

# NATS 2021 IMAGING SCIENCE

**Credit Points** 10

**Legacy Code** 401171

**Coordinator** Robert Ebeyan ([https://directory.westernsydney.edu.au/search/name/Robert Ebeyan/](https://directory.westernsydney.edu.au/search/name/Robert%20Ebeyan/))

**Description** Imaging science is a key area within the forensic sciences. This unit explores the application of imaging science and forensic photography practices to detect, preserve, enhance and examine forensic evidence. The unit focuses on optical and digital enhancement methods that provide essential non-destructive methods for evidence preservation and analysis. The unit provides the learner with necessary theoretical concepts of imaging science that underpin the practice of forensic photographic evidence.

**School** Science

**Discipline** Forensic Science

**Student Contribution Band** HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 2 subject

**Pre-requisite(s)** NATS 1008

**Equivalent Subjects** NATS 2013 - Digital Forensic Photography 2 NATS 2022 - Imaging Science and Photographic Evidence

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Investigate the conceptual relationship between the collection of images, their optical and digital enhancement and the production of data.
2. Evaluate the reliability of image data and how it may be considered in the context of scientific enquiry and the legal justice system.
3. Relate theoretical principles of the behaviour of light and image formation to image analysis.
4. Apply optical and digital imaging methods and theory for the enhancement of scientific evidence.
5. Explain imaging science principles such as photoluminescence, chemiluminescence, absorption, reflection and transmission modes of imaging in the context of forensic evidence.

## Subject Content

1. Concepts of photographic evidence within the legal justice system
2. Principles of light and colour
3. Photographic optics and filters
4. Optical enhancement of physical evidence
5. Digital enhancement of photographic evidence
6. Specialised photographic techniques for forensic evidence
7. Evaluation of the photographic image
8. Current developments in research and technology

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are

regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/Group Task
Quiz	20 minutes	10	N	Individual
Portfolio	Compendium of photographs acquired throughout practicals (up to 35 images)	10	N	Individual
Poster	A digital poster (1,000 words)	25	N	Individual
Reflection	A series of short answer questions based on practical rotations	15	N	Individual
Final Exam	2 hours	40	N	Individual

Prescribed Texts

- Robinson, Edward M., and ScienceDirect. Crime Scene Photography. 3rd ed. 2016.

Teaching Periods

## Autumn Hawkesbury Day

**Subject Contact** Robert Ebeyan ([https://directory.westernsydney.edu.au/search/name/Robert Ebeyan/](https://directory.westernsydney.edu.au/search/name/Robert%20Ebeyan/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=NATS2021\\_22-AUT\\_HW\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS2021_22-AUT_HW_D#subjects))