

Module Details	
Module Title	Motion Capture and Digital Scanning
Module Code	GAV5017-B
Academic Year	2022/3
Credits	20
School	Department of Media Design and Technology
FHEQ Level	FHEQ Level 5

Contact Hours	
Type	Hours
Lectures	6
Tutorials	10
Laboratories	12

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims
To attain a broad understanding of the processes of the motion capture sequence, from setting up cameras and capturing data through to editing and transferring capture data to industry standard animation packages To capture real world three dimensional data through photogrammetry techniques and Laser imaging, detection and ranging equipment

Outline Syllabus
The history of motion capture. What is motion capture? Fitting mocap into the animation pipeline. Marker sets. Setting up, system calibration, capturing and editing data. Applying data to a skeleton in motion builder. Editing in motion builder. Moving into industry standard animation packages. The future of mocap. Facial capture, LiDAR scanning, Photogrammetry.

Learning Outcomes	
Outcome Number	Description
01	Critically review theoretical and practical aspects of motion capture technology to further results in the 3D computer animation production process; Display understanding of technical terms related to 3D computer animation and motion capture technology
02	Identify viable concepts and realise them using motion capture technology.
03	Work in groups to solve problems. Manage both time and resources to an intermediate level in a project based scenario

Learning, Teaching and Assessment Strategy
A series of lectures or Online Lectures will deliver core material including concepts, theories and principles on how motion capture can be used in the 3D computer animation production process. Students` practical learning is supported by laboratory sessions or directed Learning Objects Interaction and directed study which enables the development of knowledge on how motion capture equipment should be operated. Students are expected to build specialist skills by working both as an individual working with captured data and as part of a larger group, as an actor or in the direction of an actor, operator or in the direction of an operator and system calibrator or in the direction of a system calibrator. Assessment is by group coursework. Students will undergo formative assessment mid-term and received feedback from which to take summative feedback at the end of the module. Students must engage with the formative assessment in order to submit summative assessment at the end of the module.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework	Short animation practical project produced in groups. Weekly formative feedback. Peer assessment 20%	70%
Summative	Coursework	1000 word report: 2nd summative feedback	30%
Referral	Coursework	Short animation based on provided motion capture data	100%
Formative	Coursework	500 word report: 1st Formative feedback	N/A

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

