
Australian National University

# ENGN3100 Practical Experience Report

Uri Pierre Burmester (u5561093)

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AUSTRALIAN NATIONAL UNIVERSITY
College of Engineering and Computer Science

This Report is submitted in partial fulfilment of the Requirements for Practical Experience for the BE Degree in the ANU College of Engineering & Computer Science

# Contents

# 1 Summary of Practical Experience

Period 1:
Name of Employer: Advanced Instrumentation and Technology Centre (RSAA)
Starting date of Employment: 20/11/2017
Ending date of Employment: 19/01/2018
Position/job: Summer Research Intern - High-altitude Balloon Project
Weeks of experience claimed: 8

Period 2:
Name of Employer: Questacon - The National Science and Technology Centre
Starting date of Employment: 01/08/2017
Ending date of Employment: 19/11/2017
Position/job: Gallery Assistant
Weeks of experience claimed: 4

Total number of weeks of experience claimed: 12

# 2 Letters of Employment / Declaration of IEAUST requirements

## 2.1 AITC Letter

Australian National University

16 November 2017

**Director - Research School of Engineering**
College of Engineering and Computer Science
Australian National University
Canberra, ACT 2000

**Research School of Astronomy & Astrophysics**

Mount Stromlo Observatory
Cotter Road
Weston Creek
ACT 2611
Australia

**www.anu.edu.au**

**LETTER OF DECLARATION RE URI BURMESTER WORK EXPERIENCE**

To whom it may concern,

Uri Pierre Burmester has been offered a period of work experience at the ANU's Advanced Instrumentation & Technology Centre (AITC) in the form of an ANU Summer Scholarship. The AITC is, however, a professional engineering environment, and will be a suitable for engineering work experience with respect to:

I. exposing the student to the workplace and workplace issues (such as human and industrial relations, job organisation, maintenance, safety and environmental issues), and

II. providing direct insight into professional engineering practice.

This is to certify that while working at the AITC under the supervision of accredited engineer Dr James Gilbert, the following set of Stage 1 competencies will be manifested in the work performed and in a manner that can be documented by student Mr Uri Pierre Burmester.

| | | |
|---|---|---|
| 3.1 | Ethical conduct and professional accountability. | ✓ |
| 3.2 | Effective oral and written communication in professional and lay domains. | ✓ |
| 3.3 | Creative, innovative and pro-active demeanour. **(NOT ASSESSED)** | |
| 3.4 | Professional use and management of information. | ✓ |
| 3.5 | Orderly management of self, and professional conduct. | ✓ |
| 3.6 | Effective team membership and team leadership. | ✓ |

Yours Sincerely,

Dr James Gilbert *MEng MIET*

Project Engineer, AITC

### 2.2 Questacon Letter

SIGNED LETTER OF EMPLOYMENT FROM QUESTACON

# 3 Report

## 3.1 AITC Report

### 3.1.1 The structure and operation of the Company

-3-4 pages

- Advanced Instrumentation and Technology Centre, run by the ANU's Research School of Astronomy and Astrophysics Mount Stromlo Obervatory Weston ACT 2611

- Company's full name, associates, parent or autonomous? - Company head-quarters full address, telephone, Internet, etc. - Managerial and administrative structure of the company. - Company's business/ products, production output, trading partners, markets. - Company's divisions (if there are any). Division's business/products, etc. - Name and address of the Head of the Division. - Company's financial base, is it private or public, is it listed on Stock Exchange? - Total operation budget, division into business areas. - Attitude of the company to its work-force, prevailing ethics in the company.

### 3.1.2 My Position in the Company

-1-2 pages

- Title of my job/ jobs. - My immediate supervisor, and my position within the structure. - Responsibility and requirements in my job(s). - Interaction with other employees. - Why was the job offered to me?

### 3.1.3 Technical Description of the Job

-5-6 pages - What I did (attach summary results as appendix, if relevant). - What I achieved (attach any drawings, photographs, sketches as appendix, if relevant). - How did my work relate to Company's business?

## 3.2 Questacon Report

This report does not include my experiences at Questacon because, as stated in the requirements on the ENGN3100 course page: "The report itself need only describe the experience at one of the places (must be one of the places satisfying the engineering requirement)."

# 4 Development of Stage 1 Competency Standards for Professional Engineer

-2-3 pages - How my experiences helped me work towards the standards of a professional engineer. - The standards identified by Engineers Australia are listed on the ENGN3100 WebCT report site - Which areas of competency were developed, and how. PLEASE NUMBER EACH COMPETENCY CLAIMED ACCORDING TO THE NUMBERING SYSTEM OF APPENDIX 1.

# 5 Employer Feedback Forms

## 5.1 AITC

EMPLOYER FEEDBACK FORM FROM AITC

### 5.2 Questacon

EMPLOYER FEEDBACK FORM FROM QUESTACON

# 6 Employer Declarations of Report Accuracy

## 6.1 AITC

EMPLOYER DECLARATION FROM AITC

### 6.2 Questacon

EMPLOYER DECLARATION FROM QUESTACON

# 7 Conclusions

-1 page

# 8 Reflection of Work Experience

-1 page

## 9 Acknowledgements

-Jamie -Jess Brosnan

## 10 Signature and date

Signature: .....
Date: December 3, 2017

# 11 Appendix 1: Stage 1 Competency Matrix

| Unit | UNIT Descriptor | Claimed? [Y/N] | Section or Line or Paragraph where covered in Report | Line-numbers where covere in Journal |
|---|---|---|---|---|
| 1 | KNOWLEDGE AND SKILL BASE | | | |
| 1.1 | Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. | | | |
| 1.2 | Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. | | | |
| 1.3 | In-depth understanding of specialist bodies of knowledge within the engineering discipline. | | | |
| 1.4 | Discernment of knowledge development and research directions within the engineering discipline. | | | |
| 1.5 | Knowledge of contextual factors impacting the engineering discipline. | | | |
| 1.6 | Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline. | | | |
| | | | | |
| 2 | ENGINEERING APPLICATION ABILITY | | | |
| 2.1 | Application of established engineering methods to complex engineering problem solving. | | | |
| 2.2 | Fluent application of engineering techniques, tools and resources. | | | |
| 2.3 | Application of systematic engineering synthesis and design processes | | | |
| 2.4 | Application of systematic approaches to the conduct and management of engineering projects. | | | |
| | | | | |
| 3 | PROFESSIONAL AND PERSONAL ATTRIBUTES | | | |
| 3.1 | Ethical conduct and professional accountability | | | |
| 3.2 | Effective oral and written communication in professional and lay domains | | | |
| 3.3 | Creative, innovative and pro-active demeanour. | | | |
| 3.4 | Professional use and management of information. | | | |
| 3.5 | Orderly management of self, and professional conduct. | | | |
| 3.6 | Effective team membership and team leadership. | | | |

Table 1: Australian Engineering Competency Standards, Engineers Australia Competencies for Stage 1 Engineering Practitioners