

PART A: GENERAL INFORMATION

1. Module Title		Technical Direction (E X C C 5002)
2. School		Escape Studios
3. Level		5
4. Total Credits/ ECTS Value		30 (15 ECTS)
5. Total Synchronous Contact Hours		90
6. Programme(s) to which the Module Contributes		Character Creation for Animation, Games & VFX BSc (Hons) Character Creation for Animation, Games & VFX (Integrated Masters) MSci (Hon)
7. Related Modules	Pre-requisites	None
	Co-requisites	None
	Post-requisites	None
	Excluded Combinations	None
8. External Accrediting Body (If applicable)		N/A
9. Modes of Study		Full-time
10. Delivery Site(s)		Escape Studios, London

PART B: MODULE LEARNING OUTCOMES**11. Learning Outcomes**

On successfully completing the module students will be able to:

1. Demonstrate knowledge and critical understanding of the theory and concepts of 3D Character and Creature Technical Direction
2. Evaluate and select tools and techniques for Technical Direction
3. Create assets, applying theory and using appropriate tools and techniques demonstrating an understanding of anatomy and physics
4. Manage time and resources to deliver a range of projects within given constraints
5. Collaborate with others to produce discipline-specific work and improve their technical craft

PART C: RATIONALE AND DELIVERY**12. Synopsis of the Curriculum**

- Character Rigging in 3D DCC
- What is a rig? (Output for VFX and Real-time)
- Introduction to Scripting for Rigging
- Databases and Procedural Library Creation

MODULE SPECIFICATION

- Creating Cloth and soft surface simulations in 3D DCC and procedural DCC
- Exporting ready for rendering
- Creating Muscle Systems in 3D DCC
- Muscle Simulation Pipeline (PSD)
- Finalising a character
- Fur and Hair Groom
- Introduction to Procedural interoperability
- Using Interactive Groom
- Shading and rendering hair for Offline and Real Time
- Simulating Hair
- Introduction to Animation
- Adding character
- Simulating a character (Final presentation)

13. Learning and Teaching Methods

The module follows the Craft module model, with practical tutor-lead sessions in studio being the primary mode of delivery. In these sessions students are introduced to theory in the context of exercises, building their knowledge and understanding alongside their intellectual and practical skills.

14. Contact Hours

Module Credit Value	Scheduled Learning Activities	Guided Independent Study	Total Hours
30 credits	Skills sessions (54 hours) Studio time (36 hours)	Preparation for classes, guided research, assignment preparation and development (210 hours)	300 hours

15. Assessment Methods

Formative Assessment

Formative assessment will be provided throughout the module, both in terms of feedback on work in progress during the contact hours.

Summative Assessment

Assignment 1: Project (75%)

Approximately 6 weeks of development work.

Assignment 2: Presentation (25%)

Approximately 10-15 minutes

Re-sits

Students who fail this Module will be permitted to submit revised re-sit the failed assessment components in accordance with the Academic Regulations

16. Map of Module Learning Outcomes to Learning, Teaching and Assessment Methods

Learning outcome	1	2	3	4	5
Learning/ teaching					
Skills Sessions				X	X
Studio Time	X	X	X	X	
Assessment method					
Project	X	X	X	X	X
Presentation		X		X	X

17. Indicative Reading List

This is an indicative list, correct at the time of publication. Reading lists will be published at least annually.

- Zbrush digital sculpting human Anatomy, Spencer, S, John Wiley & Sons, (2010)
- ZBrush character creation: advanced digital sculpting, Spencer, S, John Wiley & Sons, (2011)
- Body language: advanced 3D character rigging, Allen, E. and Murdock, K.L, John Wiley & Sons, (2011)
- Artistic anatomy. Watson-Guption Publications, Richer, P.M.L.P, (1986)
- Anatomy for Sculptors: Understanding the Human, Uldis Zarins, Sandis Kondrats, Anatomy Next Inc, (2014)
- Rig it Right! Maya Animation Rigging Concepts, Tina O'Hailey, Routledge, (2013)
- The Complete Guide to Photorealism for Visual Effects, Visualization and Games: For Visual Effects, Visualization and Games by Eran Dinur (2021)
- The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers (2017)
- The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures by Jeffrey Okun VES (2020)

Electronic

- Houdini Foundations Book <https://www.sidefx.com/tutorials/foundations-book/>
- Getting started with Houdini <https://www.sidefx.com/learn/>
- Foundations Book | SideFX <https://www.sidefx.com/community/foundations-book/>
- Tutorials | SideFX <https://www.sidefx.com/tutorials/>
- Adobe Substance Tutorials <https://substance3d.adobe.com/tutorials>
- Substance Designer Craziiness with Nicolas Wirrmann <https://substance3d.adobe.com/tutorials/streams/youtube/zzBTVimGW-I>
- Innovative Workflows from Substance Designer to Unreal Engine <https://substance3d.adobe.com/tutorials/streams/youtube/PmvBlbLeuC4>
- Building stylized procedural atlas with Substance Designer <https://substance3d.adobe.com/tutorials/streams/youtube/5uqVIDlg3yo>
- Unreal 5 - Substance Integration <https://substance3d.adobe.com/documentation/integrations/unreal-engine-5-225970446.html>
- Substance automated toolkit <https://substance3d.adobe.com/documentation/sat>
- Simultaneous Music, Animation, and Sound with Houdini, Andrew Lowell, e-book, <http://www.andrew-lowell-productions.com/andrew-lowell-productions/resources.html>

18. Inclusive Module Design

We recognise and have incorporated the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with relevant policies and support services. Furthermore, the module design has sought to embed inclusive curriculum content.

Date of initial approval	July 2023
Date of revision	N/A
Version number	1
Effective from	September 2024