



Course

# The Ground Segment and Space Operations

ELEC9764

6 Units of Credit

## Overview

This course covers, in detail, the types and applications of ground segment used in space missions. It is intended to give the student a deeper understanding of the requirements and functions of the ground segment, building on the fundamentals taught in the first semester course, Satellite Systems (ELEC9761). To achieve this, this course covers three aspects of the ground segment design: 1. Ground segment management, including mission planning, client/end-user requirements, flight operations segment requirements, payload data segment requirements and ground segment system designs; 2. Ground segment engineering, including Ground based communications design, data processing, data relaying, mission operating equipment, payload ground support, instrument operation and calibration and satellite simulation; and 3. Applications of the ground segment including, data downlinking, uplinking, relaying, tracking and ranging. Examples of current and past ground segments of space missions are used to illustrate the design process and design implementation. Where appropriate, theory associated with the preliminary analysis of the operation and performance of the ground segment is also presented. This course delivers to the student a broad overview of the engineering principles involved with the management, design, development, testing and implementation of the ground segment of a space mission.

**Faculty**

Faculty of Engineering

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**School**

School of Electrical Engineering & Telecommunications

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**Study Level**

Postgraduate

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**Offering Terms**

Term 1

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**Campus**

Kensington

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**Indicative contact hours**

3

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**Timetable**

[Visit timetable website for details](#)

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## **Course Outline**

To access course outline, please visit:

[ELEC9764 Course Outline](#)

## Fees

Commonwealth Supported Students \$1191

Domestic Students \$4470

International Students \$5910

### DISCLAIMER

Please note that the University reserves the right to vary student fees in line with relevant legislation. This fee information is provided as a guide and more specific information about fees, including fee policy, can be found on the [fee website](#).

For advice about fees for courses with a fee displayed as "Not Applicable", including some Work Experience and UNSW Canberra at ADFA courses, please contact the relevant Faculty.

Where a Commonwealth Supported Students fee is displayed, it does not guarantee such places are available.

## **Pre-2019 Handbook Editions**

Access past handbook editions (2018 and prior)

[Pre-2019 Handbook Editions](#)

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Authorised by Deputy Vice-Chancellor (Academic)

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ABN: 57 195 873 179