

PROGRAMME SPECIFICATION

Course Record Information	
Name and level of final & intermediate Awards	BSc (Hons) Photography & Digital Imaging Technologies BSc Photography & Digital Imaging Technologies Diploma of Higher Education in Photography & Digital Imaging Technologies Certificate of Higher Education in Photography & Digital Imaging Technologies
Awarding Body	University of Westminster
Location of Delivery	Harrow Campus, Northwick Park HA1 3TP
Mode of Study	Full time
UW Course Code	WJ50
JACS Code	
UCAS Code	WJ65
QAA Subject Benchmarking Groups	Communication, media, film and cultural studies; Engineering; Physics, Astronomy and astrophysics; Art and Design.
Professional Body Accreditation	The Royal Photographic Society (RPS) offers professional Imaging Science Qualifications at various levels. A graduate of the course, who is a member of the RPS or who has applied for membership, with one year's appropriate experience after graduation may be awarded the professional qualification of Graduate Imaging Scientist, Associate of the Royal Photographic Society. A distinction of the RPS, Licentiate or Associateship may be gained immediately on graduation. The British Institute of Professional Photographers (BIPP) may also award Licentiate to graduates of the course
Date of initial course approval/last review	March 2005
Date of Programme Specification	March 2012

Admissions Requirements

Entry criteria

The normal minimum qualifications entitling an applicant to be considered for admission to the course are as outlined in the University of Westminster's Undergraduate Prospectus.

- (i) Five passes at grades A, B or C in the General Certificate of Secondary Education (GCSE), which should include English Language and minimum grade B in GCSE mathematics, AND three passes at minimum grade C at GCE Advanced Level. These should include an A level in Photography or science, or
- (ii) An appropriate Certificate or Diploma for successful completion of an approved foundation or access course, or
- (iii) Other equivalent qualification.
- (iv) Competence in written and spoken English language for those whose first language is not English is required to at least IELTS 6.0, TOEFL 550 (paper based examinations) or TOEFL 213 (computer based test) and Edexcel London Tests of English level 4.
- (v) At present the student intake comprises a high percentage of those returning to education after, sometimes, an interval of many years. Admission for these students is based not only on A-levels, or equivalent qualifications but also on their life experiences and motivation assessed at interview. Experience suggests that well motivated students have achieved considerable success, even from relatively unorthodox academic bases.

Aims of the course

The programme aims to equip graduating students with knowledge and understanding of essential facts, concepts, principles and theories relevant to photography and digital image production, imaging technologies and imaging science. The course encourages exploration of image production with an emphasis on technical excellence in photography and imaging. Industry-focused modules and work placement help to develop understanding of employment markets and standard professional practices in imaging.

Course Aims:

- To promote a multidisciplinary approach to imaging.
 - To provide an education spanning technical, scientific and creative aspects of imaging, enriched by on-going contemporary research and professional practice.
 - To facilitate an understanding of the histories of imaging technologies and their impact on communication and scientific understanding.
 - To encourage the development of enquiring and critical research skills rooted in the scientific method.
 - To provide students with a technical foundation in current and developing practices in digital photography and imaging.
 - To encourage the exploration of image production and an understanding of best practice with an emphasis on technical excellence, imaging system performance and image quality.
 - To enable students to develop and experience an understanding of relevant employment markets, with an emphasis on standard professional practices, legal and ethical requirements for a range of careers in photography and imaging.
 - To facilitate the development of specialist and transferable skills which satisfy the professional demands of a range of commercial and scientific imaging applications and industries.
 - To encourage independent learning and research, organisation and judgment and to promote critical self-awareness.
 - To respond to the on-going developments of continuously changing industries and technologies by preparing self-motivated students for imaging based careers.
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Employment and Further Study Opportunities

Today's organisations need graduates with both good degrees and skills relevant to the workplace, i.e., employability skills. The University of Westminster is committed to developing employable graduates by ensuring that:

- Career development skills are embedded in all courses
- Opportunities for part-time work, placements and work-related learning activities are widely available to students
- Staff continue to widen and strengthen the University's links with employers in all sectors, involving them in curriculum design and encouraging their participation in other aspects of the University's career education and guidance provision
- Staff are provided with up-to-date data on labour market trends and employers' requirements which will inform the service delivered to students.

The study of imaging technologies and system performance equips students for a range of employment options, from the wholly technical to visually creative applications, including photographic practice and technical or scientific imaging careers. Careers range from (two) Professors of Applied Optics to digital special effects for film and television.

Graduates of the course have been employed in:

- Clinical Photography.
- Forensic imaging.
- Applied optics.
- Commercial photography and advertising.
- Digital special effects and retouching.
- Digital Printing.
- Computer Graphics and Animation.
- The scientific department of the Home Office (HOSDB).
- The film industry (e.g. digitisation of motion film, rotoscope/prep artist).
- Digital image archiving and museums.
- Photographic and Imaging Companies (eg. Fujifilm UK).
- Universities as lecturers or researchers (PhD).

A significant number of our graduates studied the MSc. Digital and Photographic Imaging Course previously delivered by our department. Recent graduates have undertaken other postgraduate study, including:

- MSc. in Colour Science at the London College of Printing
- MSc. in Biomedical Engineering and Medical Imaging at University College London
- MSc. Archaeological Computing (Virtual Pasts) course at the University of Southampton
- MSc Information Technology at Nottingham University
- MSc Medical Imaging at the University of Surrey
- MA Photography at Kingston University
- MSc. in Image Science at the Rochester Institute of Technology (USA)
- Post Graduate Clinical Photography Certificate at Staffordshire University
- Level 3 Diploma in Diabetic Retinal Screening - City & Guilds
- a taught PhD at University College London

Learning Outcomes

Learning outcomes are statements on what successful students have achieved as the result of learning. They threshold statements of achievement and are linked to the knowledge, understanding and skills that a student will have gained on successfully completing a course.

Knowledge and Understanding

At the end of level 4, students will be able to:

- Demonstrate knowledge of underlying science and mathematics relevant to analogue and digital imaging.
- Understand the nature and properties of photographic and digital images and imaging systems.
- Comprehend basic relationships between image attributes, image quality and the physical processes producing the image.
- Evaluate the properties of visual stimuli, images and imaging systems and image quality and analyse and communicate the results in an appropriate format.
- Demonstrate knowledge of principles and practices of a number of basic techniques in scientific imaging.
- Demonstrate knowledge of the history of photography, photographic genres and imaging technologies and their relationship to technological change.
- Demonstrate awareness of the relationships between visual perception, image composition and control of the imaging process.

At the end of level 5, students will be able to:

- Demonstrate an in-depth understanding of the technology of imaging processes and systems, underpinned by science and mathematics appropriate to the subject.
- Understand and relate aspects of image quality to quantifiable image properties and evaluate imaging systems using standardised objective measures of image attributes.
- Interpret data derived from laboratory observations and measurements in terms of their significance and the theory underlying them.
- Show a theoretical understanding of colour science and colour management with emphasis on industry standard practices.
- Demonstrate knowledge of underlying theory in a range of general and application-specific scientific imaging techniques, and an understanding of the sectors in which they are applied.
- Generate ideas, concepts, proposals, solutions or arguments independently and/or collaboratively in response to set briefs and/or as self-initiated activity.

At the end of level 6, students will be able to:

- Demonstrate knowledge of advanced theory, practice and relevant mathematics in imaging science and imaging systems performance.
- Recognise and analyse criteria and specifications appropriate to specific imaging and scientific problems, and plan strategies for their solution.
- Understand the underlying theory and practical application of single and combined image processes in the context of scientific imaging.
- Demonstrate an advanced understanding of colour science, colour appearance and the theory and practice of colour measurement and specification.
- Demonstrate an understanding of image quality and experience of methodologies used in the quantification of subjective and objective image quality.

Specific Skills

At the end of level 4, students will be able to:

- Apply scientific methods in the evaluation of the properties of visual stimuli, images and imaging systems and image quality
- Display technical competence in image production, using a range of professional quality imaging systems, techniques and processes.
- Control imaging systems and processes through the imaging chain to achieve optimum image quality.
- Understand and balance the relationship between image quality and productivity in image production.
- Comprehend and apply basic principles and processes in colour management and imaging workflow.
- Apply acquired technical skills to creative ends. Select, reflect upon and critically analyse images produced.

At the end of level 5, students will be able to:

- Devise and carry out experiments to compare the performance of different systems.
- Demonstrate a practical understanding of colour science and colour management with emphasis on industry standard practices
- Show increased knowledge of practical techniques in imaging, with an emphasis on professional formats and practices for still and moving imaging applications.
- Initiate, develop and realise creative ideas in practical work.
- Produce a substantial body of technically competent and conceptually developed photography and video-based practical work.
- Demonstrate the ability to produce imagery for a particular audience or genre with an understanding of the practical, social and economic factors entailed in the production of work for a commercial brief.
- Demonstrate expertise and skills in a range of general and application-specific scientific imaging techniques,

At the end of level 6, students will be able to:

- Design, plan and execute a range of practical assignments and experiments.
- Select and use safely a range of specialist instrumentation
- Select appropriate image processing or manipulation algorithms for specific tasks and understand the relevant implementations.

- Produce a substantial body of practical work, in a form suitable for the type of project, researched and developed in relation to a self selected topic, subject or theme.

Key Transferable skills

At the end of level 4, students will be able to:

- Demonstrate knowledge of basic mathematics relevant to imaging and the analysis of experimental results.
- Show a basic knowledge of the multi-disciplinary nature, professional practices and scope of different roles and careers in the imaging industries.
- Evaluate their own skills and expertise in relation to the course and possible future careers.
- Demonstrate developing research and communication skills, accessing and correctly referencing appropriate sources from different disciplines and expressing ideas in written and oral form.

At the end of level 5, students will be able to:

- Research and explore career opportunities in a variety of different imaging related fields, evaluating the areas of necessary knowledge and skills for each.
- Reflect upon their own qualities, skills and expertise in the context of possible careers and produce an action plan for future skills development.
- Identify skills, production processes and professional practices relevant to particular sectors of imaging and understand the impact of developing imaging technologies on the industry.
- Demonstrate an understanding of aspects of marketing, professional practice and business management necessary for careers in imaging, producing appropriate materials as necessary.
- Express their ideas in written form with increasing accuracy, coherence and fluency, using formats and terminology suitable for a range of different types of output, including essays, technical surveys and laboratory reports.

At the end of level 6, students will be able to:

- Present scientific material and arguments clearly and succinctly, in writing and orally, to a range of audiences.
- Research and explore technologies, techniques and theories relevant to the development of a major project and produce a coherent project proposal.
- Produce a literature survey exploring and closely defining a problem to be addressed in a project.
- Manage time, personnel and resources effectively, by drawing on planning and organisational skills to complete a self-directed project.

- Express written ideas and evaluate the major project in an appropriate, articulate and persuasive manner that reflects comprehensive research and an assured critical and analytical approach.

Learning, Teaching and Assessment Methods

The course employs a range of teaching and learning strategies, modes of delivery and assessment methods appropriate to the aims and intended outcomes of each module and the course as a whole. The majority of the modules are delivered in the classroom/laboratory or classroom/computer-room sessions, which are effectively used throughout scientific/applied education.

Photographic practice modules will involve a large amount of self-directed study and are delivered through a range of different modes. They involve seminars and workshops based in the studios or darkrooms, together with one-to-one or group tutorials.

The Career Management and Professional Practice module involves tutorials and self-directed study using Blackboard, an online learning resource.

Assessment methods of individual modules are based on:

- laboratory work and scientific reports
- written courseworks and numerical problems
- dissertations and personal presentations
- written examinations (for some modules only)
- Interviews, career path studys
- Practical work, imaging portfolios, log books

The Project planning module includes:

- Project Proposal, project plan and Literature Review

Assessment of the major project is based on:

- Final project report, logbook and practical work.

The major project can be in any area related to imaging systems and image production, however it is expected that there will be a high technical content to the work. Projects based on a portfolio of visual material will require both visual and technical excellence. Each student is assigned a personal project supervisor who is available for consultation on a regular basis and will agree the project topic with the student and monitor his/her progress. In the initial phase, during the Project Planning and Research Methods in semester 1 at level 6, students are introduced by lectures and exercise the disciplines of Project Planning and methods of time and budget estimation and management.

Individual and group tutorials enable a more focused teaching/learning experience. The involvement of the peer group is valued as a dynamic contribution to the learning experience and use of the wide range of resources each student brings to the course. In individual tutorials the focus is on the student's experience of the course.

Course Structure

This section shows the core and option modules available as part of the course and their credit value. Full-time Undergraduate students study 120 credits per year.

Credit Level 4

Code	Title	Status	Value
	Photography Theory and Practice	Core	30
	Digital Image Management	Core	30
	PDIT Skills and Contextual Studies	Core	30
	Visual Literacy and Perception	Core	15
	Science for Imaging	Core	15
	Total Level 4 credits		120

Award of Certificate of Higher Education available

Credit Level 5

Core modules to the value of 90 credits:

Code	Title	Status	Value
	Imaging Practice & Production	Core	30
	Imaging Technologies	Core	15
	Imaging Sciences	Core	15
	Career Management & Professional Practice	Core	15
	Colour Theory & Colour Management	Core	15

and two option modules (to the value of 30 credits) selected from the following:

	Scientific Imaging	Option	15
	Professional Photography	Option	15
	Broad Vision	Option	15
	Constructed Photography	Option	15

or ONE Free Choice module at Credit Level 5 or above may be substituted for one of the OPTION modules:

Free Choice module	Free	15
	Total Level 5 credits	120

Award of Diploma of Higher Education available

Credit Level 6

Core modules to the value of 120 credits:

Code	Title	Status	Value
	Project Planning & Research Methods	Core	15
2DPI619	Major Project	Core	45
	Advanced Imaging System Performance	Core	15
	Applied Digital Imaging: Acquisition & Processing	Core	15
	Advanced Colour Imaging	Core	15
	Image Quality: Psychophysics & Metrics	Core	15

Total Level 6 credits **120**
Total overall credits 360.

Award of BSc available

Award of BSc (Hons) available.

NB: Not all option modules will necessarily be offered in any one year.

AWARDS

BSc (Hons) Photography & Digital Imaging Technologies

Mark

First	Average higher than 70% best 105 credits at L6 Average higher than 60% for next best 105 credits at L5 and L6.
Upper Second	Average higher than 60% best 105 credits at L6 Average higher than 50% for next best 105 credits at L5 and L6.
Lower Second	Average higher than 50% best 105 credits at L6 Average higher than 40% for next best 105 credits at L5 and L6
Third	An average of 40% or above in the best 210 credits at Credit Levels 5 and 6.

INTERMEDIATE AWARDS

BSc Photography & Digital Imaging Technologies

Distinction	Average higher than 60% in best 150 credits at L5 and 6
Pass	Otherwise

Diploma of Higher Education in Photography & Digital Imaging Technologies

Distinction	Average higher than 60% in best 105 credits at L5 and 6
Pass	Otherwise

Certificate of Higher Education in Photography & Digital Imaging Technologies

Distinction	Average higher than 60% in best 105 credits
Pass	Otherwise

Academic Regulations

The BSc/ (Hons) **Photography and Digital Imaging Technologies** and its intermediate awards operate in accordance with the University's Academic Regulations and the *Framework for Higher Education Qualifications in England, Wales and Northern Ireland* published by the Quality Assurance Agency for Higher Education (QAA) in 2008.

All students should make sure that they access a copy of the current edition of the general University handbook called **Essential Westminster 2012/13** which is available at westminster.ac.uk/essential-westminster. The following regulations should be read in conjunction with the *Modular Framework for Undergraduate Courses* and relevant sections of the current *Handbook of Academic Regulations*.

A pass in a module is achieved when the overall mark is greater than or equal to 40%; with at least 30% in the final assessment and any qualifying marks and/or sets achieved as detailed in the module handbook.

Condoned Credit at Level 3 and Level 4

A student may be awarded condoned credit at Levels 3 and 4 only, where he/she has achieved:

- a) an overall module mark of greater than or equal to 30% but less than 40%;
- b) an overall mark of 40% or greater but not reached the required qualifying mark(s) and/or qualifying set(s) as detailed in the module handbook; and
- c) attempted all referred assessment as offered by the Assessment Board.

Where a student, following a referral opportunity, is awarded condoned credit, the recorded module mark will be capped at 39%. Condoned credit will count towards any credit limits for specified awards. Where a student is awarded condoned credit in a module but subsequently achieves an overall pass within a retake module, credit may contribute only once to an award.

Progression

To progress from Level 3 to Level 4 and from Level 4 to Level 5 in full time study, a student must achieve an average of 40% across 120 credits; to progress from Level 5 to Level 6 full-time study, a student must pass at least 165 credits, including 75 credits at Level 5.

Award

To qualify for the award of BSc/ (Hons) **Photography and Digital Imaging Technologies** a student must:

- a) obtained at least 360 credits including:
 - passed 75 credits at Level 4 or higher and achieved at least a condoned credit in each of the remaining modules worth 45 credits at Level 4; and
 - passed a minimum of 120 Credits at Level 5 or higher; and
 - passed a minimum of 120 credits at Level 6 or higher.
- b) attempted modules with a maximum value of 330 credits at Levels 5 and 6; and
- c) satisfied the requirements contained within any course specific regulations for the relevant course Scheme.

The class of the Honours degree awarded is decided by two criteria: the average of the best 105 credits passed at Level 6 being in the range of the class to be awarded, and the average of the next best 105 credits passed at Levels 5 and 6 provided the next best 105 credits passed are no more than one classification below this.

Support for Students

On arrival, an induction programme will introduce students to the staff responsible for the course, the campus on which they will be studying, the Library and IT facilities and to the School Registry. Students will be provided with the Course Handbook, which provides detailed information about the course. Students are allocated a personal tutor who can provide advice and guidance on academic matters.

Learning support includes the Library which, across its four sites, holds print collections of 356,000 printed books, 29,000 print and e-journals, over 45,000 electronic resources (databases, e-journals, e-books). Access to all resources is facilitated through Library Search, a new online service.

There are over 3,500 computers spread over the four University campuses available for students use. The University uses a Virtual Learning Environment called Blackboard where students can access course materials and communicate with staff and other students via message boards.

At University level, Services for Students provide advice and guidance on accommodation, financial and legal matters, personal counselling, health and disability issues, careers and the chaplaincy providing multi-faith guidance. The International Office provides particular support for international students. The University of Westminster Students' Union also provides a range of facilities to support all students during their time at the University.

Reference Points for the course**Internally**

- University Quality Assurance Handbook
- Academic regulations Handbook Modular Framework
- MAD School Teaching and Learning policy statement,
- MAD Assessment Strategy
- HE and Career Management Skills policies
- Westminster Exchange and Career Development Centre
- Research by the Imaging Technology Research Group

Externally

- QAA Subject Benchmark statements,
University and SEEC (credit consortium) level descriptors

Quality Management and Enhancement

Course Management

The course is managed by the course leader, Elizabeth Allen, who is supported by the academic staff in the Imaging Science group, the head of the department of Photography and Film, Andy Golding and the Head of the School of Media, Arts and Design, Sally Feldman.

Course approval, monitoring and review

The course was initially approved by a University Validation Panel in **2012**. The Panel included internal peers from the University and external subject specialists from academia and industry to ensure the comparability of the course to those offered in other Universities and the relevance to employers. Periodic Course Review helps to ensure that the curriculum is up-to-date and that the skills gained on the course continue to be relevant to employers.

The course is monitored each year by the School to ensure it is running effectively and that issues which might affect the student experience have been appropriately addressed. Staff will consider evidence about the course, including the outcomes from each Course Committee, evidence of student progression and achievement and the reports from External Examiners, to evaluate the effectiveness of the course. The Annual Monitoring Sub-Committee considers the School action plans resulting from this process and the outcomes are reported to the Academic Council, which has overall responsibility for the maintenance of quality and standards in the University.

Student involvement in Quality Assurance and Enhancement

Student feedback is important to the University and student views are taken seriously. Student feedback is gathered in a variety of ways. The most formal mechanism for feedback on the course is the Course Committee. Student representatives will be elected to sit on the Committee to represent the views of their peer group in various discussions. The University and the Students' Union work together to provide a full induction to the role of the Course Committee.

All students are invited to complete a Module Feedback Questionnaire before the end of each module. The feedback from this will inform the Module Leader on the effectiveness of the module and highlight areas that could be enhanced. The University also has an annual Student Experience Survey which elicits feedback from students about their course and University experience.

Students meet with Review Panels when the periodic review of the course is conducted to provide oral feedback on their experience on the course. Student feedback from Course Committees are part of the Schools' quality assurance evidence base.

For more information about this course:

Please note – This programme specification provides a concise summary of the main features of the course and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. This specification should be read in conjunction with the Course Handbook provided to students and Module Handbooks which provide more detailed information on the specific learning outcomes, content, teaching, learning and assessment methods for each module.