

# NATS 7014 FINGERPRINT DETECTION AND IDENTIFICATION

**Credit Points** 10

**Legacy Code** 301132

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

**Description** This subject aims to provide the student with a detailed understanding of the scientific methodologies applied to the detection, enhancement and identification of fingerprint evidence in a forensic context. The detection methods presented cover all of the current optical, physical and chemical techniques, as well as an insight into new approaches that are likely to have an impact over the next decade. The generally-accepted ACE-V methodology for fingerprint identification is discussed, together with the application of Bayesian statistics that has gained momentum as a preferred assessment method for this form of forensic evidence.

**School** Science

**Discipline** Forensic Science

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

**Level** Postgraduate Coursework Level 7 subject

## Restrictions

Students must be enrolled in the Master of Forensic Science, the Graduate Diploma in Forensic Science, or the Graduate Certificate in Forensic Science

## Assumed Knowledge

Knowledge of general science as obtained via an undergraduate science degree (with completion of chemistry and biology subjects highly recommended).

## Learning Outcomes

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

1. Synthesise and evaluate information related to the origin and formation of friction ridge skin and the processes that lead to the deposition of fingermarks as potential forensic evidence.
2. Have an advanced appreciation of the range of fingerprint detection and enhancement methods that can be applied to the recovery of fingerprint evidence from a range of different surfaces.
3. Demonstrate expert judgement when formulating a fingerprint detection sequence for application on a particular substrate.
4. Apply fingerprint identification methodologies related to ACE-V and understand the role that Bayesian statistics can play as an interpretation and reporting tool.
5. Critically assess the contemporary issues related to the operational exploitation of fingerprint evidence.
6. Describe the origin and formation of friction ridge skin and the process that leads to the deposition of fingermarks as potential forensic evidence.
7. Appreciate the range of fingerprint detection and enhancement methods that can be applied to the recovery of fingerprint evidence from a range of different surfaces.
8. Articulate the recommended fingerprint detection sequences depending on the substrate type.
9. Acknowledge the contemporary issues related to the operational exploitation of fingerprint evidence.

## Subject Content

1. Friction Ridge Skin and Fingerprint Evidence
2. Light Theory and Optical Detection Methods
3. Fingerprint Detection on Non-Porous Surfaces
4. Fingerprint Detection on Porous Surfaces
5. Fingerprint Detection on Miscellaneous Substrates
6. Novel Approaches to Fingerprint Detection
7. Fingerprint Identification Process
8. Issues Related to the Exploitation of Fingerprints and Fingermarks

## 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.

| Type       | Length        | Percent | Threshold | Individual/Group Task |
|------------|---------------|---------|-----------|-----------------------|
| Final Exam | Not specified | 100     | N         | Not Known             |

Teaching Periods

## Uni of Florida/Canberra-Term 2 (2022)

### Online

#### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=NATS7014\\_22-FT2\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS7014_22-FT2_ON_O#subjects))

## Florida Term 2 (2023)

### Online

#### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=NATS7014\\_23-FT2\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS7014_23-FT2_ON_2#subjects))