

Higher Diploma Programme in Digital Animation and Creative Media

Programme Contents

Course : **English Language I**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. English Learning and Use of Dictionaries
2. Reading Comprehension and the Role of Co-text and Context in Comprehension
3. Listening Comprehension
4. Effective Writing Skills
5. Oral Communication Skills and Colloquialism in English Expression
6. Word Power: Common Words, Phrasal Words, Idioms, and Prepositions

Course : **English Language II**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Advanced Writing Skills
2. Written and Spoken Skills for Business Purpose
3. Oral Presentation and Public Presentation
4. Academic Writing for Further Studies
5. On-line Communication in Cyber world
6. Cultural Knowledge in English Written and Spoken Communication
7. Use of Words: Register, Synonymy, and Collocation

Course : **Chinese Communication for Business**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Reading and summarizing
2. Understanding text through contextual clues
3. Analyzing text structure and language style of the text
4. Articulation and Pronunciation
5. Listening Comprehension
6. Public Speech
7. Skills of Oral Presentation and Recitation
8. Practical Writing for Business
9. Style and Format in writing Research Paper

Course : **Putonghua**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Syllabic structure of Putonghua
2. The Pinyin system
3. Phonetic symbols
4. Tone variation
5. Commonly used technical / business terms / expressions
6. Comparison between Cantonese and Putonghua in terms of lexical and grammatical differences
7. Practical Skills

Course : **Creative Script Writing**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Introduction to creative writing and creative media
2. Research on writing topics, angle
3. Techniques of creative writing
4. Creative writing in the daily reflective journal form: short sketch writing, poems, dialogues, captions
5. Illustrative writing for creative media
6. Creative writing for electronic domain
7. Critiques of web sites
8. Multimedia, Graphics, audio, video and animation on the web
9. Integrate writing with visual or sound media using existing or new media formats
10. Copyright and other legal issues

Course : **Communication and Problem-solving Skills**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Principle of effective communication
2. Psychology of persuasion
3. Negotiation tactics and skills
4. Conducting meetings
5. Telephone skills and manners
6. Dealing with customers, colleagues and supervisors
7. Job-interviewing
8. Inter-cultural communication
9. How to identify problems
10. How to look for ways to tackle problems
11. How to turn creative ideas into action

Course : **Information Technology for Business Applications**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Introduction: Internet and basic computer concepts
2. Elements of Computer Hardware
3. Elements of Computer Software
4. Commercial Software Packages
5. Computer Data Processing
6. Security and the Internet

Course : **Creative Media Industries Evolution**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Media, Culture and Society: How do they interact?
2. The development of print media
3. The development of electronic media
4. Changing trends in media technology
5. Media shapers and cultural effects
6. Mass media as a shaping force of Hong Kong culture
7. Differences between the cultural industry and the creative industry
8. Creative industries: basic concepts and definitions
9. Character and functions of media and creative industries
10. Creative industries development in Hong Kong
11. Descriptive knowledge of the technologies of media production

Course : **Media Ethics and Literacy**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Functions of the Mass Media
2. Different approaches to the critique of the media
3. Journalism as ethics
4. Media and Human Rights
5. Ethics and Advertisements
6. Sex and Violence in the Media
7. Ethics around Media Technology

Course : **Art and Directing**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Basic concepts
2. Film direction histories
3. Introduce the knowledge and skills required for fiction film direction
4. Training of the art sense for directing
5. Realizing the overall artistic vision of the film
6. Understand “film montage”
7. The use of storyboard
8. The role of a director in pre-production
9. Controlling the content and flow of the film’s plot
10. Overseeing the performances of actors and character development
11. Actor-director relationship
12. Casting skills
13. Script and scene analysis
14. Creates the sub-world of the script
15. Basic camera techniques

Course : **Illustration for Creative Media**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Develop self as a media illustrator
2. Traditional Drawing techniques
3. Life Drawing
4. Learning observation skills for drawing with the pencil or charcoal
5. Drawing for the game
6. Drawing for animation

Course : **Principles of Design**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Introduction: history of graphic design and timeline
2. Elements of design: line, shape, color, value, texture, and format
3. Explain manipulating graphic space – positive/negative space, and illusion
4. Identify and discuss four elements in design: typography, images, colour, and layout
5. Principles of design: balance, emphasis, rhythm, and unity, and their impact upon each compositional decision. Emphasize interdependence of principles
6. Importance of target audience
7. Font design
8. Graphic design layout principles
9. Corporate identity and commercial publication design

Course : **Creative Thinking**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Creativity: Definitions, theories and measurement
2. Creativity Methods
3. Attributes for creative thinkers
4. Techniques for creative thinking
5. Creative problem solving
6. Creativity in design and media industries

Course : **Character Design Concepts**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Research and develop characterization and human representation awareness skills
2. Develop drawing skills related to character animation
3. Life drawing, composition, background, set and character design as they relate to the pre-production processes in animation, gaming, and multimedia
4. Visualize, sketch, detail and paint character concept art using a digital tools
5. Character design concept
6. 3D computer modelling skill for characters
7. Model preparation for IK or bone system

Course : **Basic Animation Techniques**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Overview of Animation
2. Introduction of Animation Authoring Tools
3. Flip Book Concept and Key Framing
4. Stop Motion Animation (e.g. Cutout and Claymation)
5. Cartoon Motion Planning
6. Human Anatomy
7. Timing, Slow In and Out
8. Arcs, Anticipation
9. Exaggeration, Squash and Stretch
10. Secondary Action
11. Follow Through and Overlapping Action
12. Straight Ahead Action and Pose-To-Pose Action
13. Staging, Appeal, Personality

Course : **Introduction to 3D Animation**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Introduction to 3D animation and the application software
2. 3D modelling I: NURBS curves and surfaces, shapes editing , deformation skills, patch modelling
3. 3D modelling II: polygonal models
4. 3D rendering I: lights and materials
5. 3D rendering II: texture mapping, UV mapping & editing
6. 3D animation: key-framing and path animation
7. Interior design /architectural building modelling
8. Product design modelling
9. Landscape modelling
10. Combine all together: compositing and the final output

Course : **Character Animation**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Character design and modeling skills
2. Methods in creating marketable characters
3. Character mapping
4. Deformation
5. Character rigging
6. FK/IK
7. Skinning
8. Morphing/Facial animation
9. Lip sync
10. Adding Attributes to control Human Motion
11. Biped
12. Human Motion Study I : Walk, Run, Jump
13. Human Motion Study II : Picking objects, Kick, Fight
14. Introduction to Motion Capture

Course : **Dynamics Simulation Technology**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Rigid-Body Dynamics (reactor)
2. Soft-Body Dynamics (reactor)
3. Hair and Fur System
4. Cloth Simulation

Course : **Animation Production Management**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Introduction to production management concepts and theory
2. Overview of generic animation production process
3. Writing proposals
4. Team management
5. Time management
6. Casts management
7. Interaction between the technical and creative aspects of a animation project
8. Practical production issues
9. Construct your own animation project
10. Post production management
11. Marketing Management
12. Copyright and legal issues

Course : **3D Effects for Video Composition**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Digital lighting and properties of shadows: types of standard light, volume light, shadow properties
2. Advanced lighting: light tracer, radiosity, photometric, skylight
3. Mental ray: final gathering, global illumination, photons, caustics effects
4. Fog and layer fog
5. Depth of field and motion blur
6. Fire effects and smoke
7. Particles effects (e.g. water, fire, smoke, sparking, etc.)
8. Lens effects: glow
9. HDRI
10. Tone shader
11. Sub-scattering surfaces
12. Blob mesh
13. Object explosion
14. Video post

Course : **Digital Comics and Cartoon Animation**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Comics History
2. Exploration of crafting a story from plotting ideas to naming the characters
3. Introduction of comics and cartoon, origination of ideas and stories, graphic elements
4. Illustration skill
5. Layout design
6. Character Creation
7. Scanning the outline draft with Photoshop
8. Comic coloring
9. Flash drawing skill
10. Keyframe, motion tween, shape tween & path animation Effect with flash
11. Trick and tips for flash animation
12. Creation of mood & special effects

Course : **Storyboarding**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Research method for creative industries
2. Project Management
3. Pre-production
4. Concept Visualization
5. Storyboarding
6. Designing storyboard for animations
7. Designing storyboard for interactive games
8. Designing storyboard for web applications
9. Presentation skills

Course : **Digital Video Production Process**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Video design concept
2. Pre-production planning
3. Small scale promotional video planning and production
4. DV shooting techniques
5. Introduction to DV editing
6. Linear and non-linear editing
7. Video capture and Trimming
8. Video touch-up and adjustment
9. Transitions and filter effects
10. Subtitling and text effects
11. Computer graphic effects
12. Sound effects and audio mixing
13. Digital output formats
14. Video output and project presentation

Course : **Digital Imaging**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Introduction: from image creation to computer graphics
2. Scanning and image preparation techniques
3. Introduction to create images using text, painting, and selection tools
4. Applying various effects and filters on images
5. Understanding various images formats, e.g. GIF, JPG, PNG, BMP, TIF, etc.
6. Concept of Channel, Masks and Layers
7. Drawing and editing vector paths
8. Realistic Image Composition
9. Preparing effective images for Web use
10. Optimizing images for web and printing
11. Use of Actions
12. Photo Retouching
13. Tiling Texture for 3D Mapping
14. Human Skin Illustration
15. Human Face Texture Mapping Creation

Course : **Digital Audio Implantation**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Basic Sound Design Concepts
2. Fundamental Concepts of Digital Audio
3. Storage Issues
4. Sound Card and PC Audio
5. Sound synthesis principles
6. Streaming audio technologies

Course : **Post-production with Digital Effects**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Basic Concepts
2. Animation
3. Concept of Mask and Colour Key
4. 3D Layer
5. Composition
6. Script

Course : **Interactive Video Creativity and Authoring**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. New Age Interactive Video Design
2. Integrate Video with Interactive Multimedia
3. Constraints for Interactive Video
4. Adding Effects to Interactive Video
5. Video manipulation, kaleidoscopes, TV-effects and 360-degree displays
6. Dynamic masking and fake blue-screening
7. Animating Vectors Over Video
8. Adding Sound Effect into Interactive Video
9. Scripting with Video and Sound

Course : **Internet Technology and Applications**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Web Utilities, Information and Services
2. World Wide Web Browsing
3. Website Organization and Navigation
4. Page Design
5. Style Sheets
6. JavaScript
7. CGI and Perl
8. Forms Processing
9. Java Applets Programming
10. XML, Web Searching, and Database Processing
11. Web Servers
12. Servlets, JSP, and ASP
13. JDBC

Course : **Rapid Prototyping Tools for Game Development**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Understanding FLASH environment
2. Basic editing and drawing
3. Using Objects and Layers
4. Working with Text
5. Animations, Sound and Special Effects
6. Basic interactivity
7. Preparing for Flash Movies for Web
8. Procedure of Oriented and Object Oriented Programming
9. Basic ActionScript
10. Conditional, Loop, Array and Function Development
11. Method, Function and action
12. Introduction to Game Design and Work Flow
13. Hitting Games
14. Logical Game
15. Marking Method (win/lose)

Course : **Game Design and Construction**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. What is a computer game?
2. Computer game impact to society
3. History of computer game industry
4. Approaches for developing computer games
5. Game Category
6. Essential technical elements of implementing a computer game, including Graphics (2D/3D), Interface, Audio, Status Reservation and Restoration, Memory Control, Protection, etc.
7. Game Architecture
8. Game Data Structure
9. Fundamental Game Development Process
10. Game Rule and Status
11. Game Progression Criteria and Game Status Evolution
12. Game Composition and Synthesizing

Course : **Introduction to Computer Graphics**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Concept of Vector-based and Raster based graphics
2. File types, formats, compatibilities, sizes and resolutions
3. Graphics programs and environment
4. Principles of layout, design and typography
5. Colour system
6. Input and output devices (scanners, cameras and printers)
7. Graphics preparation in Web and print
8. Copyright issues

Course : **Mathematics in Creative Media**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Historical overview of key moments of interaction between arts and mathematics
2. The Golden ratio and Greek art (Mondrian, Torres-Garcia)
3. Linear Equations
4. Introduction the concepts of geometry
5. Geometric Paradoxes (Escher)
6. Fractal Geometry
7. Curves, Surfaces Modeling & Graphics
8. Geometric Construction and Transformation
9. Vectors and Tensors
10. Matrix and Geometric Transformation
11. Linear Algebra operation
12. Differentiation/Integration Concepts related to Geometry

Course : **Introduction to Visual Programming**
Credit Units : **2**
Contact Hours : **30 hours**

Course Syllabus:

1. Introduction to Windows concepts, terminology and programming tools
2. Basic operations in Visual Basic
3. Design and build your first Visual Basic program
4. Programming techniques
5. Creating a general-purpose application
6. Creating a database application
7. Find bugs in your program
8. Using data access objects
9. Advanced database development
10. Printing and Reporting
11. Using Dynamic-Link Libraries (DLL)
12. An overview of OLE
13. Using OLE with Microsoft Office applications
14. Introduction to Add-In

Course : **Business Management in Multimedia**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Generation of an idea
2. Determine your business
3. Conduct marketing research
4. Cost and budgeting
5. Develop business plan
6. Project management
7. Team approach
8. Business strategy
9. Marketing management
10. Organization behavior

Course : **Management of Organisations**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Managing Organisations in Today's Competitive Environment
2. What Managers and Organisations Do?
3. Strategic Management
4. Managing People
5. Managerial Communication and Information Technology
6. Leadership Practices
7. Controlling for Organisational Performance
8. Managing Change and Innovation
9. Self-management at Work

Course : **Marketing Management**
Credit Units : **3**
Contact Hours : **45 hours**

Course Syllabus:

1. Understanding Marketing and the Marketing Process
2. The Marketing Environment
3. Marketing research and Information Systems
4. Consumer Markets and Consumer Buyer Behaviour
5. Business Markets and Business Buyer Behaviour
6. Market Segmentation, Targeting, and Positioning for Competitive Advantage
7. Product and service strategies
8. New-product Development and Life-cycle Strategies
9. Pricing products: Pricing Considerations, Approaches and Strategies
10. Distribution Channels and Logistics Management
11. Retailing and Wholesaling
12. Integrated Marketing Communications Strategy
13. Advertising, Sales Promotion, and Public Relations
14. Personal Selling and Sales Management
15. Direct and Online Marketing
16. Competitive strategies: attracting, retaining and growing customers
17. Promotion
18. Product distribution
19. The global marketplace and international marketing
20. Marketing and society: social responsibility and marketing ethics

Course : **Animation and Creative Media Project**
Credit Units : **6**
Contact Hours : **90 hours**

The project is intended to focus the application development on the “awarded” area with an appropriate level on the organizational and management aspects of software projects. This course provides a supervised and managed context in which the student can demonstrate the ability to undertake and produce a substantial piece of work to a professional standard.

On successful completion of the Course, a student should be able:

1. Problem solving;
2. Analytical and decision making skills;
3. Synthesizing material from other modules;
4. Work in a team;
5. Contribute to the planning and managing of a project;
6. Analyze and design an integrated part of the application;
7. Implement, test and evaluate the design; and
8. Document the overall solution according to professional guidelines.