MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B.Sc. in 3D Animation Film Making (BAFM) Programme
(Effective for Students Admitted in Academic Session 2019-2020)
SEMESTER III
Theory

Paper: LISTENING AND SPEAKING SKILLS IN ENGLISH
Code: BTAFM -301
Contacts Hours / Week: 3L+1T
Credits: 2
Marks: 100

Module	List Of Topics and Exercises
1	**Objectives:** • To introduce the students to the speech sounds of English in order to enable them to listen • To English and speak with global intelligibility. To enable the students to speak English confidently and • Effectively in a wide variety of situations. To help the students to improve their reading efficiency By refining their reading strategies.
2	**Speech Sounds:** • Phonemic symbols – Vowels – Consonants – Syllables – Word stress – Stress • in polysyllabic words – Stress in words used as different parts of speech – Sentence stress – Weak forms and strong forms – Intonation
3	**Speech Sounds:** • Phonemic symbols – Vowels – Consonants – Syllables – Word stress – Stress • Polysyllabic words – Stress in words used as different parts of speech – Sentence stress – Weak forms and strong forms

Suggested Readings :

V. Sasikumar, P Kiranmai Dutt and Geetha Rajeevan, .Communication Skills in English.
Kulbhushan Kumar, Effective Communication Skills.

Practical

Paper: CLAY MODELLING
Code: BTAFM -391
Contacts Hours / Week: 2T+6P
Credits: 4
Marks: 100

Module	List Of Topics and Exercises
1	Focuses on modelling characters with different types of clay. Clay models are used to improvevisualizationwhilemodeling3D digital characters. Use overlaying modelling to feel and understand the anatomy, proportions and depth of the model
2	Types of Clay Use of plasticize, polymer, POP, other non-hardening plastic clay, wax, various types of water based clay etc.
3	Tools used for Clay Modelling Tool slice cutter, scraper ,carver ,ribbon cutter etc. made of polished hardwood ,wire and modelling tools etc.,

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Paper: FUNDAMENTALS OF CG MODELING
Code: BTAFM -392
Contacts Hours / Week: 2T+6P
Credits: 4
Marks: 100

Module	List Of Topics and Exercises
1	Focuses on using 3d software to build sets and props. The 3d modelling tools required and are also encouraged to develop their own 3d scenes. Modelling interior and exterior sets based on a designed layout is also a focus during this part of the course.
2	Creating NURBS primitive objects, Creating NURBS curves, attaching and detaching curves, NURBS components, Editing NURBS surfaces • Revolving • Lofting and extruding curves to create surfaces, attaching and detaching surfaces • Socking • Stitching surfaces
3	Creating polygon primitive objects, polygon components, editing polygon surfaces, combining and separating polygons • Creating polygon primitive objects • Polygon components • Editing polygon surfaces • Combining and separating polygons • Splitting and sub-dividing polygons • Extruding polygons, Merging vertices, Bevel

Suggested Software: Autodesk Maya
Suggested Readings: Autodesk Maya 2018 by Ticked Sham

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Paper: TEXTURING & LIGHTING
Code: BTAFM -393
Contacts Hours / Week: 2T+6P
Credits: 4
Marks: 100

Module	List Of Topics and Exercises
1	Focuses on creating shaders and materials. Encouraged to study the surface features of the various objects and create shaders accordingly. This section also covers the workflow involved in texturing characters. Creating Shaders and Materials Understanding shader attributes, Creating shading networks, connecting nodes in work area, using 2d and 3d texture nodes, applying maps to various material attributes like transparency maps, bump maps etc., UV Mapping Techniques Understanding UV's, editing UV's and using mapping projections on polygon surfaces, planer mapping, cylindrical mapping, spherical mapping, automatic mapping, working with UV texture editor window UNWRAPPING UV'S Understanding unwrapping, unwrapping props and characters to facilitate texture painting, relaxing and unfolding UV's, split UV's, creating UV sets
2	Focuses on understanding light properties, shadow properties and visual impact of lighting on CG sets. Encouraged to observe and study real world lighting and simulate the same with CG lighting. • Creating various types of lights, light properties, understanding light attributes, direct and indirect lighting, using maps on light attributes, break light links, make light links • Understanding global illuminations, GI photons, photon maps, final gathering, combining GI and FG, HDRI images, caustics, subsurface scattering, creating physical sun and sky • Understanding Renderers • Basic to advanced renderers Multi pass and multilayer rendering

Suggested Software: Autodesk Maya & Adobe Photoshop
Suggested Readings: Maya Texturing and Lighting by Lee Lanier

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Paper: BASICS OF NUKE
Code: BTAFM -394
Contacts Hours / Week: 2T+6P
Credits: 4
Marks: 100

Module	List Of Topics and Exercises
1	Introduction Nuke 3D Work Space in Nuke • Overview of 3D Tools • Navigating 3d Viewer
2	Creating 3D Geometry • Intro about the 3D Nodes • Transform Geo Node ,Merge Geo Node • Displace Geo Node, Edit Geo Node
3	Roto scoping, Paint, wire and rig removals

Suggested Software: Foundry NUKE
Suggested Readings: Digital Compositing with Nuke (Lanier Lee Lanier)

Sessional

Paper: WRITING AND PRESENTATION SKILLS IN ENGLISH
Code: BTAFM -381
Contacts Hours / Week: 4P
Credits: 2
Marks: 100

Module	List Of Topics and Exercises
1	To make the students aware of the fundamental concepts of critical reasoning and to enable them to read and respond critically, drawing conclusions, generalizing, differentiating Fact from opinion and creating their own arguments. To assist the students in developing Appropriate and impressive writing styles for various contexts. To help students rectify Structural imperfections and to edit what they have written. To equip students for making Academic presentations effectively and impressively. **Presentation Skills:** Soft skills for academic presentations - Effective communication skills – Structuring the presentation - Choosing appropriate medium – Flip charts – OHP – Power Point presentation – Clarity and brevity - Inter-action and persuasion - Interview skills – Group Discussions.

Suggested Readings: Effective Communication Skills by Kulbhushan Kumar