ANIMATION COURSE MODULES

Create new worlds and ignite your imagination with the Diploma in Animation (ANI). Bring animated characters to life with flawless art, design, storytelling and character performance. A comprehensive practice-oriented course, ANI is designed to take you through the entire process of animation production, from conceptualization to post-production.

In your first year, you will acquire a firm foundation in animation, covering modules such as Principles of Animation and Fundamentals for Creative Professionals. You will also learn the basics of storytelling, scriptwriting, storyboarding and drawing.

In your second year, you may choose to major in one of the following specialisations:

3D Arts
Acquire skills that will enable you to become a professional 3D modeler or character rigger, texture or lighting artist in the digital entertainment industry.

Character Animation
Develop pre-production and production skills in design, storyboarding, 2D and 3D character animation.

In your final year, deepen your skills with modules such as 3D Animation Production and Digital Cinematography. Apply these skills to develop a full-fledged animation project as part of your graduation portfolio.

LEVEL 2.1

3D Fundamentals

This module aims to introduce and equip students with basic skills in using 3D application to create assets for interactive projects. Students will be trained in the usage of basic tools and apply appropriate methods to create 3D assets that are essential in digital content creation. Students will also be trained to apply appropriate workflows that are also utilized in the industry.

Advanced Figure Drawing

This module focuses on the human figure and gestures. Students work with life models to create full studies, short poses, and sustained studies. Students explore putting the figure into an environment, figurative composition, and introductory sequential figurative composition. The module also includes a thorough study of costume and drapery. Students will learn to increase perception, insight, draftsmanship, aesthetic vocabulary, and conceptual attitudes.

Animal Anatomy

This module introduces comparative study of the human structure and the structure of a variety of animal types. Focus will be specifically on the impact of anatomical structure on locomotion. The module also considers standard locomotion cycles and the relationship between humans and various animals. Emphasis of this module will be on the artistic application of this knowledge for artists and animators.

Fundamentals of Creative Professionals II

This module gives a course-based experience in which students can engage with the local community and industry. This includes participation in community service events or in Service-Learning projects that leverage students' discipline knowledge and skills to meet identified needs. Through iterative and guided reflection on the service experience, students gain a broader appreciation of their discipline and an enhanced sense of personal voice, empathy and civic responsibility. Industry talks and seminars are organised to keep students up-to-date on emerging trends so as to build up their interpersonal, team and networking skills with the community and industry.

LEVEL 2.2

Character Design
This module leverages on the drawing skill and anatomy knowledge to create characters that are memorable and unique. It introduces the creative process and traditions of character design, and the basic structural strategies for creating characters. It covers the basic tools such as thumbnails, silhouette design, figure invention, props, costumes, character archetypes, marker sketches and digital painting. Students learn what constitutes great character design and execute their own designs in either analogue or digital formats. Students will also develop creative & conceptual proficiency.

Digital Cinematography
This module introduces the art of cinematography for digital video and computer-generated imagery.
It covers the principles and concepts of practical cinematography through physical lighting, choreography of camera movement and lighting of computer- generated environments to enhance the visual impact in storytelling.

Props & Environment Design
This module covers the basics of designing different types of props and environments for animation, film and games. Students will learn perspective, composition, tonal differences between interior and exterior environments, research techniques for believable detail, clear tonal reads, and modelling within established values. Additional subjects will include lighting and material indication, the thought process before the sketch, use of thumbnails, rendering with Photoshop, and the use of pencil, pen and reference material.

Elective modules

SPECIALISATION OPTIONS
3D Arts

3D ARTS SPECIALISATION

3D Character Rigging
This module deals with issues relating to character modelling, rigging and setup based-on production requirements. Students will be presented with various character setups and explore appropriate modelling and rigging solutions for their own characters. Topics include skeletons, forward/inverse kinematics and custom control panels. Students will acquire the ability to set up a character for a wide range of complex body movements, with an emphasis on techniques for creating controls, which are realistic, flexible and can be intuitively animated.

Advanced 3D Modelling
This module continues to build on students' 3D modelling skills through the creation of hyper-realistic models. Subjects like bipedal characters and creatures will be tackled through the balanced application of anatomy and technical efficiency. Students will learn to fuse the traditional art of sculpting organic form with digital modelling techniques. It covers anatomy in modelling and the need for quality in deformable and detailed surfaces

Game Mechanics
This module studies the game mechanics – the rules intended to produce an enjoyable gameplay, and introduces the principles and methodologies behind the rules and play of games. It first studies the simplest types of games, board games and card games, and examines basic math and rules that make these simple games enjoyable.

Students will then use this theoretical knowledge to create simple yet practical games that show their comprehension of what is enjoyable in games. It pays attention to the psychological design considerations, play testing, game tuning, player analysis, and the integration of visual, audio, tactile and the textual elements. Once students have mastered the basics of physical game mechanics, they will expand their expertise by looking at various arcade-action games and other simple action games. They will then create prototypes of games and will hold focus groups to get feedback on their designs.

Texture & Shading
This module covers the tools and techniques for the creation of custom 2D texture maps. Students learn about different artistic styles, levels of craftsmanship (handmade, manipulated scanned imagery and 3D compositing), repetition structures, and tile-able and seamless motifs, with grounding in traditional painting. Focus will be on the layering technique, where overlapping elements form rich and beautiful work. Texture mapping techniques will also be explored with emphasis on manual UV unwrapping.

CHARACTER ANIMATION SPECIALISATION

2D Animation Production
This module introduces the traditional animation production within the context of a small production pipeline. Students work in teams with the goal of delivering a short animate project. Students will work through the entire production process of the creation of a traditionally animated film. Students learn how to translate storyboard to layout and the choreography of camera and action to communicate the story effectively. Students will also acquire skills on how to deal with new dynamics within the team, and general scene management.

Acting for Animation
This module further develops students' ability to translate thoughts and feelings into specific gestures and actions. It surveys the history of acting in the theatre, animation and film. In addition, the module focuses on the analysis of action in the human form, gestures, timing, characterisation, communication of attitude, character relationship, storytelling through motion, emotion and thought process to create a moving and memorable acting performance.

Advanced 3D Character Animation
This module emphasises how character animation influences character personality and how performance and dialogue propel a story and create the mood. Students explore the choreography of a scene through action and composition. They become knowledgeable in multifaceted issues of animated performances. The expression of emotion, timing, and the subtlety of character is explored. Lip-synching and dialogue animation are presented. It also gives students an appreciative view of character rigging for animation.

Creature Animation
This module aims to broaden students' repertoire as an animator in the area of non-humanoid characters. Students develop a better understanding of animal anatomy and behaviour as the foundation of creature animation. Through detailed analyses of reference footage, aided by in-class demonstrations and lectures, students will produce professional-quality animation cycles. This module also introduces technical methods to students in order to optimise work flow in professional production environments

COURSE CURRICULUM

Module Name	Credit Units
YEAR 2	
Level 2.1 (24 hours per week)	
3D Fundamentals	4
Advanced Figure Drawing	4
Animal Anatomy	4
Elective Module #	4
Elective Module #	4
Fundamentals for Creative Professionals II	2
Interdisciplinary Studies (IS) elective ^	2
Level 2.2 (24 hours per week)	
Character Design	4

Career & Professional Preparation II	2
Digital Cinematography	4
Elective Module #	4
Elective Module #	4
Props & Environment Design	4
Interdisciplinary Studies (IS) Elective ^	2

Notes:
^ For more details on Interdisciplinary Studies (IS) electives, please log on to www.np.edu.sg/is/

IS Modules

The School of Interdisciplinary Studies (IS) delivers a broad-based curriculum, which nurtures a new generation of professionals with multidisciplinary skills and an innovative and entrepreneurial spirit to meet the challenges of a knowledge economy. IS offers both prescribed modules and electives to challenge boundaries. Prescribed modules develop students' competencies in core areas such as Communication, Innovation and Enterprise, Culture and Communication, and Personal Mastery and Development, while elective modules provide insights into Arts and Humanities, Business, Design, and Science and Technology.

The prescribed/elective modules offered may change from year to year, depending on relevance and demand. They may also include modules available in other diplomas offered by the School.