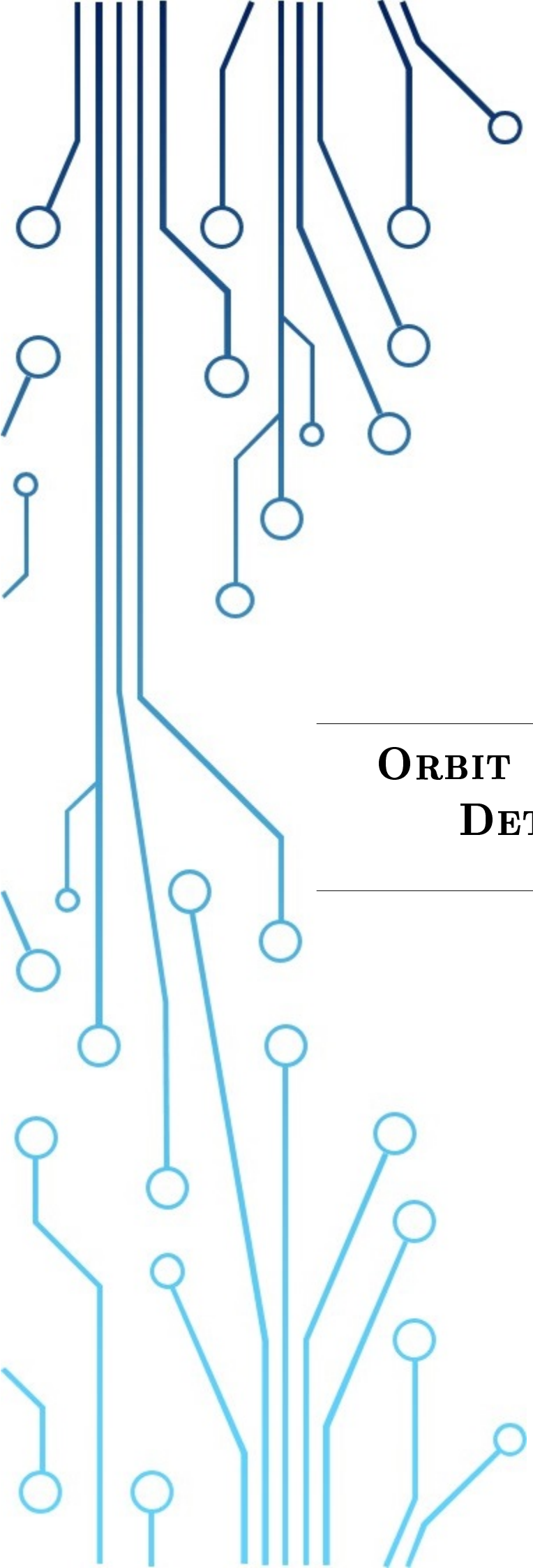

Space Engineering 3
Assignment 1
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Orbit Simulation and Determination

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THE UNIVERSITY OF SYDNEY

STUDENT PLAGIARISM: COURSE WORK – POLICY AND PROCEDURE

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Contents

List of Figures

List of Tables

Introduction

Write an intro here

1. Simulation of Orbits

1.1 Introduction

- keplers three laws
- perifocal frame
- The true anomaly θ is the angle taken at the focus of the perifocal frame to the satellite from the perigee. The eccentric anomaly E is the angle taken at the centre of perifocal frame to the satellite from the perigee.
The mean anomaly M_t is the mean number of orbits per day.

1.2 Methodology

From Kepler's second law, the mean anomaly at time t is calculated using the mean motion n,

$$M_t = M_0 + n(t - t_0) \tag{1}$$

1.3 Results/Discussion

2. Simulating Perturbations

2.1 Introduction

2.2 Methodology

2.3 Results/Discussion

3. Orbital Determination

3.1 Introduction

3.2 Methodology

3.3 Results/Discussion

4. Conclusions

5. Appendix