



**QUANTUM LEARNING**

# **Aircraft Servicing and Structural Engineering Course (Level 3)**

## **PROSPECTUS**

**Quantum Learning (NZ) Ltd**  
(Fully Owned and Operated by Quality Education)

**In association with  
Northland Aviation Ltd**

**Whangarei Airfield  
59 Handforth Street  
Onerahi  
Whangarei  
New Zealand**



## Introduction

There is major demand, both nationally and internationally, for qualified Aeronautical Engineers. Air NZ released a statement saying they will be replacing half its engineers over the next 10 years (approx. 600 staff). It has also been claimed that by the end of 2014 there will be a worldwide shortage of 10,000 qualified Aeronautical Engineers.

Current combined output from the two major established aeronautical engineering training establishments within NZ is 150 graduates. This supply is not meeting local demand. This is being further exacerbated by the fact that NZ engineers have an international reputation of 'giving anything a go' and 'can do' attitude, hence demand for NZ Engineers is even higher. According to Aviation, Travel and Tourism Training Organisation (ATTTO), the ITO for Aeronautical Engineers, most NZ aeronautical companies thus have to bring Engineers into the country in order to meet this engineering demand as there just aren't enough NZ Engineers. As an example, the "Christchurch Engine Centre" has been actively recruiting Engineers from the United Kingdom due to this increased demand.

The opportunity therefore to introduce a significant training opportunity for the Northland region was pursued. As a result of this and in order to complement existing Quantum Aviation programmes, this course was developed to provide students with the opportunity to gain practical skills and knowledge needed to successfully complete both the NZQA-recognised National Certificate in Aircraft Servicing (Level 2) and the National Certificate in Aeronautical Engineering (Related Technology) Level 3.

Course development included compliance with the requirements of Quality Educations Quality Management System, co-operation with engineers and consultation with key stakeholders including ATTTO, ETITO, NZQA and TEC to ensure the design and development of this course met all regulatory requirements. All four of these government bodies were extremely supportive of the development of this programme for the far north region.

Therefore we see this as a significant career opportunity for anyone wishing to enter the aeronautical engineering industry. For those living in the north, they no longer need to leave the area to gain a significant entry level qualification and real work skills in this industry.

For NZ citizens, this one year programme can be fully funded via student loans and allowance.

## About Us - Quantum Learning (NZ) Ltd

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Quantum Learning (NZ) Ltd is a registered private training establishment with accreditation in a number of qualifications framework domains, including:

- Business administration services (to level 3)
- Computing (to level 4)
- Communication Skills (to level 4)
- Aircraft Operation (to level 4)
- English for speakers of other languages (to level 4)
- Aviation - Core (to level 1)

It also has many specific course accreditations within the Aviation Sector:

- "A" Category Flight Instructor
- "B" Category Flight Instructor
- "C" Category Flight Instructor
- Certificate in Aviation
- Diploma in Aviation
- Professional Pilot Training Stage 1
- Professional Pilot Training Stage 2

The Aircraft Servicing and Engineering course has been developed to complement the school's existing accreditation with a combination of the National Certificate in Aeronautical Engineering – (Related Technology) Level 3 and the National Certificate in Aircraft Servicing (Level 2).

## **The Course**

The shortage found within the aeronautical engineering industry crosses all engineering boundaries. However the demand for qualified engineers is most prolific within the structural engineering sector.

With this qualification students will gain the ability and the confidence to perform all the basic aeronautical servicing and maintenance tasks. However, in addition to these skills gained, students will also gain an increased knowledge of the structural engineering field. This will allow them to enter the workforce with more skills, knowledge and confidence than those that have not gained such a specialised qualification.

### **Course Title**

Certificate in Aircraft Servicing and Structural Engineering (Level 3)

### **Course Duration**

The course will be completed after 38 weeks full time study including approximately 24 hours of onsite study and 12 hours self directed study per week.

### **Entry Requirements / Selection criteria**

Applicants should have:

- Reached a minimum of 17 years of age
- A commitment to developing the practical skills and knowledge required for Aircraft Servicing with an emphasis on Electrical
- English IELTS of 5.0 or higher (International students)
- The ability and motivation to interact with tutors, other students and to learn independently

#### **Notes**

- The school may require applicants to sit an aptitude test and/or attend an interview to discuss entry qualifications, aptitude or English level.
- All enrolments for this course are subject to the final approval of the schools Director of Academics.

## Structure of the Programme

The course has been set at Level 3 after comparative analysis of the course outcomes with the level descriptions developed by NZQA and the available unit standards.

This course is comprised of 26 unit standards, all of which are compulsory. Practical workshops comprise 16 hours for each week of the 38 week course, with 8 hours each week for theory lessons. There is a ratio of approximately 40% theory to 60% practical.

- Practical demonstration by the tutor followed by student practice of the skills taught
- Working from workbooks and other reference materials to complete assessment tasks according to unit standard specifications
- Scheduled 'real-life' aircraft servicing while under direct supervision from a tutor

### Assessments

All assessments are standards based:

- Students must pass all components of Aircraft Servicing and Structural Engineering (Level 3) to achieve the qualification
- Students must meet all the assessment requirements of each component to gain a pass in that component

Assessment methods will include:

- written assignments and tests
- practical assignments involving demonstration of sub component assembly and construction skills

Certification will only be issued to a student who:

- Has achieved a pass in all components
- Has met the programme's minimum attendance requirement

## Aims of the Course

- To enable the successful students to develop the hand skills to competently and safely use the tools and equipment necessary for aviation related maintenance
- To teach the students the diagnostic skills required for troubleshooting the various mechanical and electrical system faults that arise in the field of aviation
- To allow students the ability to gain a suitable amount of knowledge in which they will be able to confidently perform basic aircraft servicing tasks
- To allow the students the ability to focus their engineering skills in the structural engineering field which will in turn give them greater skills and opportunities during employment
- To provide an entry level of familiarisation into a unique industry and associate the students with general aviation and it's regulating authority the Civil Aviation Authority (CAA)
- To provide an entry level industry qualification in which they will be able to staircase to any future study
- Provide students the best opportunity for entry level employment within the aeronautical engineering industry by giving them skills that are accepted both nationally and internationally

# Training Facilities and Equipment

## Facilities

Practical workshops will be held at the Whangarei Airfield. All Theory and/or Classroom work will be held at Quantum Aviation Headquarters. More than adequate parking is available at Quantum Aviation. A lunch room with tea and coffee making facilities is provided for all students at Quantum Aviation.

## Equipment

Students will be required to purchase tools for the course. Those applying for student loan funding may consider using 'Course Related Costs' to purchase these items. Students will of course own these items and can take these with them into relative employment after course completion. Your course advisor can assist you with your course related cost application form.

## Tools required for the course

One each of the following:

- 3DR Portable Chest
- 200mm 8" Long Nose Plier
- 160mm Diagonal Cutter
- 6" Wire Twister
- 11PC 1/4 -7/8" Roe WR.Set On Rack
- 30PC Screwdriver & Bit Set
- 150mm Stainless Steel Rule
- Half Round File Sec-Cut
- 10" Flat 2<sup>nd</sup> Cut-Wallet
- 6" 1/2 Rd, Second Cut File
- 150mm Engr.Sq
- Hammer Ballpeing 8oz
- Pin Punch Set With 2,3,4,5,6,8mm
- 1/4 DR 74PC 12PT STD&XL Skt Set
- 3/8 Air Reversible Drill

## **Additional Information**

### **Accommodation**

For those from out of town, suitable accommodation and transport can be arranged upon request. For further information please speak with your Course Advisor.

### **Loans/Allowances**

This course is NZQA accredited and student loans and allowances are available. Course fees are subject to change without notice.

### **Cross Credits**

Where applicable, cross credits to course fee will be applied upon verification of NZQA Record of Learning.