

MAVP02: Virtual Production Pipelines

Status	Approved
Module Name	Virtual Production Pipelines
Module Code	MAVP02
Credit Value	30
Level	7
Pre-requisites	
Named Module Leader	Chandler, Katie

Module Aim

Provide students with a comprehensive understanding of virtual production pipelines, enabling them to design, document, and implement integrated workflows that blend live-action footage with digital content.

Summary Module Description

This module immerses students in the dynamic world of virtual studio production, where physical sets merge with digital backdrops. Covering LED wall technology, camera tracking, and live compositing, the curriculum emphasises hands-on learning with studio hardware and software tools. Students learn to align physical and virtual lighting, manage on-set collaboration, and troubleshoot common production challenges. Simulated studio exercises and group projects foster an understanding of the roles and responsibilities in a virtual production environment. Advanced sessions explore complex camera movements and in-camera VFX techniques, reinforcing the technical and creative demands of modern studio production. By engaging in practical, real-time problem-solving, learners develop the capability to produce polished, immersive scenes that bridge the gap between live-action and digital media, this module equips students with the skills necessary to excel in fast-paced, innovative production settings.

You will research key virtual production projects, such as *The Mandalorian*, exploring workflows, technology stack, and production methodologies.

Module-Specific Employability Skills

The module will offer you an opportunity to develop and refine advanced skills that can be applied in professional settings across the film and creative industries, as well as in academia and beyond. Through critical research, industry engagement, and professional practice, you will develop expertise that positions you as a skilled entrant in your field.

Technical Skills You will advance your expertise in applying and critically assessing emerging and established technologies, ensuring their effective and ethical use. You will master complex digital workflows, industry-standard software, and experimental technologies, allowing you to push creative and technical boundaries in your work.

Problem Solving and Innovation You will refine your ability to apply complex theoretical models to creative challenges, developing original solutions that drive industry and academic innovation. Your work will reflect a deep engagement with research-led creative problem-solving.

Imagination and Creativity You will enhance your creative practice by exploring experimental, research-driven approaches to storytelling and production. You will engage with both traditional and emerging methodologies to develop a distinct creative voice and produce work that challenges artistic and industry conventions.

Organisation You will master strategic project and time management, balancing creative, technical, and research-driven workflows. You will develop the ability to plan and execute large-scale projects, integrating critical thinking with professional efficiency.

Communication Skills You will enhance your ability to articulate complex ideas with clarity and impact, whether in written, verbal, or visual forms. Your communication will be tailored for diverse audiences, ensuring effective engagement with industry professionals, academic communities, and the public.

In addition to its subject focus, the course will prepare you for other types of creative industry careers. All the above skills are transferable, which means that they can be adapted and deployed in a variety of fields and careers.

Assessment Strategy

Learning Outcomes

LO #	Learning Outcome Name	Assessment Criteria Category
1	1. Technical: Demonstrate the technical requirements of the design and delivery process of a virtual environment	Process
2	3. Communication: Demonstrate a command of diverse professional, effective communication and presentation skills	Communication
3	7. Innovation: Analyse the creative elements required for development and effectively resolve challenges throughout the production process	Innovation

	of a narrative or factual project	
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Assessment Methods

Assessment Method	Description of Assessment Method	%	Learning Outcomes Assessed	Compulsory or Compensatable
PW	Present a complete VP pipeline design for a short project.	100	LO: 1,2,3	Compulsory

The following codes for assessment methods apply

PW	Presentation of Work
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Modes of delivery

Learning Activities	
Type	Hours
Structured Learning Activity	75
Guided Independent Study	225
Total	300

Indicative list of resources

Michael Wohl *The Filmmaker's Guide to Visual Effects*

Jason P. McDonald *Virtual Production: The New Frontier of Filmmaking*

Aggarwal, V. (2024). *Creative Motion Mastery with Adobe after Effects : Learn the Ins and Outs of Motion Graphics, Post-Production, Rotoscoping, and VFX*. Birmingham, UK, Packt Publishing.

Mattingly, D. B. (2011). *The digital matte painting handbook*. Serious skills. Indianapolis, Wiley Pub., Inc.

Ascher, S, and Pincus, E. (2003) *The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age*: 4th edition.

Bordwell, D., & Thompson, K., Smith, J. (2020), *Film Art : An Introduction*, New York, McGraw Hill Education

[DNEG Masterclass \(YouTube\) Virtual Production: From Previs to Final Pixel](#) (asset creation, LED walls, real-time rendering.)

[Capturing Reality YouTube Channel Reality Capture for Beginners](#) – (Tutorial on photogrammetry software used in VP.)

SMPTE The Virtual Production Podcast (Interviews with industry experts on VP workflows, asset scanning.)

Named Awards

Course
MAVIPRSFP01 MA Virtual Production (CFS)