

Module Details	
Module Title	Vision Engineering
Module Code	FAM7019-B
Academic Year	2021/2
Credits	20
School	Department of Media Design and Technology
FHEQ Level	FHEQ Level 7

Contact Hours	
Type	Hours
Laboratories	4
Lectures	8
Tutorials	10
Directed Study	178

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims
This module will provide students with a broad understanding of the function of vision in outside broadcasting. These include the variety of different options for capturing and transmitting video for different purposes and under different conditions. It will use industry standards and formats and learners will become adept in the use of a wide variety of different vision systems and operational techniques.

Outline Syllabus

Video paths, colour-matching, vision mixer systems, vision processing, fibre optic systems and signals. types of camera mountings, lenses and panning heads. Camera systems, formats and accessories. Awareness of camera use and shot composition. Different lighting luminaires, fixings and mounts, LED and projector screens. Lighting levels, lighting problems and their solutions. Rig monitors, set up video equipment, soldering and find technical faults. Cable bashing, camera set-up, camera use (zoom, focus, shot match), camera talkback. Check picture exposure and colour vision, interpretation of mood and look required. Follow programme scripts and lighting cues. Truck equipment: router and vision mixer systems. Ability to rig external equipment such as monitors, graphics machines, autocue and router panels etc. Use of fibre equipment as well as copper. Limitations of copper (ie. length). Advantages of fibre over copper. Knowledge of cameras and how they are rigged. Difference between SMPTE fibre and Triax. Use of fibre-triax convertors and associated problems. A knowledge of camera systems and a basic camera chain. An understanding of how the picture reaches the screen. The ability to correctly expose and colour match pictures. How to set up monitors correctly using PLUGE etc. An understanding of the SDI, HDSDI and PAL video paths. Problems associated with distribution (ie. how cable length affects different formats) An understanding of router and vision mixer systems. Key Texts: Luther, A.C. and Inglis, A.F. (1999) Video Engineering, McGraw Hill

Learning Outcomes

Outcome Number	Description
01	Apply industry practise to determine the appropriateness of equipment and guard against the causes of fault development. Evaluate the benefits of a range of vision equipment and systems to select the most appropriate equipment for recording video signals to meet the needs of clients and the venue Synthesise a systematic knowledge of industry standards for operating and managing and resolving problems of visions systems and facilities.
02	Rig, align, adjust and maintain vision equipment, to ensure the accurate line-up of vision monitoring, camera output and other vision facilities. Operate camera exposure, black level and colour balance controls, to match cameras and maintain overall picture quality during live and recorded programmes. Monitor video signals across different ranges to detect video-quality deviations or malfunctions
03	Communicate ideas effectively Solve problems methodically

Learning, Teaching and Assessment Strategy

N/A

Mode of Assessment

Type	Method	Description	Weighting
Summative	Other form of assessment	Assessed practical scenario activity	70%
Summative	Coursework	Online exercises and written reflection	30%

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.

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