepts of physics as it applies to animation. Students will explore basic fundamentals of mechanical and physics based animation techniques and will leave the course with a solid understanding of animating vehicles, machines, and physically motivated phenomena.

Prerequisite: ANI 310

ANI 355 – Body Animation I**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Intro to 3D Animation. This course will introduce students to the fundamental concepts of bipedal body animation, focusing on weight and balance, standing and sitting, and walk cycles. Students who complete this course will have a solid understanding of 3D animation workflow for basic bipedal locomotion.

Prerequisite: ANI 340

ANI 359 – Facial Animation**3.0 Credits**

The purpose of this course is to build upon the concepts learned in the Body Animation II. This course will introduce students to the fundamental concepts of facial animation. Students who complete this course will have a solid understanding of emotions through facial expression, eye and mouth movement, and the mechanics of lip sync animation.

ANI 360 – Creature Animation I**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Body Animation I. This course will introduce students to concepts of quadruped body animation, focusing on walk cycles, running and galloping, and jumping. Students who complete this course will have a solid understanding of 3D animation workflow for basic quadruped locomotion.

ANI 370 – Character Animation I**3.0 Credits**

The purpose of this course is to provide students with the basic understanding of 3D character animation specific to body language. This course will build upon concepts learned in Acting for Animators and will allow students to explore avenues for emotive expression through body animation. Students who complete this course will have a solid understanding of body language and pantomime, as well as proper 3D animation workflow for basic character performance.

Prerequisite: ANI 340

ANI 450 – Body Animation II**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Body Animation I. This course will explore advanced concepts in biped body animation, focusing on lifting and pushing, running and jumping, starts and stops, and ragdoll animation. Students who complete this course will have a solid understanding of 3D animation workflow for advanced bipedal locomotion.

Prerequisite: ANI 355

ANI 460 – Creature Animation II**3.0 Credits**

The purpose of this course is to build upon the concepts learned in Creature Animation I. This course will explore advanced concepts in creature locomotion and performance. Students who complete this course will have a solid understanding of creature and animal behavior, decision making and emoting.

Prerequisite: ANI 360

ANI 470 – Character Animation II**3.0 Credits**

The purpose of this course is to provide students with the basic understanding of 3D character animation specific to facial performance. During the course students will explore avenues for emotive expression through facial animation with a goal of achieving an emotional response with their animation performance. Students who complete this course will have a solid understanding of emotive facial expressions, advanced lipsync concepts, and proper 3D animation workflow for facial performance.

Prerequisite: ANI 370

ANI 480 – Stylized Animation**3.0 Credits**

The purpose of this course is to provide students with the basic understanding of 3D character animation specific to exaggerated animation often found in cartoons. Students who complete this course will have a better understanding of multiple limbs, smears, motion lines and staggers seamlessly into your animation.

ANI 490 – Student Animation Showcase**3.0 Credits**

Students will apply their accumulated knowledge of animation to create an original animated short. The culmination of this knowledge will be a final animation project using 2D and/or 3D animation techniques. Students will explore various techniques, methodologies, and concepts to complete a professional animation project.

MOGA 405 – Career Development**3.0 Credits**

The course will provide the framework for the career decision making process. It stresses the connection between the student's chosen academic field and career objective. Among techniques employed include resume writing, interview skill development and internet research.

Interactive Media Programs – Program Descriptions

Interactive Media Associate Program

The Interactive Media Associate Degree Program prepares students to produce compelling visual stories and technology-based commerce designs for an expanding digital media marketplace. Students collaborate with a creative team within a digital landscape and media distribution marketplace.

60 Semester Credits

Core Courses (60 Credit Hours Required)

DAVE 101 Digital Modeling and Sculpting	12.0 Credits
DAVE 201 Fundamentals of Computer Animation	12.0 Credits
DCP 175 Digital Editing	3.0 Credits
AGD 1010 Digital Imaging I	3.0 Credits
AGD 2010 Digital Imaging II	3.0 Credits
AGD 2020 Applied Design	3.0 Credits
WGD 1010 Introduction to Web Design	3.0 Credits
MOGA 202 Motion Graphics Production I	3.0 Credits
DCP 250 Digital Cinematography	3.0 Credits

General Education Courses (15 Credit Hours Required)

The required general education component must include at least one course from each of the following groups: Humanities, Mathematics and the Sciences, and Social Sciences.

Interactive Media Bachelor Program

The Interactive Media Bachelor Degree Program prepares students to produce compelling visual stories and technology-based commerce designs for an expanding digital media marketplace. Students collaborate with a creative team within a digital landscape and media distribution marketplace.

120 Semester Credits

Core Courses (63 Credit Hours Required)

DAVE 101 Digital Modeling and Sculpting	12.0 Credits
DAVE 201 Fundamentals of Computer Animation	12.0 Credits
DCP 175 Digital Editing	3.0 Credits
AGD 1010 Digital Imaging I	3.0 Credits
AGD 2010 Digital Imaging II	3.0 Credits
AGD 2020 Applied Design	3.0 Credits
WGD 1010 Introduction to Web Design	3.0 Credits
MOGA 202 Motion Graphics Production I	3.0 Credits

DCP 250 Digital Cinematography	3.0 Credits
DCP 150 Digital Producing	3.0 Credits
DCP 275 Sound Design	3.0 Credits
DCP 350 Film Directing	3.0 Credits
DCP 450 Production Management	3.0 Credits
DCP 475 Digital Cinema Post-Production	3.0 Credits
IMA 499 Portfolio Production	3.0 Credits

General Education Courses (36 Credit Hours Required)

The required general education component must include at least one course from each of the following groups: Humanities, Mathematics and the Sciences, and Social Sciences.

Elective Courses (21 Credit Hours Required)

Interactive Media Programs – Course Descriptions

DAVE 101 Digital Modeling and Sculpting 12.0 credits

The purpose of this Block is to give students a comprehensive understanding of 3D modeling and digital sculpting techniques needed to construct objects for feature films and video games. Students who complete this term will have a concrete knowledge of hard surface and organic modeling techniques, UV mapping, and digital sculpting.

DAVE 201 Fundamentals of Computer Animation 12.0 credits

The purpose of this Block is to give students a thorough understanding of computer animation. Students who complete this term will have a solid understanding of camera and vehicle animation, parent/child hierarchies, character rigging, character animation, facial animation, lip syncing, and motion capture for film and gaming.

Pre-Requisite: DAVE 101

DCP 175 Digital Editing 3.0 credits

This course covers the history, theory and practice of motion picture editing and post-production workflow. Students evaluate and apply editing techniques and theory using digital still and video cameras based on practical assignments developed by the instructor. Practical assignments will receive individual and peer critiques. Students apply professional editing theory and techniques using non-linear editing systems on practical assignments developed by the instructor. Practical assignments will receive individual and peer group critiques. Students will learn to apply knowledge of a digital editing system like Adobe Premiere, AVID or Final Cut Pro.

AGD1010 Digital Imaging I 3.0 credits

This course is an introduction to creation of graphic art for the web using pixel and vector editing software. Topics include the use of bitmapped painting tools, creative use of fonts, and use of layers in graphics layout. Lab included.

AGD2010 Digital Imaging II 3.0 credits

Digital Imaging II is a continuation of AGD1010. It covers the basics of optics, photography, lighting, photo enhancement and stylized text/font overlays associated with digital photography. Students are instructed how to use scanners as input devices to create digital images. Students discover effective picture taking techniques as they employ digital cameras. Emphasis is placed not only on photographing a subject, but also on creating effective photo backdrops, and use of diffuse lighting. Students employ a commercial product such as Photoshop®, Lover's Eye®, ArcSoft®, or similar software to retouch/airbrush their photos, create layers, add textures, text and apply special 3-D effects such as gradients, glows, drop shadows, highlights and vanishing points. Because the students will apply these concepts to Web pages, image compression and Web-safe color subjects are emphasized. Lab included.

Prerequisite: AGD 1010

AGD2020 Applied Design 3.0 credits

This course focuses on computer generated, three-dimensional graphics. The student will be instructed in the creation of 3D scenes and characters with sophisticated 3D rendering software. Lab included.

Prerequisite: AGD 2010

WGD1010 Introduction to Web Design 3.0 credits

This course introduces the student to the basics of designing web pages using HyperText Markup Language (HTML). It explores the essential elements involved in good web page design including content, navigation and incorporation of graphics. Focus is placed on what constitutes a pleasing and aesthetically-designed web site balanced between marketing and download constraints. Lab included.

MOGA 202 Motion Graphics Production I 3.0 credits

This course trains students in basic techniques of motion graphics creation through the use of software programs employed by design and animation studios. Students will explore the production pipeline and focus on design with an emphasis on problem-solving. Students will learn the requirements of a motion-graphics project by demonstrating the creation of designed assets and gain a thorough understanding of animation techniques, special effects, image compositing, and motion graphics. Students will composite video, digital images, motion graphics, vector and pixel graphics, titles, and kinetic typography into cohesive motion graphics pieces. Narrative and non-narrative form will be explored. Projects include: kinetic logo design, animated public service announcements, broadcast titling, and advertising spots. Students will assemble a demo reel of motion work.

DCP 250 Digital Cinematography 3.0 credits

This course focuses on digital cinematography and the aesthetic aspects of cinematic practice. Students evaluate core concepts of cinematography: composition, lighting, camera movement, lens selection and the technical limitations and advantages of digital cinematography. Students apply cinematic techniques using digital still and video cameras to shoot projects with live subjects.

DCP 275 Sound Design 3.0 credits

This course includes the role of sound in contemporary filmmaking, including the development of sound design as a part of contemporary cinema and essential aspects of field production audio recording, post-production workflow, studio mixing, audio effects, additional dialogue recordings (ADR), music and media asset management.

DCP 450 Production Management 3.0 credits

Working collaboratively as director, director of photography, assistant director, or production manager, students develop a film production from pre-production through production and post-production. This course includes script breakdowns for budget, schedule, casting, location, cinematography and production design, on-set procedures, and post-production work-flow. Students apply industry practices to develop and execute a professional production plan. This course covers production meetings, practical demonstrations, on set performance in a department leadership role, response to Executive Producer editorial notes, meeting postproduction distribution requirements and delivering a production wrap book. Practical assignments receive individual and peer-group critiques. Collaborative production of short film projects using professional equipment.

DCP 475 Digital Cinema Post-Production 3.0 credits

Students work collaboratively editing digital cinema projects shot during Production Management.

Pre-requisite: DCP 450

IMA 499 Portfolio Production 3.0 credits

This course is the culmination of the program, where the student develops their final project, and their personal branding. The student must include a resume and self-promoting piece. The student will present their final portfolio project before a Review Board of their peers and faculty, for the purposes of both a professional critique and an interview preparation.

Motion Design Programs – Program Descriptions

Motion Design Diploma Program

The Motion Design diploma program will allow students to relay complete thoughts and messages to viewers through the combination of different media such as broadcast, film, and graphic design. The students will be able to create the opening credits for film, as well as animations based in web, and graphic bumpers for television networks. The students will learn and understand principles of composition, design, compositing and animation using a variety of software.

60 Semester Credits

Core Courses (60 Credit Hours Required)

MODA 101 Motion Design Concepts	12.0 Credits
MODA 201 2D Motion Design	12.0 Credits
MODA 251 3D Motion Design	12.0 Credits
MODA 301 Motion Design Production	12.0 Credits
MODA 401 Portfolio Development	12.0 Credits

Motion Design Associate Program

The Associates Degree in Motion Design will allow students to relay complete thoughts and messages to viewers through the combination of different media such as broadcast, film, and graphic design. The students will be able to create the opening credits for film, as well as animations based in web, and graphic bumpers for television networks. The students will learn and understand principles of composition, design, compositing and animation using a variety of software.

75 Semester Credits

Core Courses (60 Credit Hours Required)

MODA 101 Motion Design Concepts	12.0 Credits
MODA 201 2D Motion Design	12.0 Credits
MODA 251 3D Motion Design	12.0 Credits
MODA 301 Motion Design Production	12.0 Credits
MODA 401 Portfolio Development	12.0 Credits

General Education Courses (15 Credit Hours Required)

HUM1010 Humanities	3.0 Credits
PSY1010 Introduction to Psychology	3.0 Credits
SOC3201 Social Psychology	3.0 Credits
COM4000 Cultural Studies	3.0 Credits
MAT1011 PreAlgebra	3.0 Credits

Motion Design Bachelor Program

The Bachelor's Degree in Motion Design will allow students to relay complete thoughts and messages to viewers through the combination of different media such as broadcast, film, and graphic design. The students will be able to create the opening credits for film, as well as animations based in web, and graphic bumpers for television networks. The students will learn and understand principles of composition, design, compositing and animation using a variety of software.

120 Semester Credits

Core Courses (60 Credit Hours Required)

MODA 101 Motion Design Concepts	12.0 Credits
MODA 201 2D Motion Design	12.0 Credits
MODA 251 3D Motion Design	12.0 Credits
MODA 301 Motion Design Production	12.0 Credits
MODA 401 Portfolio Development	12.0 Credits

General Education Courses (36 Credit Hours Required)

The required general education component must include at least one course from each of the following groups: Humanities, Mathematics and the Sciences, and Social Sciences.

Elective Courses (24 Credit Hours Required)

Motion Design Programs – Course Descriptions

MODA 101 Motion Design Concepts 12.0 credits

The purpose of this course is to give students a comprehensive understanding of layout and design concepts. Students who complete this term will have a concrete knowledge of color theory, composition, graphic design concepts and typography and digital illustration.

Prerequisite(s): None

MODA 201 2D Motion Design 12.0 credits

The purpose of this course is to give students a thorough understanding of the fundamentals of 2D animation. Students who complete this course will have a solid understanding of twelve principles of animation. Some of the topics include squash and stretch, anticipation, staging, timing, camera composition, camera animation and text animation for motion design.

Prerequisite(s): MODA 101

MODA 251 3D Motion Design 12.0 credits

The purpose of this course is to give students a comprehensive understanding of 3D modeling and texturing techniques needed to construct objects for motion design. Students who

complete this term will have a concrete knowledge of hard surface and organic modeling techniques, UV mapping, and texturing.

Prerequisite(s): MODA 201

MODA 301 Motion Design Production 12.0 credits

The purpose of this block is to give students a comprehensive understanding of compositing and integration of elements for motion design. Students who complete this term will have a solid understanding of masking, layered compositing, basic photography, 2D FX, expressions and how to create production ready graphics.

Prerequisite(s): MODA 251

MODA 401 Portfolio Development 12.0 credits

The purpose of this course is to allow students to work with their instructors to guide them in creating a production ready portfolio for motion design. Students will be working with their instructors on learning industry standard production techniques, typical motion graphics, production pipelines, the importance of working as a team, how to apply problem solving skills to meet production deadlines.

Prerequisite(s): MODA 301

Production Programming Bachelor Program – Program Description

The Bachelor's Degree in Production Programming is designed for students who want a specified range of skills in production programming. Students who complete this degree program will have a solid understanding of production programming development for Autodesk, Foundry and other industry standard software packages to develop apps and productivity tools utilized in the film industry and related fields, such as simulation.

120 Semester Credits

Core Courses (33 Credit Hours Required)

PROG 111 – Introduction to Discrete Structures	3.0 Credits
PROG 121 – Introduction to Computer Programming	3.0 Credits
PROG 131 – Introduction to Database Management	3.0 Credits
PROG 211 – Computer Systems and Architecture	3.0 Credits
PROG 221 – Data Structures and Analysis	3.0 Credits
PROG 231 – Pipeline Development I	3.0 Credits
PROG 241 – Object-Oriented and Concurrent Programming	3.0 Credits
PROG 251 – Design and Analysis of Computer Algorithms	3.0 Credits
PROG 261 – Computer Graphics	3.0 Credits
PROG 271 – Current Trends and Projects in Computer Science	3.0 Credits
PROG 281 – Introduction to Probability/Statistics for Computer Scientists	3.0 Credits

Game Design Courses (27 Credit Hours Required)

GMDS 101 Introduction to Game Design	3.0 Credits
GMDS 102 Game Design Fundamentals	3.0 Credits
PRPG 301 C# for Games	3.0 Credits
GMDS 201 Visual and Audio Design	3.0 Credits
GMDS 202 Storytelling for Games	3.0 Credits
GMDS 301 Advanced Game Design Concepts	3.0 Credits
GMDS 302 Usability and Human Computer Interaction	3.0 Credits
GMDS 401 Level Design and Scripting	3.0 Credits
GMDS 402 Game Design Evaluation and Testing	3.0 Credits

General Education Courses (36 Credit Hours Required)

The required general education component must include at least one course from each of the following groups: Humanities, Mathematics and the Sciences, and Social Sciences.

Elective Courses (24 Credit Hours Required)

Production Programming Bachelor Program – Course Descriptions

GMDS 101 – Introduction to Game Design

3.0 Credits

This course acts as a starting point for students interested in learning about game design. It covers a wide variety of introductory topics, including the role of a game designer, the history of game design, genres, mechanics, features, rules, scope, documentation, usability, storytelling, and testing.

GMDS 102 – Game Design Fundamentals

3.0 Credits

This course guides students through the process of designing games from conception to finished product and beyond. The development of a game design document is the primary focus of Game Design Fundamentals; and at the same time, students will explore and understand the various other documents that are necessary to designing exceptional games.

Prerequisite: GMDS 101

GMDS 201 – Visual and Audio Design

3.0 Credits

In this course, students are introduced to aspects of design that both drive and are influenced by the look and sound of a game. Basic visual elements (such as line, shape, and color) are covered, as well as art styles which are commonly found in games. Auditory elements (such as sound effects, music, and voice-overs) are covered as well.

Prerequisite: GMDS 102

GMDS 202 – Storytelling for Games

3.0 Credits

Students in this course gain mastery of the storytelling aspects of game design. Topics such as genre, theme, and foreshadowing - as well as storytelling tools like the Hero's Journey and archetypes - are explored as they relate to interactive entertainment. Students also work to develop specific narrative elements in game design - cut scenes, dialogue, scenery, and music, for instance.

Prerequisite: GMDS 201

GMDS 301 – Advanced Game Design Concepts

3.0 Credits

This course goes beyond the basics laid out in Game Design Fundamentals in order to impart upon the student a deeper mastery of the game design process. Topics such as game theory, subtractive design, and calm computing are introduced, as well as important design considerations such as localization and designing for cross-platform games.

Prerequisite: GMDS 202

GMDS 302 – Usability and Human Computer Interaction

3.0 Credits

This course explores the communication that occurs between a human being and an artificial system, within the context of game design. Students gain a solid grasp of the capabilities and limitations of human sensation and perception in order to design games

that accommodate a wider range of players. Students will also learn and use Nielsen's Heuristics in order to design more usable games.

Prerequisite: GMDS 301

GMDS 401 – Level Design and Scripting 3.0 Credits

Using industry-standard tools, students in Level Design and Scripting will gain skill in translating written and visual descriptions of a game into actual environments, scenarios, and actions. Students will also explore the different kinds of game levels – how they vary in terms of starting and ending conditions, the critical path, and player perception of freedom.

Prerequisite: GMDS 302

GMDS 402 – Game Design Evaluation and Testing 3.0 Credits

In this course, students learn how to evaluate games through the process of testing. From focus testing to AB testing, students explore how feedback can be applied to influence the design of a game, in order to create more engaging, entertaining, and profitable products. Special emphasis is placed on the collection and analysis of analytic data using industry tools.

Prerequisite: GMDS 401

PROG 111 – Introduction to Discrete Structures 3.0 Credits

This course is designed to instruct students in fundamental concepts of discrete mathematics.

PROG 121 – Introduction to Computer Programming 3.0 Credits

This course is designed to instruct students in the history, technology and use of computer science. Students will learn programming fundamentals by developing web pages using HTML and JavaScript.

PROG 131 – Introduction to Database Management 3.0 Credits

This course is designed to instruct students in database design and theory of methodologies.

PROG 211 – Computer Systems and Architecture 3.0 Credits

This course is designed to instruct students in the perspective of the logic designer, the assembly language programmer, and the computer architect.

PROG 221 – Data Structures and Analysis 3.0 Credits

This course is designed to instruct students in organizing, reorganizing, exploring, and retrieving data in digital computers, and the mathematical analysis of those techniques.

Prerequisite: PROG 131

PROG 231 – Pipeline Development I 3.0 Credits

This course is designed to instruct students in the basics of creating tools for users to help speed up production processes for pipeline development.

Prerequisite: PROG 111, PROG 121, and PROG 131

PROG 241 – Object-Oriented and Concurrent Programming 3.0 Credits

This course is designed to instruct students in the use and principles of object-oriented and concurrent programming.

Prerequisite: PROG 121

PROG 251 – Design and Analysis of Computer Algorithms 3.0 Credits

This course is designed to instruct students in the basic data structures and programming techniques often used in efficient algorithms.

Prerequisite: PROG 111 and PROG 121

PROG 261 – Computer Graphics 3.0 Credits

This course is designed to instruct students in the key concepts, algorithms, technologies, and applications used to design and make computer graphics.

PROG 271 – Current Trends and Projects in Computer Science 3.0 Credits

This course is designed to instruct students by giving an overview of Computer Science and where it is headed in the future.

PROG 281 – Introduction to Probability/Statistics for Computer Scientists 3.0 Credits

This course is designed to instruct students to understand more advanced topics such as random sequences, continuous-time random processes, and statistical signal processing.

PRPG 301 – C# for Games 3.0 Credits

This course is designed to instruct students on how to write C# code that is simple, powerful, robust, secure, and maintainable.

Prerequisite: PROG 111, PROG 121, PROG 211, PROG 221, and PROG 241