

# Graduate Diploma in Sciences (Defence Signal Information Processing)

## 1 Duration of program

Except with the permission of the Faculty, the Graduate Diploma in Sciences (Defence Signal Information Processing) shall be completed in a minimum of two semesters or a maximum of eight semesters.

## 2 Admission

2.1 Except as provided for in 2.2 below an applicant for admission to the program of study for the Graduate Diploma in Sciences (Defence Signal Information Processing) shall have:

a qualified for an Honours degree in Mathematics, Physics or Electrical and Electronic Engineering from the University of Adelaide; or a Bachelor degree from the University of Adelaide that includes a major in either Mathematics or Physics, or for a degree of another institution an equivalent degree accepted for the purpose by the Faculty as equivalent

*and*

b have had at least 18 months employment experience in the Defence industry

*or*

c have qualified for a Graduate Certificate in Sciences (Defence Signal Information Processing).

2.2 The Faculty may, in exceptional circumstances and subject to such conditions (if any) as it may see fit to impose in each case, the Graduate Diploma in Sciences (Defence Signal Information Processing), a person who does not qualify for admission to the program under Rule 2.1 above, but who has given evidence satisfactory to the Faculty, of fitness to undertake work for the degree.

## 2.3 Articulation with other awards

2.3.1 A candidate who has been enrolled for the Graduate Certificate in Signal Information Processing at the University of Adelaide and who has not been awarded the Graduate Certificate shall, on written application, be permitted to transfer all equivalent courses towards the Graduate Diploma.

2.3.2 A candidate who holds the Graduate Certificate in Signal Information Processing from the University of Adelaide shall surrender the Graduate Certificate before being awarded the Graduate Diploma.

## 2.4 Status, exemption and credit transfer

2.4.1 No candidate will be permitted to count towards an award any course, together with any other course, which, in the opinion of the Faculty, contains a substantial amount of the same material; and no course or portion of a course may be counted twice towards an award.

2.4.2 Candidates may present courses offered by other universities from a register of approved courses maintained by the Board of Studies, but the total value of these external courses must not exceed 9 units (including the core courses).

## 3 Assessment and examination

### 3.1 Academic progress

If in the opinion of the Board of Studies a candidate for the degree is not making satisfactory progress, the Faculty may terminate the candidature.

## 4 Qualification requirements

4.1 To qualify for the Graduate Diploma in Sciences (Defence Signal Information Processing) a candidate shall satisfactorily complete courses to the value of 24 units including:

a core courses to the value of 6 units from Group A

b courses to the value of 12 units taken from Group B

c courses to the value of 6 units taken from either Group B or Group C.

### 4.2 Academic program

#### 4.2.1 Group A: Compulsory courses

These courses are offered by the University of South Australia:

Systems Engineering for Complex Problem Solving ..... 3

Research Methods in a Multidisciplinary Environment ..... 3

#### Group B

DEFSCI 7010 Beamforming & Array Processing ..... 3

DEFSCI 7011 Adaptive Signal Processing ..... 3

DEFSCI 7012 Multisensor Data Fusion ..... 3

DEFSCI 7029 Kalman Filtering and Tracking ..... 3

DEFSCI 7035 Detection, Estimation and Classification ..... 3

DEFSCI 7036 Introduction to Discrete Linear Systems ..... 3

DEFSCI 7041 Image Sensors & Processing .....	3
DEFSCI 7211 Radar principles & Systems: An Introduction .....	3
Group C	
DEFSCI 7015 Mathematical Coding & Cryptology.....	3
DEFSCI 7024 Specialised Studies A# .....	3
DEFSCI 7025 Specialised Studies B# .....	3
DEFSCI 7026 Specialised Studies C# .....	3
DEFSCI 7030 Error Control Coding .....	3
DEFSCI 7031 Mobile Communications .....	3
DEFSCI 7037 Signal Synthesis and Analysis.....	3
DEFSCI 7038 Specialised Studies D# .....	3
DEFSCI 7060 Computer Vision .....	3

\*DEFSCI 7037 cannot be presented with DEFSCI 7063.

# Specialised Studies may consist of directed readings or approved short courses as approved by the Faculty. The content and assessment of these courses will be determined in each case by the academic coordinator of the course in consultation with the student's supervisor and the student.

4.2.2 Students who are required to undertake preliminary work will normally enrol in one of the following courses:

SIP 7027 A/B Qualifying Studies in Mathematics Part 1 & 2 .....	12
SIP 7028 Qualifying Studies in Mathematics .....	12

On satisfactory completion of this work the student will proceed to study as outlined in 4.1 above.

4.2.3 Candidates who are granted exemption from one or more of the courses listed in 4.2.1 Group B on the basis of previous studies may select in their place other relevant courses offered by the University of Adelaide or other tertiary institutions in South Australia as may be approved by the Faculty.

4.2.4 The availability of all courses is conditional on the availability of staff and facilities and sufficient enrolments.

#### 4.3 Unacceptable combination of courses

No candidate will be permitted to count towards an award any course, together with any other course, which, in the opinion of the Faculty, contains a substantial amount of the same material; and no course or portion of a course may be counted twice towards an award.

#### 4.4 Graduation

Subject to Chapter 89 of the Statutes, candidates who have satisfied the requirements for any award of the University shall be admitted to that award.

### 5 Special circumstances

When in the opinion of the Board of Studies special circumstances exist, the Board in each case may vary any of the provisions of the Academic Program Rules for any particular award.