सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
DEVELOPMENT COMMISSIONER
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
MSME TECHNOLOGY CENTRE

Model Curriculum

Qualification Name: Multimedia & Animation Associate

Qualification Code:

Version: 2.0

NSQF Level: 4

Model Curriculum Version: 2.0

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

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NOS / MODULE TEMPLATE

NOS/Module Name: Understand FX & Create Motion Graphics

NOS/Module Code: MSME/MAAA/01

NOS/Module Outcome:

- Understand the fundamentals of computer graphics.
- Install and navigate software for computer graphics.
- Create and manage documents, panels, and workspaces.
- Differentiate between file types, resolution, and colour modes.
- Make selections and perform basic compositing techniques.
- Use layers and masks effectively for editing.
- Apply cropping, transformations, and perspective warping.
- Adjust images using histograms and adjustment layers.
- Perform localized retouching and photo enhancements.
- Utilize typography, guides, and grids for design layouts.
- Manage libraries, save files, and export projects efficiently.

Theory Hours: 30 Practical Hours: 60Theory Marks: - 50 Practical Marks: 50

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks	TH Marks
1	Introduction	• Learners will be able to Define motion graphics and understand its applications across various industries. • Learners will be able to Utilize commonly used software tools like Adobe After Effects and Cinema 4D for motion graphics creation. • Learners will be able to Apply animation principles such as keyframing and visual storytelling techniques effectively. • Learners will be able to Implement workflow optimization strategies and file management techniques to enhance efficiency. • Learners will be able toEmploy practical tips and tricks to achieve specific visual effects and animations in their motion graphics projects.	• Introduction to Motion Graphics • Tips & Tricks to follow	10	10	10	10
2	Basics of Motion Graphics	• Learners will be able to Understand the fundamentals of motion graphics, including its purpose and applications. • Learners will be able to Access and utilize project exercise files to practice motion graphics concepts effectively. • Learners will be able to Create motion graphics projects from scratch, starting with project setup and configuration. • Learners will be able to Familiarize themselves with the interface of motion	• Introduction • Project Exercise Files • Creating Project • Understand Interface • Customise Workspace • Importance of Info and Preview Panels • Understanding Projects	20	10	10	10

		graphics software, including navigation and toolbars. ● Learners will be able to Customize their workspace within the software to optimize their workflow and improve productivity. ● Learners will be able to Recognize the importance of information and preview panels in motion graphics software for project development. ● Learners will be able to Gain insight into project structures and organization within motion graphics software. ● Learners will be able to Create new motion graphics projects and configure settings according to project requirements. ● Learners will be able to Implement auto-save features to prevent data loss and ensure project integrity. ● Learners will be able to Import images and other media assets into motion graphics projects for use in animations and visual effects."	● Create a New Project ● Set up Auto Save ● Import Images				
3	Motion Graphics	● Learners will be able to Create new compositions and manage project assets effectively. ● Learners will be able to Utilize the timeline panel for sequencing and arranging content. ● Learners will be able to Adjust content duration and align elements for optimal animation. ● Learners will be able to Understand keyframing basics and manage keyframes for animation control. ● Learners will be able to Apply interpolation and easing techniques for smooth animation transitions. ● Learners will be able to Implement motion blur effects and motion sketch for realistic animations. ● Learners will be able to Customize text layers and apply animation presets for dynamic text effects. ● Learners will be able to Create and edit shape layers, including modifying anchor points and creating masks. ● Learners will be able to Prepare compositions for export and send them to an encoder for rendering.	● Create a New Composition ● Project Panel Overview ● Add Content to the Timeline ● Timeline Panel Overview ● Arranging and Scaling the Content ● Adjusting Duration of Content ● Aligning and Maximize Mode ● Preparing for Animating ● Basics of Keyframing and Animations ● Managing Keyframes ● Keyframe Interpolation ● Roving Keyframes ● Easing Your Animations ● Animation Project - EV Awareness ● Realistic Motion Blur ● Animating using Motion Sketch	30	10	30	30

		• Learners will be able to Work on an animation project focusing on Electric Vehicle (EV) awareness."	• Motion Sketch Smoothing • Orient Object to the Path • Creating Auto-Width and Fixed-Width Text Layers • Customising Text Layers • Text Animation Pre-sets • How to Preview Text Animation Pre-sets • Creating and Editing Shape Layers • Modifying Anchor Point for Shape Layers • Creating Masks with Shapes • Editing and Animating Shapes Masks • Exporting Your Composition • Sending Your Composition to Encoder				

NOS / MODULE TEMPLATE

NOS/Module Name:Understand to create 3D Models and Apply Textures

NOS/Module Code: MSME/MAAA/02

NOS/Module Outcome:

- Understand the basics of 3D modelling and differentiate between 2D and 3D.
- Navigate and customize the 3D user interface, including viewports and navigation controls.
- Select, manipulate, and transform objects in a 3D scene.
- Organize and manage the elements of a 3D scene using hierarchies, groups, and layers.
- Create polygonal models using primitives, selection techniques, and modelling tools.
- Model polygonal meshes with references, extrusion, edge loops, symmetry, and other techniques.
- Refine polygon meshes using subdivision surfaces, creasing, smoothing, and deformations.
- Sculpt meshes using brush-based sculpting tools.
- Employ NURBS modelling techniques, including primitives, curves, revolve, loft, and extrude.
- Refine NURBS meshes using Isopar's, curves, trimming, and conversion to polygons.
- Explore advanced modelling tools and alternative plug-ins for specialized modelling tasks.
- Learn hard surface modelling techniques for creating cars and trucks.
- Master organic modelling for characters, bipeds, and quadrupeds.

- Unwrap UVs using the UV editor and apply UV mapping to complex geometry.
- Practice unwrapping UVs for organic models of bipeds and quadrupeds.
- Understand the concepts of rendering and shaders in 3D graphics.
- Explore different types of materials, textures, and shaders.
- Learn to create and manipulate materials using shading networks and hyper shade.
- Apply bump mapping and displacement to enhance surface details.
- Gain proficiency in rendering using Mental Ray and Arnold rendering engines.
- Develop skills in laying out UVs and applying materials and textures to 3D objects.
- Master texturing techniques for organic models, including facial and clothing textures.
- Apply textures to inorganic models for realistic surface effects.

Theory Hours: 30 Practical Hours: 120Theory Marks: - NA Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
1	Introduction to 3D	• Overview of 3D modelling, texturing, and lighting • Understanding the importance and applications of 3D graphics • Comparison between 2D and 3D graphics	• Overview of 3D modelling, texturing, and lighting • Understanding the importance and applications of 3D graphics • Comparison between 2D and 3D graphics	10	3	10
2	3D User Interface	• Introduction to the interface of 3D software • Navigating viewports and customizing the workspace • Understanding and using essential tools and features	• Introduction to the interface of 3D software • Navigating viewports and customizing the workspace • Understanding and using essential tools and features	10	3	10
3	Select and Manipulate Objects	• Techniques for object selection • Transforming objects (move, rotate, scale) • Duplicating, cutting, copying, and pasting objects • Introduction to the Channel Box and Attribute Editor	• Object selection techniques • Transforming objects (move, rotate, scale) • Duplicating, cutting, copying, and pasting objects • Introduction to the Channel Box and Attribute Editor	5	3	10
4	Organize 3D Scene	• Managing objects in the scene using the Outliner • Creating hierarchies and groups • Working with layers and selection masks	• Managing objects in the scene using the Outliner • Creating hierarchies and groups • Working with layers and selection masks	10	3	10
5	Create Polygonal Models	• Modelling using polygon primitives • Selecting polygons and using soft selection • Combining and separating polygon objects • Introduction to Booleans for complex shapes	• Modelling using polygon primitives • Selecting polygons and using soft selection • Combining and separating polygon objects • Introduction to Booleans for complex shapes	10	3	6
6	Laying out UVs	• Understanding UV mapping and projections	• Understanding UV mapping and projections	10	3	10

		• Mapping UVs on different geometry types • Approaching UVs for complex geometry	• Mapping UVs on different geometry types • Approaching UVs for complex geometry			
7	Apply Materials and Textures	• Introduction to materials, shaders, and textures • Assigning materials to objects • Basic UV mapping techniques • Applying textures using UV projections and the UV editor	• Introduction to materials, shaders, and textures • Assigning materials to objects • Basic UV mapping techniques • Applying textures using UV projections and the UV editor	10	3	10
8	Lighting and Rendering	• Understanding different light types and their properties • Adjusting light colour, intensity, and shadows • Configuring render settings and output options • Rendering the final sequence	• Understanding different light types and their properties • Adjusting light colour, intensity, and shadows • Configuring render settings and output options • Rendering the final sequence	10	3	10
9	Refine 3D Models	• Advanced modelling techniques (edge loops, bevelling, symmetry) • Sculpting organic models • Refining NURBS and polygonal meshes • Using advanced modelling tools and plugins	• Advanced modelling techniques (edge loops, bevelling, symmetry) • Sculpting organic models • Refining NURBS and polygonal meshes • Using advanced modelling tools and plugins •	10	2	8
10	Advanced Texturing and Lighting	• Texturing organic and inorganic models • Applying advanced materials and shaders • Implementing lighting techniques for realistic effects • Exploring third-party renderers and their features	• Texturing organic and inorganic models • Applying advanced materials and shaders • Implementing lighting techniques for realistic effects • Exploring third-party renderers and their features	20	2	8
11	Review and Project	• Review of key concepts and techniques covered in the course • Completing a 3D modelling, texturing, and lighting project • Demonstration and presentation of the project	• Review of key concepts and techniques covered in the course • Completing a 3D modelling, texturing, and lighting project • Demonstration and presentation of the project	15	2	8

NOS / MODULE TEMPLATE

NOS/Module Name: Gain knowledge to Animate a 3D Character

NOS/Module Code: MSME/MAAA/03

NOS/Module Outcome:

- Familiarize with the animation interface and its key components, including the graph editor, dope sheet, and motion path.
- Set and manipulate keys to create keyframe animations.
- Utilize animation tools such as animation controls and motion paths to create dynamic animations.
- Add secondary motion and effects to enhance the realism of animations.
- Understand principles of animation, including timing, weight, and secondary motion.
- Explore advanced animation tools like the Trax editor, graph editor, and camera sequencer.
- Master techniques for animating bouncing balls, walk cycles, run cycles, jumps, and flight sequences.
- Blend multiple animations using the Trax editor for seamless transitions.
- Create complex animation scenes, such as acrobatic fight scenes and dialogue interactions.
- Animate facial expressions, including eyes, eyebrows, and lip syncing.
- Apply animation techniques for special effects, like paper folding and time warps.
- Animate swinging characters and create dynamic and expressive movements.

Theory Hours: 30 Practical Hours: 120Theory Marks: - NA Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
1	Animation Basics	• Introduction to the animation interface and keyframe animation • Working with animation editors like the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation	• Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation	30	5	10
2	Animation Tools	• Exploring the animation interface and keyframe animation • Utilizing animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and utilizing animation tools • Play blasting animations and enhancing them with sound	• Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation	30	5	10
3	3D Animation	• Introduction to the animation interface and keyframe animation in a 3D environment • Working with animation editors like the Graph Editor and Dope Sheet • Creating motion paths and using animation tools specific to 3D animation	• Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools	30	10	20

		• Play blasting animations and incorporating sound for a complete presentation	• Play blasting animations and adding sound for enhanced presentation			
4	Character Animation	• Learners can able to animate complete scene with Multiple Characters	• Walk Cycle • Run Cycle • Jump Animation • Dialogue Sequence	30	10	60

NOS / MODULE TEMPLATE

NOS /Module: Attain Knowledge to Create User Interfaces

NOS /Module Code: MSME/MAAA/04

Outcomes:

After completion of course Student should be able to:

1. Understand User-Centered Design: Embrace the user-centered approach to design, putting user needs and preferences at the forefront of the design process.
2. Conduct User Research: Plan, execute, and analyze user research, including user interviews, surveys, and usability testing to inform design decisions.
3. Create Wireframes and Prototypes: Develop wireframes and interactive prototypes to visualize and test design concepts and user interactions.
4. Design User-Friendly Interfaces: Craft aesthetically pleasing and intuitive user interfaces that facilitate efficient and enjoyable user experiences.
5. Implement Interaction Design: Apply principles of interaction design to create meaningful and engaging user interactions through elements like buttons, navigation, and forms.
6. Design for Mobile and Responsive Web: Develop designs that are responsive and adaptive, ensuring a seamless experience across various devices and screen sizes.
7. Information Architecture: Organize content effectively, creating clear hierarchies and navigation structures that aid user understanding and content discoverability.

Theory Hours:30 Practical Hours: 120 Theory Marks: NA Practical Marks: 100

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	PR Hours	TH Hours	PR Marks
1	**Figma** Unit 1	You will be able to differentiate between UX and UI, recognizing their distinct roles in the design process. Additionally, you will be introduced to Figma, a popular design tool, and will have successfully downloaded and installed it on your desktop. You will become familiar with the Figma interface and dashboard, gaining the foundational knowledge	1. The difference between UX and UI 2. Intro To Figma and Download & Install Figma to your desktop 3. Figma Interface/Dashboard	20	3	10

		required to begin creating user-centered designs and prototypes efficiently.				
2	Unit 2	You will have learned how to efficiently import existing Figma files, facilitating collaboration and version control within your design projects. Moreover, you will become proficient in utilizing a variety of essential design tools within Figma, enabling you to create and modify visual elements with precision.	4. Import Figma Files in Figma 5. Tools in Figma 6. Figma Layers Panel 7. Figma Components	20	3	10
3	Unit 3	You will become proficient in using the Text Tool and manipulating fonts to create appealing and legible text elements within your designs. Furthermore, you will acquire the skills needed to incorporate images seamlessly into your Figma projects, whether for visual content or as part of your design compositions.	8. Design Tab/Panel 9. Text Tool and Fonts 10. Images in Figma	20	4	10
4	Unit 4	You will also learn to harness the power of Figma Team Libraries, enabling seamless collaboration with colleagues and maintaining design consistency across projects. Moreover, this unit will introduce you to the Code Panel in Figma, providing you with the skills to generate and inspect code for design elements, enhancing your ability to work effectively with developers and engineers.	11. Boolean Operations in Figma 12. Alignment & Distribution Figma 13. Figma Team Libraries 14. The Code Panel in Figma	10	5	15
5	Unit 5	In this unit, you will also become adept at using masks in Figma, allowing you to control and manipulate the visibility and appearance of specific design elements. You will learn to export your Figma projects in various formats, including .JPG, .PNG, .SVG, and .PDF, ensuring that your	15. Prototyping in Figma 16. Horizontal & Vertical Scrolling 17. Masks in Figma 18. Figma Exports | .JPG .PNG .SVG .PDF | Save Project into .fig	10	5	10

		designs are ready for different use cases and platforms				
6	Unit 6	Additionally, you will delve into the world of Figma plugins, exploring the vast ecosystem of tools and extensions that can enhance your design workflow. Through the selection and implementation of five must-have plugins, you will learn how to streamline your design processes, boost productivity, and access powerful features that can significantly impact your design projects.	19. Mockup in photoshop 20. Plugins in Figma 21. 5 MUST HAVE Plugins For Figma Designers!	10	5	15
7	Unit 7	Through this unit, you will acquire the skills to transform design ideas and concepts into structured, low-fidelity visual representations, understanding the importance of wireframes in planning and communicating the layout and functionality of digital interfaces.	22. What Is Wireframing? 23. Wireframing with Figma 24. How To Create Wireframe in wireframe.cc	10	3	10
8	Unit 8	This unit equips you with the knowledge to set up and manage collaborative projects, enabling you to share and edit design files concurrently with colleagues, clients, or stakeholders. These skills are essential for fostering effective teamwork, increasing productivity, and ensuring that your design projects benefit from diverse perspectives and expertise.	25. Create a New Project and File in Figma 26. Collaborate in real-time(Teams)	20	2	20

NOS / MODULE TEMPLATE

NOS /Module: Employability Skills

NOS /Module Code: MSME/ES/02

THEORY HOURS: 60 PRACTICAL HOURS: - THEORY MARKS: 100 PRACTICAL MARKS: -

Refer Standard Curriculum developed by NCVET. (60-hours-MC-Employability-Skills)