

SM2714: FUNDAMENTALS OF ANIMATION

Effective Term

Semester A 2022/23

Part I Course Overview

Course Title

Fundamentals of Animation

Subject Code

SM - School of Creative Media

Course Number

2714

Academic Unit

School of Creative Media (SM)

College/School

School of Creative Media (SM)

Course Duration

One Semester

Credit Units

3

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

Nil

Equivalent Courses

SM3602 Animation I

Exclusive Courses

Nil

Part II Course Details

Abstract

Traditional animation was the process used for most animated films of the 20th century. It is a time-based media with a mix of arts and science. It does not only merely capture and representing the phenomenon of motion with its own aesthetic and

art form but is the root of other time-based media like digital film, 3D computer animation, digital visual effects and motion graphics in nowadays. This course addresses core areas of animation fundamentals from traditional to contemporary, and treats each from the point of view of “Know Why” and “Know How” . By recognizing the history, concept, art and aesthetic of animation, animation methodologies, principles of animation, pre-production & production process, key influencers, creative research, documentation, and technical know-how, the student is required to demonstrate and apply them in the course. Also, by identifying the characteristics of animation as a storytelling and emotional experience media, students are required to illustrate and communicate their ideas visually and aurally in the form of 2D hand-drawn animation, Cut-out animation, Rotoscoping, Pixilation and Stop-motion Animation.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	Recognize the history, concept, art and aesthetic of animation, animation methodologies, principles of animation, pre-production & production process, key influencers, creative research, documentation, 3D computer animation, and the technical know-how			x	
2	Illustrate and communicate ideas in the form of creative research and pre-production outcomes for animation production			x	x
3	Synthesise and communicate ideas visually and aurally in the form of 2D hand-drawn animation, Cut-out animation, Rotoscoping, Pixilation and Stop-motion Animation.		x	x	x
4	Demonstrate problem-solving skill, resource management skills and project management skills		x	x	x
5	Self-exploration and self-reflection of the subject matter		x	x	

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1 - Case study - Demonstration - Practices - Discussion	Regular lecture, screening and discussion of history, concept, art and aesthetic of animation, animation methodologies, principles of animation, pre-production & production process, key influencers, creative research, documentation, and technical know-how	1	
2 - Case study - Critique - Discussion	Individual animation project creative research, pre-production and pre-visualization; Discussion and critique.	2	
3 - Case study - Presentation - Critique - Discussion	Group animation project creative research, pre-production, pre-visualization and production; Progress review, presentation, discussion, critique and consultation.	3	
4 - Case study - Presentation - Critique - Discussion	Group animation project execution and management	4	
5 - Self-exploration - Self-reflection	Self-exploration of basic animation principals & 2D hand-drawn animation, and final reflection report	5	

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1 Assignment 1 – Self-Exploration: Basic Animation Principals & 2D Hand-drawn Animation	1, 5	45	
2 Assignment 2 – Pre-Production: Creative Research and Pre-Visualization	1, 2, 4	20	

3	Assignment 3 (Group Project) – Pre-Production: Creative Research, Pre-Visualization, Presentation & Presentation Materials, Final Deliverable: Animation	1, 2, 3, 4	30	Continuous Assessment
4	Assignment 4 – Self-Reflection Report	5	5	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)**Assessment Task**

Assignment 1 – Self-Exploration: Practices of Basic Animation Principals & 2D Hand-drawn Animation

Assignment 2 – Individual Pre-Production: Creative Research and Pre-Visualization

Assignment 3 (Group Project) – Outcomes of Pre-Production: Creative Research, Pre-Visualization, and Final Deliverables

Criterion

These assessments will be graded on:

- Ability to understand and demonstrate a critical awareness of the concept, workflow, application, and tool set.
- Learning by doing. Reflection of Tool Proficiency / Tool Manipulation / Application of Art and Aesthetic/ Technology / Technological Theory
- Ability to plan, execute and evaluate a project. Reflection of Innovation / Originality / Imagination / Lateral Thinking / Production Management / Learning Attitude / Ethics / Presentation Skills

Excellent (A+, A, A-)

- Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.
- Furthering knowledge through analysis and interpretation of issues discussed using information from a range of source
- Exhibited courage to leave comfort zones and test existing boundaries, conventions and rules for unknown possibilities
- Project was highly original, involved significant logistical challenges and required frequent problem-solving and re-assessment of project methods and goals throughout the duration of the project; student demonstrated exceptional and frequent initiative and self-direction in identifying and overcoming problems as they arose.

Good (B+, B, B-)

- Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.
- Compare and contrasted information from various sources with own interpretation relating to issues discussed
- Demonstrated openness to experiment with new approaches and challenge conventions (comfort zone).
- Project was original, challenging and require consistent problem-solving and re-assessment of project methods and goals throughout the duration of the project; student demonstrated consistent initiative and self-direction in identifying and overcoming problems as they arose.

Fair (C+, C, C-)

- Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.
- Some discussion of issue raised in class, drawing on few sources of information
- Experimented with a number of different approaches, techniques & materials to solve problems but did not go beyond conventions (comfort zone).
- Project was challenging, require minor problem-solving and re-assessment of project methods and goals throughout the duration of the project; student demonstrated some initiative and self-direction in identifying and overcoming problems as they arose.

Marginal (D)

- Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.
- Only little discussion of issues raised in class, drawing on few sources of information.
- Some attempts to experiment, but the approaches, techniques & materials used are limited and lacked diversity.
- Project was simplistic and required little problem-solving; student demonstrate little initiative and self-direction in identifying and overcoming problems as they arose.

Failure (F)

- Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.
- No or little discussion of issues raised in class
- No or little evidence of attempted experiment
- Project was simplistic and required no problem-solving; student failed to demonstrate initiative and self-direction in identifying and overcoming problems as they arose.

Assessment Task

Assignment 3 (Group Project) – Pre-Production: Creative Research, Pre-Visualization, Presentation & Presentation Materials

Criterion

This assessment will grade on content and fluency of presentation. Students should show their co-operation to conduct a well-organized presentation with their own argument and evidence from readings and notes. The threshold of ‘discovery’ lied in a student’ s self -initiatives to conduct additional research and to personalize theories for her/his personal daily experience.

Excellent (A+, A, A-)

- Rich, informative content, excellent grasp of the material with in-depth and extensive knowledge of the subject matter
- Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative
- Superior presentation skills: distinct pronunciation, fluent expression and appropriate diction, exact time-management
- Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize

Good (B+, B, B-)

- Adequate content with firm grasp of the material that informs the audience on a subject matter
- Reasonable organization, balanced structure and composition
- Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management

Fair (C+, C, C-)

- Adequate content with comprehensive grasp of the material demonstrating basic knowledge of the subject matter
- Fair organization, weak structure and composition
- Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management

Marginal (D)

- Weak content, loose grasp of the general ideas with some knowledge of the subject matter
- Poor organization, structure and composition
- Poor presentation skills: marginal pronunciation, expression and diction, poor time-management

Failure (F)

- Inadequate content, fail to identify the general ideas with knowledge of the subject matter
 - No organization, structure or/and composition
 - Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management
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Assessment Task

Assignment 1 – Self-Exploration: Basic Animation Principals & 2D Hand-drawn Animation

Assignment 4 – Self-Reflection Report

Criterion

This assessment will grade on rationality, clarity and fluency of argument and comment. The threshold of ‘discovery’ lies in a student’s ability to negotiate a position that is informed, defensible, and standing on personal insight.

Excellent (A+, A, A-)

- Rich content, excellent ability to interpret and integrate various resources
- Rigorous organization, coherent structure, systematic composition
- Precision in argument, well defined and reasoned points of view grounded in insightful interpretation of existing literature
- Readiness to respond to peer opinion and other views initiated in class discussion
- Discussion shed light on new dimensions of the issue

Good (B+, B, B-)

- Adequate content, sufficient ability to integrate various resources based on demand
- Reasonable organization with balanced structure and composition
- Clear elaboration of ideas that sticks to the point, with clearly differentiated issues, ability to interpret opinions independently
- Sufficient responses to peer comments to sustain a discussion

Fair (C+, C, C-)

- Adequate content, fair ability to integrate various resources based on demand
- Fair organization with adequate structure and composition
- Relevant points made to the subject matter in question
- Ability to respond to other statements and engage in class discussion

Marginal (D)

- Weak content, limited use of resources
- Poor organization, structure and composition
- Relevant points to the subject matter, marginal ability to interpret opinions
- Ability to respond to other comments in simple terms

Failure (F)

- Inadequate content, no/ irrelevant use of resources
 - No organization, structure or/and composition
 - Irrelevant points to the subject matter, no ability to interpret opinions
 - Fail to respond to other comments
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Additional Information for AR

All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.

Part III Other Information

Keyword Syllabus

Animation, Principles of Animation, Time-based Media, Animated Content, Fundamentals of Animation, Creative Research, Animation Production, Animation Pre-production, Animation Pre-Visualization, Thumbnail Sketching, Shot Definition, Storyboarding, Layouts, Staging, Dope Sheet, Bar Chart, Time Chart, Keyframe, In-between, Overlapping, Animatic, Story-reel, Work-reel, 2D Hand-drawn Animation, Stop-motion Animation, Cut-out Animation, Pixilation, Rotoscoping, 3D Computer Animation, Maya, Apple QuickTime Movie, Photo JPEG, H.264, Programme Package, Peg Bar, Copy Stand, DSLR, Dragonframe Stop-Motion.

Reading List

Compulsory Readings

Title	
1	Williames, Richard. (1940). <i>The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators.</i> London, United Kingdom: Faber and Faber Ltd.
2	Johnston, Ollie and Thomas, Frank. (1995). <i>The Illusion of Life: Disney Animation.</i> (Rev Sub edition). CA, USA: Disney Editions
3	Whitaker, Harold and Halas John (2002). <i>Timing for Animation.</i> New Ed edition. St. Louis, USA: Focal Press, Inc.
4	White, Tony. (2006). <i>Animation from Pencils to Pixels: Classical Techniques for the Digital Animator.</i> St. Louis, USA: Focal Press, Inc.

Additional Readings

Title	
1	White, Tony. (2009). <i>How to Make Animated Films: Tony White's Complete Masterclass on the Traditional Principals of Animation.</i> St. Louis, USA: Focal Press, Inc.
2	White, Tony. (1988). <i>The Animator's Workbook: Step-By-Step Techniques of Drawn Animation.</i> NY, USA: Watson-Guptill publications
3	Palamar, Todd. (2015). <i>Introducing Autodesk Maya 2016: Autodesk Official Press.</i> Hoboken, NJ: Sybex
4	Autodesk Maya Press. (2007). <i>The Art of Maya: An Introduction to 3D Computer (Edition 4).</i> Autodesk Official Press. Hoboken, NJ: Sybex
5	AREA by Autodesk The Autodesk CG Community on the Web. Autodesk, Inc. (2015). Home: Product Communities: Autodesk Maya https://area.autodesk.com/products/view/maya (Accessed October 21 2015)
6	Lauria, Larry. Larry's Toon Institute. (1999) http://www.awn.com/tooninstitute/lessonplan/lesson.htm#top (Accessed October 21 2015)
7	ASIFA-Hollywood: The International Animated Film Society. (2015) http://www.asifa-hollywood.org/ (Accessed October 21 2015)
8	Animation Magazine Inc. (2012) http://www.animationmagazine.net/ (Accessed October, 21 2015)
9	Tokuma Memorial Cultural Foundation for Animation. (2001-2015) http://www.ghibli-museum.jp (Accessed October 21 2015)
10	Lasseter, John. (1987). <i>Tricks to Animating Characters with a Computer.</i> http://www.siggraph.org/education/materials/HyperGraph/animation/character_animation/principles/lasseter_s94.htm (Accessed October 21 2015)
11	Owen, G. Scott (2000). <i>Computer Animation</i> http://www.siggraph.org/education/materials/HyperGraph/animation/anim0.htm (Accessed October 21 2015)