

## **CEED (company-based thesis projects)**

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More information on CEED is available at [www.corptech.com.au](http://www.corptech.com.au)

### **2013 THESIS PROJECT AVAILABLE – APPLY NOW!**

#### **COMPANY: Capral Aluminium, Penrith, Sydney**

**Title: final year thesis project - optimise current manufacturing/production processes and efficiency**

**Duration:** Sem1 2013 (or Sem1+2 depending on student's thesis structure)

#### **Project Description Summary:**

This project will suit a final year (2013) student in Mechanical, Mechatronics Engineering - with an interest in gaining experience in a manufacturing environment.

The project will commence over summer vacation (if possible) then continue through 1st semester 2013 (or Sem1+2 depending on student's thesis structure).

The successful applicant will receive a **\$3,000 (Sem1) or 6,000 (Sem1+2) scholarship, plus academic credit** towards their degree - 1/2 study load (USYDNEY Engineering).

Applicants must be available to work on the project, on-site, for 3 days/week over 1st semester (or 2 days/week over Sem1+2).

**PROJECT LOCATION:** Penrith, Western Sydney

#### **COMPANY PROFILE**

Capral Aluminium is Australia's leading supplier of aluminium products and systems. Offering a vast array of architectural, residential and industrial products through its national retail and distribution network.

Capral has five manufacturing sites strategically placed across Australia. Their manufacturing operations run eight aluminium extrusion presses from plants located in Bremer Park (QLD), Penrith (NSW), Campbellfield (VIC), Angaston (SA) and Canning Vale (WA). In addition to aluminium extrusions, Capral are able to supply powder coating or anodising in a wide range of colours and finishes and perform cutting, punching and CNC machining operations.

The company offers a comprehensive range of products and services, including:

- Residential and commercial windows and doors

- Security doors, windows and fire escape systems
- Industrial access systems
- Geometric sections
- Premium extrusion capabilities
- Rolled, coil, plate products and accessories
- Some of Capral's well known brands like Artisan, Amplimesh®, AGS, Genesis, Platinum and Juralco are all leaders in each of their markets and have been engineered to suit the requirements of residential, commercial and industrial applications.

## PROJECT BACKGROUND

This student would be focusing on optimisation of the current manufacturing / production processes and efficiency / cost improvements. We require this person to get involved in 3 projects (listed below).

Each project has already a team put together including various people with different backgrounds expertise involved in those processes, with the plan to brainstorm the ideas, look at the current processes and collect and analyse the data / figures, and look at the opportunities to do things better and remove any wastes. The person would be involved in all the projects acting as a process improvement engineer, championing the projects and "driving the improvements".

The **main responsibility** would be to:

- analyse the issues through better & "right" data collection (ie. identifying drivers that would cause those issues),
- share the data / findings with relevant personnel,
- work with the area managers, relevant machine operators, and other technical support staff and use their skills and experience (through brainstorming sessions) to try and explain the root causes.
- perform trials / experiments to get more data
- propose some improvements and try to implement those
- help set up reports to track the related KPIs (key performance indicators) to show the improvements resulting from the work done and present those to the Team
- use various Lean Manufacturing / Continuous Process Improvement and analytical tools and techniques to help with the above

### Projects:

1. Improving the extrusion speeds for top running products - remove roadblocks stopping and provide tools to encourage the repeatable performance (eg. always running at previous best speeds). Conduct trials to optimise the "best speeds". (Team: area manager, few machine operators, product designer, extrusion tool (DIE) maintenance)
2. Quality - Getting it right the first time - focus on reduction of un-planned / non-conformance extrusion process scrap; Identify the main reasons, analyse root causes and highlight opportunities for scrap reduction / quality improvement; Locking in place new processes to ensure better inspection on product to ensure non-conforming product is not passed onto the following department and /or the final customer; Once root causes are identified, setting in place a process for repeatable process conditions; (Team: Quality coordinator, 2 area managers, few machine and packing operators)
3. Removing waste in packing material and efficiencies - looking at the productivity of packing of the product, using time-study analysis (or other data) identifying the "productive" contact time with the product vs wasted / lost time doing "non-productive" tasks. Identifying wastes and trailing / implementing changes; Also looking at the packaging materials and other consumables used and assessing the need for those, doing a cost vs benefit analysis and proposing better alternatives. (Team: area manager, few packaging operators, sales manager, financial controller)

Project has just commenced (only brainstorming sessions) at the company. Hence it is a good opportunity for a student to join the teams at the early stages and contribute or take ownership of the plan and structure of the "way forward".

**Project Available for completion during: Sem1+2, 2013**

**Closing Date for applications: 28/01/2013 (midnight)** – register, apply, upload resume by then

**Queries / feedback on resume: email Deidre at CEED - [ceed@corptech.com.au](mailto:ceed@corptech.com.au)**

**TO APPLY for the project**, visit the CEED Website: <http://www.corptech.com.au>

CEED will send your application to the company. The company will select students for interviews (CEED will organise the interviews), then the company chooses the most suitable student for the project.