SKILLS FRAMEWORK FOR MEDIA
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT

TSC Category	Visual Graphics					
TSC Title	Rigging for Animation					
TSC Description	Develop skeletal rigs, joints, muscle systems and deformation rigs for 3D character and prop models to enable realistic motion through animation					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
		MED-MPN-2061-1.1	**MED-MPN-3061-1.1**	**MED-MPN-4061-1.1**	**MED-MPN-5061-1.1**	
		Create simple skeletal and prop deformation rigs for simple 3D models of characters and objects to enable the depiction of motions for animation	Develop complex skeletal rigs and muscle systems for character models to depict realistic or stylised motions through animation	Lead the design and development of environment and character rigs to enable the animation of objects and characters	Establish standards and guidelines, identify technology and drive the development of rigs and muscle systems to achieve the creative and technical goals of the production	
Knowledge		• Fundamental concepts of rigging • Animation requirements and the range of motion required by the models • Human anatomy, skeletal system and muscular systems • Concepts of facial rigging • Principles and concepts of polygonal modelling • Use of digital 3D modelling and rigging tools • Visual programming for rigging of 3D models • Organisation's creative guidelines and style guides	• Animation requirements and the range of motions required by the models • Human anatomy, skeletal system and muscle systems • Complex biped, quadruped and custom skeletal rigs and muscle systems to depict realistic character motion • Forward and inverse kinematics • Techniques for facial rigging • Principles and concepts of polygonal modelling • Use of digital 3D modelling and rigging tools • Visual programming for rigging of 3D models • Assets optimisation techniques and methods	• Creative vision of the production • Creative and technical goals of 3D modelling for the project • Complex skeletal rigs and muscle systems to depict realistic character motion • Forward and inverse kinematics • Techniques for facial rigging • Scripting techniques and visual programming for rigging • Asset pipelines and production workflows • Rendering processes and impact of rigs on rendering efficiency	• Processes involved in creating 3D animation • Creative vision of the production • Industry standards and upcoming technologies and approaches in skeletal rigging, muscle systems and deformation rigs • Asset pipelines and production workflows • Rendering processes and impact of rigs on rendering efficiency • Tools required to implement asset pipelines	

Abilities		• Conduct research to obtain ideas and visual references for creation of rigs • Select technical approaches to be taken for developing specific rigs • Create simple skeletal rigs and prop deformation rigs for 3D models of inanimate objects and characters • Refine model rigs iteratively to achieve the artistic visions and production requirements • Store files to enable the next stage of production to run efficiently	• Analyse creative briefs to understand the scope of rigging required • Liaise with animators to analyse the kind of motion required to interpret the rigging requirements for assigned models • Liaise with other 3D artists to provide feedback for refining 3D models to meet rigging and animation requirements • Create complex character skeletal rigs that allow for a full range of movement as per the animation requirements • Develop specialised muscle systems for the depiction of realistic character movement to meet production requirements • Review rigs developed by junior artists and suggest modifications for refinement if required • Refine model rigs through iterative review, to meet the needs of the production • Present model rigs for review to the creative leadership • Optimise rigs to achieve technical efficiency for rendering	• Liaise with animators in aligning expectations regarding the nature and complexity of rigging to achieve the requirements of motion for animation • Oversee the development of skeletal rigs, prop deformations and muscle systems to meet the animation requirements • Guide the development of specialised rigs to depict complex muscle systems to create realism in character movements • Review the rigging of 3D models to achieve creative and technical goals pertaining to the artistic directions and rendering efficiencies • Guide the refinement of the developed rigs to meet specific creative requirements • Identify the scope of optimisation required in the model rigs based on feedback from the rendering processes • Oversee the optimisation of model rigs to ensure the achievement of the creative vision and the technical efficiency required	• Define the technical goals for rigging to achieve the overall technical goals for the animation • Determine the complexity of rigs to be used depending on the types of expected motion and level of realism or stylisation expected • Establish creative guidelines, style guides and colour palettes to drive the development of all animation and visual effects processes • Drive research to review proofs-of-concept for the selection of new technologies for rigging • Determine the technology to be used for creating skeletal rigs, muscle systems and prop deformation rigs based on the creative and technical goals of the production • Drive the creation of custom tools to meet the rig development and pipeline requirements • Review rigging of 3D models for alignment with the artistic directions of production	