



Looking for a challenging  
work placement in one  
of Australia's largest  
industries?



## The MLA undergraduate program

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Real goals  
Real responsibility  
Real outcomes

## What is the MLA undergraduate program?

The MLA undergraduate program brings together a company, a project and a student over the summer vacation – but it's not 'just another work experience scheme'.

MLA is dedicated to raising the profile of the red meat industry as an attractive career destination for graduates; giving industry members access to well-trained on-site assistance without the usual costs; and enhancing students' knowledge and skills as project managers, researchers, and practical problem solvers.

*"It's a win-win for everyone," says Sean Starling, MLA's process and systems engineering program manager. "The students get really solid experience running a project that's going to make a difference to the company, and the company gets a job done that they may not have had the time, or maybe the expertise, to do themselves."*

*In the process, students entering their final year of university are seeing first hand the variety of career options within the meat industry. This is crucial, because most have no idea of what the industry has to offer them until they enter this program."*

The program runs for the university summer vacation period – for an outline of the program timeline, see the back page.

## A future with an industry... an industry with a future

### About the meat industry

Australia is the world's largest exporter of red meat and livestock, with industry members sending product to more than 100 countries. Australia's 'clean green' image and reputation as a supplier of safe, high quality red meat underpins the industry's global success.

The industry also services a substantial domestic market, characterised by an increasing emphasis on new products and customer expectations about quality and variety.

Although sometimes slow to automate in the past, the meat industry is now gearing up, literally, to improve productivity and safety, through new engineering processes, particularly automation and robotics.

### Research and development

Extensive R&D work is carried out across the industry in areas such as:

- technology development and commercialisation
- food safety
- product development
- health and safety/ergonomics
- supply chain management/IT
- environmental management
- process optimisation
- human relations
- education and training
- microbiological research

### Career opportunities

There are exciting opportunities available for new graduates in the meat industry in a range of areas, including:

- process engineering
- environmental management
- quality control
- food safety
- information and technology
- human relations
- ergonomics
- new product development and marketing

## The MLA undergraduate program

The MLA undergraduate program is designed to ensure that everyone involved gets the results they are looking for – it's not just another work experience program! MLA works with the participating company to scope the project so that it is clearly focused and structured to fit the allocated time frame.

Prospective students submit a resume and are interviewed by MLA's process and systems engineering program manager, Sean Starling.

*"We look for flexible people who are keen to try something new," he says. "When we match students to projects, we don't necessarily expect them to have extensive background knowledge in the specific project area. It's better that they have the skills to think logically about the problem and find the information they need to develop a range of solutions."*

Once assigned to a project, each student gets on-site assistance from designated site personnel, plus regular visits from an MLA-sponsored mentor and MLA staff.

In a recent evaluation of the program, students spoke highly of this approach. As one student reported, *"I really learned a lot from working with my company supervisor – he couldn't have been more helpful. And having a mentor with so much experience in the industry gave me a whole new set of perspectives."*

Students participate in structured off-site training and activities as well as working on-site.

*"We aim to give the students a well rounded experience," says the program's external co-ordinator, Ron Brooks. "Success in the workplace involves more than technical knowledge. When we bring the students together off-site, we give them a lot of background on the industry, and we invest time in developing their skills in report writing and presenting, as well as reviewing the progress of their research."*

At the end of the program, each student presents his or her findings to the company's senior management and provides the company with a comprehensive, reader-friendly report with clear recommendations.

The following case studies provide a snapshot of the range of projects conducted by students who have been involved in the program in the past. They show some of the diverse opportunities provided to new graduates, in an industry with real opportunities for career development and advancement.

### About MLA

Meat & Livestock Australia (MLA) is a producer-owned company that provides services to the entire Australian red meat industry, including producers, processors, exporters, live exporters and retailers.

MLA works to improve market access, build demand for Australian red meat and conducts research and development throughout the supply chain to provide competitive advantages for the industry.

## Case studies

### ESSO Award: best vacation project student report wins at Sydney University

When Nick Marquez applied for the MLA undergraduate program he knew he'd be involved in a challenging project, but he didn't realise he'd be spending weekends on the beaches of Northern NSW. Nor did he realise that his work placement report would win the prestigious Esso Award for the best written report submitted to Sydney University's Chemical Engineering Department.

*"I am pretty happy I chose something different to my friends. I really enjoyed the project and learnt a lot – and then I won the award and \$500 as well."*

The third-year Chemical Engineering/Commerce student worked for Northern Cooperative Meat Company (NCMC) at Casino in Northern NSW. His project focused on the site's refrigeration system – a crucial aspect of plant operations and its highest energy user.

The work included a refrigeration audit, energy balance and benchmark analysis.

Although company energy use was found to compare favourably with others within the industry, Nick's study identified several ways to reduce energy use further, some involving technical changes and other changes in staff procedures.

Nick also developed several tools to assist NCMC operations in the longer term. He designed a spreadsheet system for use in calculating heat loads for all chillers and freezers, and prepared a process flow diagram of the refrigeration system. This simple representation of a very complex system will be used to assist maintenance and in training new engine room operators.

*"One of the things I really appreciated about the undergraduate program was that it covered a whole range of skills we'll need in our careers. We spent some of the time off site on report writing – not just doing it, but looking at how to do it. I'm a lot more confident now."*

## Does automation improve safety?

CRF (Colac Olway) Pty Ltd was considering the installation of new machinery but wanted an independent assessment of the potential benefits, particularly in terms of health and safety.

The MLA undergraduate program was well suited to the company's needs. "It also fitted in well with our focus on innovation," said Rebecca Machalik, General Manager of Workforce Management for CRF. "We are always looking for ways to bring in fresh perspectives."

James Gray, a mechatronics student at the University of Western Australia, was able to provide the company with a host of new ideas and a detailed analysis of health and safety impacts. He was also able to identify some of the implications, in terms of effectiveness and productivity, of using the proposed new technology.

"I was a bit apprehensive about a project that focused on OH&S when I come from an engineering background, but I can now see that OH&S is a huge part of engineering." James Gray commented. "It is really important for an engineer to think about that side of things."

James assessed the impact of new technology in terms of:

- staffing levels and flow of work
- training and retention
- rehabilitation costs
- risk
- comfort levels
- insurance premium savings
- yield analysis

This has provided CRF with baseline data against which to measure change over time, which the company sees as an important step forward.

"We'll re-test and assess impact after the technology is introduced. We have also found the data extremely useful in developing a business case to support capital expenditure in other areas," Rebecca said.

"We'll certainly be applying for the program again. James was able to devote dedicated time to a project that would have taken us twice as long, and he gave us some really useful new ideas. We also think it's important to get people like James into the industry. We need them if we are going to be sustainable."



## Broadening the mind

Fourth year mechatronics student Daniel Low found himself in new territory when he left Perth for Bunbury and a summer project at Harvey Beef (EG Green & Sons).

"When I started, I had no idea how a meat plant worked, but I found I could apply what I had learnt at uni to assist with the development of new designs for the packing room."

Specific tasks included investigating ways to allow for a continuous pack-off area and providing ergonomic standards for the design of equipment. Daniel did not spend all of his time in the packing room. Like any engineer in the meat industry, he investigated a range of issues across the plant, working on the slaughter floor, in the boning room and in the by-products area.

"Everyone on-site was very helpful and made me feel at home", Daniel reported.

"I also got some new perspectives from my MLA-appointed mentor. She had an occupational therapy background and opened up my mind a lot with some very different ideas."

Daniel's projects included:

- assessing the role of equipment on bottlenecks in the chain
- the design of equipment to automate and aid operations
- the development and documentation of safe operating procedures for the operation and maintenance of new technology

"It was a very different experience," said Daniel. "It's exciting for a young engineer to be exposed to an industry that is just starting to automate. There are so many opportunities."

## Water management project: \$125,000 in savings

“ACC supports MLA’s aim to bring more professionals into the meat industry” said Paul Gibson, the R&D manager at Australian Country Choice – one of the industry’s largest processing plants.

“The undergrad program is a good thing from that perspective and the company got a lot out of it as well. We estimate the Best Practice Water Management project will save us at least \$125,000.”

Over the summer, Adelaide University undergraduate chemical engineer, Clayton Warner, tracked water use at one of ACC’s Queensland sites. He confirmed that the site was using less water than the industry norm, but that a reduction of around 20 per cent would be required to achieve best practice.

“We had a fair idea of what was happening but needed dedicated resources to track it down,” Mr Gibson said “we just didn’t have the time to do it ourselves.”



Sean Starling (MLA), Clayton Warner (undergraduate student), Alex Hood (ACC)

Clayton provided ACC with a clear picture of where water was being used across the site, and made practical recommendations on how to achieve lasting savings. A key finding was the overly high use of water in specific parts of the plant.

The company is pleased with its return on investment. “It was a massive return on a relatively small investment, however you measure it,” said Mr Gibson.

“But perhaps even more important than the savings was the fact that the project raised the profile of water use across the whole site.”

Chief Engineer Alex Hood agreed. “It has been very helpful to know we can improve, and to have some good ideas on how to do it. We’ve already implemented several recommendations and we’re costing others. We were learning from the first week, and Clayton knew that what he was doing would be useful.”

## Thinking outside the box

Neil Brereton of AMH sees the MLA Undergraduate Program as an ideal opportunity for a company to explore a problem they may not have had the time or resources to address.

“Bringing a student on-site also gives a fresh unblinkered approach,” he said. “We have been known to ignore the obvious!”

Matt Driver had the chance to bring some lateral thinking to AMH when he conducted an analysis of carton damage, which involved identifying and quantifying cause, and also developing ways of reducing a problem that the company saw as a high priority.

“He came up with some wild ideas. I’m not criticising – this is what we needed,” said Neil Brereton. “And we got some really practical ideas we will be looking at. We definitely got our money’s worth.”

Matt had some background in the industry, having spent some time as a jackaroo, and worked on a live export boat, but despite this he had not previously considered the meat industry as a place to work after graduation.

“I’d actually applied for vacation work in the cotton industry,” he said, “but I saw the MLA ad and put in a resume.”

He enjoyed getting involved in a project that was very different from anything he had done during his training as an agricultural engineer and sees the potential of the industry as a career path.

Sean Starling of MLA feels that it is helpful for people like agricultural engineers to see another side of the meat industry. “They certainly have the skills to take on a range of projects inside a plant,” he said, “even though they may actually end up working outside!”

## OH&S systems in place: two approaches

### Approach 1

Every company has jobs that are important but not urgent. They need a dedicated focus for several weeks – and not too many companies have the luxury of a ‘spare’ skilled employee.

This was the case at John Dee, where the company knew it needed effective systems to catalogue spare parts and record preventative maintenance schedules.

Rachel Robertson put her mechanical engineering background to good use to manage these separate

projects simultaneously. She also identified another area that needed work and, with the company's blessing, re-organised its approach to work instructions and risk assessments.

"Each of the projects was important to company operations. For example, preventative maintenance means reliable machinery. It minimises the risk of breakdown, is less of a risk to machine operators and in the long-term saves a lot of money," Rachel said.

"Safe work instructions and risk assessments are more than just systems you have to have in place. You need to make people aware of the hazards of any task and the correct and safest way to do it."

Rachel's projects involved interaction with people across the plant. She found ways of working with everyone and, in the process, was able to reinforce key messages. At the end of her stay, Rachel had developed sensible, easy-to-use systems, and built a network of employees who knew why they were important.

## Approach 2

Meanwhile, over at Kilcoy Meat Company, Shane Fitzimmons was also developing OH&S and maintenance safety procedures. His project involved developing a customised KPC maintenance and safety database, containing a list of procedures for maintenance staff to follow.

The result of his efforts is a database that is easy for Kilroy staff to upgrade as required.

Shane also identified the need for more safety charts around the plant, and built in a special facility to produce emergency charts from the new database.

"This project was a high priority for us. We're a small company and we don't have people with much spare time, but we would have had to do it internally if MLA hadn't found us Shane," Sheryl Barber of Kilcoy explained.

"Sean Starling from MLA knew what he was talking about. Shane was excellent and so was his mentor Ron Brooks. We were confident from the start that the project would be successful and our trust never faltered."

"We are very pleased with what he was able to do for us, and with the MLA on-site support as well. It was like having three minds working together on the project."

## How the program might look

### Stage 1 – Induction week, MLA offices, Sydney

During the first week of the program, participants will be introduced to the industry and the assistance available to them from MLA, helped with initial preparation for individual site work, introduced to their mentors to scope out the early part of their work period and taken to beef and sheep processing plants to familiarise themselves with processing operations and operating procedures.

### Stage 2 – On-site

Participants will spend the summer vacation period at their allocated plant working on individual site projects. At the end of week four, a mid-project meeting will be held at MLA and each participant will be asked to prepare a preliminary report and deliver a presentation updating MLA on progress and identifying any issues.

### Stage 3 – Final preparation

Students return to MLA to finalise reports and presentations with MLA and mentors in preparation for final site presentation and report delivery.

## Further information

If this sounds like what you want to do next summer, contact Heidi Philpott, MLA ([hphilpott@mla.com.au](mailto:hphilpott@mla.com.au)) for details of how to get involved.

MLA is also developing a 12-month placement for 'sandwich' degree undergraduates as well as a 2–3 year structured graduate mentoring program to be launched in 2005.

The MLA undergraduate program is part of a larger student program. MLA also provides funding for a number of postgraduate scholarships and study awards. These awards aim to facilitate research and training in areas of practical value to the Australian beef, sheepmeat and goatmeat industries. Contact MLA for more information.



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