Master of Science (Animation)

Program Outcomes (PO)

PO01: **Product Development:** Analyse, design and develop novel products and solutions for emerging new media opportunities.

PO02: **Skill Competency:** Demonstrate globally accepted competent skills in passive and interactive space.

PO03: **Problem Analysis**: Identify, formulate and solve complex media design challenges using fundamental principles involved in technology, design and storytelling.

PO04: **Modern Tool / Techniques usage**: Select, adapt, and apply appropriate tools, techniques, resources to various activities, with an understanding of their boundaries.

PO05: **Professional Ethics**: Understand and commit to professional ethics and IP regulations, responsibilities, and norms of professional publishing practices based on Criteria.

PO06: **Life-long learning**: Recognize the need, and have the ability, to engage in independent learning for continual development as a creative professional.

PO07: **Communication Efficiency**: Communicate effectively with the creative community, and with society at large by being able to comprehend audience/ viewers requirement and tell compelling story narratives, structured design processes, make effective presentations, and give and understand clear instructions.

PO08: **Societal and Environmental Concern:** Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to creative requirements.

PO09: **Individual and Team work:** Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO10: **Innovation and Entrepreneurship:** Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

PO11: **Conduct Investigations of complex production and distribution problems:** Use research-based knowledge and research methods, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO12: **Project management and finance:** Demonstrate knowledge and understanding of the computing and management principles and communicate efficiently with team, to manage projects and in multidisciplinary environments.

Program Specific Outcomes (PSOs):

PSO01. Equipped with professional knowledge to be a successful animation professional in a global animation production environment.

PSO02. Capable of advance storytelling, improved design and technology skills in 2D/3Dspace and create assets and effects required for Animation and VFX production

PSO03. Demonstrate ability to adapt to the current industry environment.

PSO04. Identify media opportunities, analyse, design and develop novel products and solutions for emerging new media opportunities

Course Outcomes (COs)

2019-20 Batch

Semester	Course Code	Course Name	Course Outcomes (COs)
I	18MSAN1H01	Animation Principles	**CO 1.** Demonstrate visual originality through animation. **CO 2.** Select appropriate animation techniques to solve given problems. **CO 3.** Defend the strength of the work through the critique process. **CO 4.** Apply temporal concepts within cohesive animation solutions. **CO 5.** Integrate 2D principles into frame design. **CO 6.** Assemble animation products comprised of logical sequences.
I	18MSAN1H02	Animation Drawing	**CO 1.** Develop a keen sense of observation of the world around: seeing Vs observation **CO 2.** Explain impact of light and shade on a drawing **CO 3.** Demonstrate methods and processes involved in drawing for animation; and develop craft skills to communicate through drawing for any context. **CO 4.** Explain principles of anatomy, body language and representation **CO 5.** Create an animated sequences from the drawing studies and quick sketches
I	18MSAN1H03	Story Design and Development	**CO 1.** Explain various genre, roles, mood and drama for story development. **CO 2.** Ability to communicate an idea effectively in terms of form, mood, context, and visuals. **CO 3.** Explain screen writing essentials **CO 4.** Describe Illustration techniques for– Newspaper- Magazines, Text books, Gag cartoons – Editorials. Create a Comic book

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I	18MSAN1H04	Visual Language and Aesthetics	**CO 1.** Apply of principles of visual design, Color and Composition in artwork for various media. **CO 2.** Demonstrate effective usage of color, shapes, composition and Typography in various application. **CO 3.** Explore two-dimensional space – perspective one, two, three, and four point, two-dimensional representation, and three-dimensional representation on a two-dimensional surface **CO 4.** Explain positive and negative space using geometric primitives **CO 5.** Describe color theory and typography requisites
I	18MSAN1H05	PreProduction	**CO 1.** Demonstrate script breakdown techniques **CO 2.** Identify and delineate production roles **CO 3.** Create and plan for a production pipeline **CO 4.** Plan and create production design for an animation production **CO 5.** Compare and contrast methods of voice casting.
I	18MSAN1H06L	Computer Graphics Fundamentals Lab	**CO 1.** Explain modelling basics using NURBS, Polygon and subdivision surfaces **CO 2.** Use Graph editor and dope sheets for timing and sequencing an animation **CO 3.** Describe 2D digital animation work flow **CO 4.** Create simple path animation , bouncing a ball and fine tuning using graph editor **CO 5.** Describe evolution of VFX
I	18MSAN1H07L	Digital Design Lab I	**CO 1.** Describe digital imagery workflow requirements **CO 2.** Discuss image manipulation techniques using Photoshop and illustrator **CO 3.** Describe colour modes using Photoshop tool **CO 4.** Apply filter effects and lighting blends **CO 5.** Create text design using Photoshop

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2	18MSAN2H01	Storyboarding	**CO 1.** Describe conventional cinematic structure of shot progression, staging, and screen direction **CO 2.** Compose visually dynamic shots, with good lighting and cinematic depth **CO 3.** Create character-driven storytelling with convincing character attitudes and acting that visually support the narrative **CO 4.** Apply all principles of storyboarding into a clear blueprint for an animated film, in which all visual aspects are working together **CO 5.** Sync audio essentials and cut final animatic
2	18MSAN2H02	Character Design	**CO 1.** Design an aesthetic appealing character **CO 2.** Describe characteristics of well-designed and executed characters **CO 3.** Assess and critique past and current animation design trends **CO 4.** Demonstrate progress in basic drawing skills **CO 5.** Critically analyse your creative work and the work of others
2	18MSAN2H03	Film Appreciation	**CO 1.** Articulate a film's content, form and structure. **CO 2.** Identify and define the formal and stylistic elements of film, film language and terminology and analyse the ways in which that this language constructs meaning and ideology. **CO 3.** Explain film theory and global film history and identify significant movements and articulate key concepts. **CO 4.** Demonstrate familiarity with diverse forms of the moving image, experimental and avant-garde cinema, video art and moving image installation, television and digital media. **CO 5.** Understand the relationship between film form and its historical and cultural contexts. Describe how a film offers a set of social, political and cultural ideas and questions through form and content

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2	18MSAN2H04	Material Animation	**CO 1.** Manipulate animation production equipment and materials **CO 2.** Create accurate and aesthetically appealing stop motion animation **CO 3.** Describe characteristics of well-designed and executed animation **CO 4.** Explain evolution of animation as an art form **CO 5.** Assess and critique past and current animation trends
2	18MSAN2H05L	Layout Design Lab	**CO 1.** Describeprocess of layout visualization **CO 2.** Explain positive and negative spaces and action points within a visual **CO 3.** List the rendering techniques. **CO 4.** Use dope sheet in smoothening camera movements **CO 5.** Assess mood requirements with appropriate texture, colour in finalizing a scene
2	18MSAN1H06L	Basic Rigging Lab	**CO 1.** Identify techniques used to create a technically accurate character rigging pipeline. **CO 2.** Develop processes in order to solve a range of technical challenges. **CO 3.** Apply skills to create own rigged characters for animation. **CO 4.** Present, evaluate and reflect on the effectiveness of technical solutions for specific situations. Assess and create blend shapes
2	18MSAN1H07L	Digital Design II Lab	**CO1 :** Demonstrate proficiency with basic photo correction concepts including importing, resolution, image size, cropping, tonal and colour correction, use of filters **CO 2.** Create Logo and other vector art using illustrator **CO 3.** Execute creatives required for branding design **CO 4.** Customize and create art requirements for a game **CO 5.** Explain UV unwrapping techniques

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2	18MSAN2S01	SURFACE MODELING AND TEXTURING	**CO 1.** Demonstrate proficiency in creating assets in 3D space. **CO 2.** Create a background set. **CO 3.** Design a 3D environment featuring lighting and textures. **CO 4.** Create a basic 3D models with textures **CO 5.** Create shaders and materials for a given texturing requirement
2	18MSAN2S01L	SURFACE MODELING AND TEXTURING LAB	**CO 1.** Describe architecture elements required for building a set **CO 2.** Design and model an automobile **CO 3.** Create a 3D environment featuring lighting and textures. **CO 4.** Create basic 3D models and animations. **CO 5.** Render using basic lights, textures and materials
2	18MSAN2S02	3D CHARACTER ANIMATION	**CO 1.** Create animated sequences from the development of the original concept through design to final film or video production. **CO 2.** Create simple walk, jump , hop etc for a bidped character **CO 3.** Create a convincing quadruped animation **CO 4.** Animate a character with prop interaction **CO 5.** Stage a 3D scene from the given storyboard
2	18MSAN2S02L	3D CHARACTER ANIMATION LAB	**CO 1.** Create animated sequences from the development of the original concept through design to final film or video production. **CO 2.** Create simple walk, jump , hop etc for a bidped character **CO 3.** Create a convincing quadruped animation **CO 4.** Animate a character with prop interaction **CO 5.** Stage a 3D scene from the given storyboard

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2	18MSAN2S03	COMPOSITING TECHNIQUES I	**CO 1.** Recognize and evaluate key visual effects technologies and create advanced visual effects **CO 2.** Describe digital imagery requisites **CO 3.** Compose a shot using multiple render passes created from 3D packages **CO 4.** Track camera and stabilize a scene **CO 5.** Use advanced rotoscopy techniques
2	18MSAN2S03L	COMPOSITING TECHNIQUES I LAB	**CO 1.** Recognize and evaluate key visual effects technologies and create advanced visual effects **CO 2.** Describe digital imagery requisites **CO 3.** Compose a shot using multiple render passes created from 3D packages **CO 4.** Track camera and stabilize a scene **CO 5.** Use advanced rotoscopy techniques
3	18MSAN3H01	CG SIMULATION AND EFFECTS	**CO 1.** Create practical effects solutions to production problems. **CO 2.** Create 2D Fluid simulations in Maya **CO 3.** Create 3D Fluid simulations in Maya **CO 4.** Demonstrate problem solving skills based around goal oriented iteration rather than random experimentation and adherence to efficient workflows. **CO 5.** Make informed decisions based on the appropriate use of simulations and effects, taking into account complexity, rendering, time, memory and resource overheads. **CO 6.** Analyse library of reference works and observations from existing dynamics used in Movies and how they have progressed their development. **CO 7.** Demonstrate the significance of different properties of elements in fluid flow and simulation. **CO 8.** Analyse the significance of real world elements and CG elements.

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3	18MSAN3H02	LIGHTING AND RENDERING	**CO 1.** Identify the key visual cues from nature. **CO 2.** Utilize basic photographic terminology and lighting techniques. **CO 3.** Simulate real-world lighting with computer generated imagery. **CO 4.** Choose the appropriate technique from a variety of rendering and Lighting options. **CO 5.** Apply rendering techniques and methodologies. **CO 6.** Apply texturing techniques and methodologies. **CO 7.** Create photo-realistic computer generated elements. **CO 8.** Render individual elements in layers. **CO 9.** Work independently and collaboratively to complete a series of shots. **CO 10.** Complete a series of shots within a given timeframe.
3	18MSAN3H02L	LIGHTING AND RENDERING LAB	**CO 1.** Evaluate the role of different elements in CG lighting and shading. **CO 2.** Appraise the strategies for tools and techniques for Lighting in CGI for production. **CO 3.** Compose a visual expression for artwork for desired styling

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3	18MSAN3H03L	ADVANCED RIGGING LAB	**CO 1.** Design and create efficient and effective geometry and textures for characters. **CO 2.** Construct hierarchically structured skeletons for character animation. **CO 3.** Create set-driven key and wire rig controls to drive character attributes. **CO 4.** Write expressions for advanced controls and constraints. **CO 5.** Generate facial animation systems for expression and lip sync. **CO 6.** Compare and contrast the different skin weighting paradigms and approaches. **CO 7.** Incorporate appropriate skin weighting techniques into character set up. **CO 8.** Validate the structural integrity (skeleton, controls and anatomical deformation) of the character through a series of required exercises. **CO 9.** Complete character work in accordance with the requirements and contingencies expected in the animation production pipeline.
3	18MSAN3H04L	SOUND DESIGN LAB	**CO 1.** Describe how the audience hears and listens and how the film soundtrack is crafted accordingly. **CO 2.** Explain how historical aspects of film soundtrack provide perspective on current trends. **CO 3.** Analyze the components of a film soundtrack, using appropriate terminology. **CO 4.** Analyze the individual roles within and organization of, the sound department. **CO 5.** Assess the challenges presented to all filmmakers with regard to sound. **CO 6.** Describe landmark "sound films" and their contributions to the craft. ¿ **CO 7.** Analyze the use of sound across genres. **CO 8.** Translate the use of music into its function in plot and character development. **CO 9.** Employ sonic devices, motifs and clichés to convey mood, theme and story.

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3	18MSAN3H05L	ANIMATION RESEARCH LAB	**CO 1.** Identify appropriate secondary sources for a range of research. **CO 2.** Conduct effective library and internet searches for specific information. **CO 3.** Determine the reliability of a range of Internet sources against established criteria. **CO 4.** Document secondary research using appropriate style guide. **CO 5.** Identify appropriate primary research sources to support practical media projects. **CO 6.** Collaborate in a team environment to solve research and logistical problems. **CO 7.** Use a variety of vehicles to locate primary research sources. **CO 8.** Extract relevant information from primary research sources by using effective questioning techniques. **CO 9.** Integrate primary and secondary research into a practical media project. **CO 10.** Demonstrate effective communication skills by presenting research findings. **CO 11.** Generate and pitch ideas for a range of media projects.

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3	18MSAN3S01	HYPER REALISTIC MODELING AND TEXTURING	**CO 1.** Interact and navigate within the 3D environment. **CO 2.** Generate and edit a series of different curve types that will be used for making CG surfaces. **CO 3.** Integrate hierarchical structures and appropriate naming conventions within the context of their modeling process. **CO 4.** Identify the different modeling types and the characteristics of each. **CO 5.** Create hard and organic surfaces using the various modeling procedures. **CO 6.** Incorporate specific aspects of polygon proxy modelingmethodology in selected assignments. **CO 7.** Use surface deformation tools in the modeling process. **CO 8.** Generate surface materials, properties and textures for models. **CO 9.** Incorporate fundamental lighting tools and principles within a 3D environment. **CO 10.** Explore various sculpting tools and techniques through small projects

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3	18MSAN3S01L		**CO 1.** Interact and navigate within the 3D environment. **CO 2.** Generate and edit a series of different curve types that will be used for making CG surfaces. **CO 3.** Integrate hierarchical structures and appropriate naming conventions within the context of their modeling process. **CO 4.** Identify the different modeling types and the characteristics of each. **CO 5.** Create hard and organic surfaces using the various modeling procedures. **CO 6.** Incorporate specific aspects of polygon proxy modeling methodology in selected assignments. **CO 7.** Use surface deformation tools in the modeling process. **CO 8.** Generate surface materials, properties and textures for models. **CO 9.** Incorporate fundamental lighting tools and principles within a 3D environment. **CO 10.** Explore various sculpting tools and techniques through small projects.

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3	18MSAN3S02	MULTIPLE CHARACTER ANIMATION	**CO 1.** Explain principles and theories involving motion, timing and expression, and their impact on the development of believable animation. **CO 2.** Animate a characters transition between two emotions. **CO 3.** Keep a character `alive' at all times in a manner that does not draw undue attention. **CO 4.** Communicate a character's emotional motivation through performance at an intermediate level. **CO 5.** Develop an animated sequence that displays believable performance consistent with a characters unique physical traits and environmental circumstances. **CO 6.** Develop an animated sequence that portrays a characters attention switching between multiple objects through convincing, judicious use of eyebrows, focus, blinks and eye darts. **CO 7.** Create believable motions of hands: drumming on desktop; finger splays; folding to/from fists in proper/typical sequence; pointing/gesturing; grasping. **CO 8.** Stage two-character scenarios in both pantomime and with dialogue, interacting believably by use of non-verbal cues, subtext and shifting emotions, at an intermediate level.

Semester	Course Code	Course Name	Course Outcomes (COs)
3	18MSAN3S02L	MULTIPLE CHARACTER ANIMATION LAB	**CO 1.** Animate a characters transition between two emotions. **CO 2.** Keep a character `alive' at all times in a manner that does not draw undue attention. **CO 3.** Communicate a character's emotional motivation through performance at an intermediate level. **CO 4.** Develop an animated sequence that displays believable performance consistent with a characters unique physical traits and environmental circumstances. **CO 5.** Develop an animated sequence that portrays a characters attention switching between multiple objects through convincing, judicious use of eyebrows, focus, blinks and eye darts. **CO 6.** Create believable motions of hands: drumming on desktop; finger splays; folding to/from fists in proper/typical sequence; pointing/gesturing; grasping. **CO 7.** Stage two-character scenarios in both pantomime and with dialogue, interacting believably by use of non-verbal cues, subtext and shifting emotions, at an intermediate level.
3	18MSAN3S03	COMPOSITING TECHNIQUES - II	**CO 1.** Integrate computer generated imagery with live action plates. **CO 2.** Select the appropriate compositing technique based on time and budget. **CO 3.** Create scenes using compositing software of reasonable complexity. **CO 4.** Incorporate blue/green screen keyed elements in a shot. **CO 5.** Incorporate rotoscoped elements in a shot. **CO 6.** Create matte painting for use in a shot. **CO 7.** Utilize industry organizational techniques for project management and file structure. **CO 8.** Work independently and collaboratively to complete a series of shots. **CO 9.** Complete a series of shots within a given timeframe.

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3	18MSAN3S03L	COMPOSITING TECHNIQUES –II LAB	**CO 1.** Integrate computer generated imagery with live action plates. **CO 2.** Select the appropriate compositing technique based on time and budget. **CO 3.** Create scenes using compositing software of reasonable complexity. **CO 4.** Incorporate blue/green screen keyed elements in a shot. **CO 5.** Incorporate rotoscoped elements in a shot. **CO 6.** Create matte painting for use in a shot. **CO 7.** Utilize industry organizational techniques for project management and file structure. **CO 8.** Work independently and collaboratively to complete a series of shots. **CO 9.** Complete a series of shots within a given timeframe.
3	18MSAN3O01	Social Media Marketing	**CO 1.** Apply professional behaviours, including meeting due dates, producing professional reports and using reference and online material responsibly. **CO 2.** Integrate the principles of Social Media Marketing Strategies with Digital Marketing Management. **CO 3.** Analyse the appropriateness of Social Media platforms in the broader Digital Marketing Management strategy. **CO 4.** Synthesize online community engagement strategies through appropriate Social Media Marketing Strategies. **CO 5.** Develop Social Media content strategy appropriate to Digital Marketing Management objectives. **CO 6.** Evaluate the most appropriate KPI and ROI metrics, methods and techniques for Social Media Marketing Strategies. **CO 7.** Develop appropriate Social Media Advertising and penetration campaigns within Digital Marketing Management guidelines.

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3	18MSAN3O01	Storytelling for Interactive Media	**CO 1.** Flow charting/mapping for a multimedia concept, organizing a body of information for both linear and non-linear presentation **CO 2.** Applying the factors of target user, topic, goals and delivery channel to the design of a New Media application **CO 3.** Development of a navigational interface, including a standard grammar for the interface, icon design and user feedback **CO 4.** Application and adaptation of graphic design principles to screen design **CO 5.** Criteria for evaluating existing New Media products in terms of appropriateness and screen, interface and organizational design **CO 6.** The steps involved in the production of an interactive media product
4	18MSAN4H01	ACTING FOR ANIMATION	**CO 1.** Demonstrate effective scenes using basic acting techniques such as motivation and attraction. **CO 2.** Interpret voice through physical performance. **CO 3.** Illustrate the principles of acting and performance in various current styles of animation. **CO 4.** Invent convincing and evocative physical interpretations of voice acting. **CO 5.** Safely perform physically complex scenes utilizing a full range of acting techniques **CO 6.** Evaluate a physically complex character sequence using the principles of good acting technique.

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4	18MSAN4H02	ANIMATION MARKETING AND MANAGEMENT	**CO 1.** Develop a reflective practice; link past, present and future experiences and integrate cognitive and emotional experiences. **CO 2.** Evaluate the ability to adapt to workplace culture and meet workplace expectations in order to support development of workplace skills. **CO 3.** Assess the management of professional interactions and responsibilities in the workplace, specific to roles and accountabilities. **CO 4.** Develop communication skills by applying written and oral communication, in addition to listening skills, to a variety of workplace situations. **CO 5.** Evaluate professionalism in relation to self-management, personal strengths and challenges, and ethical working styles. **CO 6.** Integrate knowledge and skills gained in the academic setting with workplace experiences.

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4	18MSAN4HP	PROJECT WORK	**CO 1.** Communicate ideas, believable action and emotion effectively by employing principles of animation and performance in all aspects of drawing; **CO 2.** Integrate the concepts, principles and theories involved in the physics of animation in all aspects of drawing; **CO 3.** Create 2D and 3D characters and environments that reflect the integration of graphic clarity, design principles, performance principles and theoretical constructs; **CO 4.** Refine personal narrative voice that holistically integrates the elements of storytelling and performance in order to actively engage the audience; **CO 5.** Design layouts and backgrounds that incorporate principles of composition, perspective and colour, with speed, accuracy and dexterity, using a variety of media; **CO 6.** Manage the pre-production of a student film, including the aspects of cinematography, art direction and editing; **CO 7.** Manage targets within the pre-production schedule to effectively achieve completion of required tasks; **CO 8.** Communicate ideas, emotion and intent effectively in visual, oral, written and auditory forms; **CO 9.** Create animation that incorporates the basic principles of constructive anatomy and drawing using economy of expression; **CO 10.** Incorporate technology effectively in the design and development of the final film; and **CO 11.** Create a "rough mix" soundtrack for their story reel that reflects an understanding of the expressive capabilities of dialog, music and sound effects.