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AGRICULTURAL SCIENCE, UNIVERSITY OF TASMANIA

Senior School Subjects

- **Year 11:** English, Mathematical Methods Early Advancement Unit 3-4, Text and Traditions Early Advancement Unit 3-4, Psychology, Biology, Physical Education.
- **Year 12:** English, Biology, Physical Education, Psychology.

Why did you choose these subjects? I tried to choose subjects I enjoyed, as I wasn't overly certain of my career direction until midway through Year 12. Ultimately, this was both a blessing and a curse with regards to my university entry requirements. The grave mistake I made was not completing chemistry, which if you are considering any science degree is absolutely essential. Despite beating my entry score requirements by a considerable margin, I still had to complete year 12 Chemistry as a summer foundation class before gaining entry to my course. However, despite my inconvenient subject selection, this also shows that there are always alternative ways to achieve your university requirements, if you are willing to work hard..

What resources did you use to choose subjects? I found choosing subjects somewhat challenging, particularly as I wasn't certain of my career pathway at this time. My best resource was my scheduled meetings in year 10 and 11 with the careers adviser, along with regular discussions with my siblings and parents. Ultimately, I think it's important to find a balance between the subjects you enjoy and the essential units required for your chosen/desired university pathway. Unfortunately, I was unsure of my career direction during these years and as mentioned made the grave mistake of not completing chemistry, despite having been strongly advised otherwise. So I probably didn't utilise the advice and suggestions correctly and in the end, I had to go gain my entry requirements the hard way.

What was your course like? I completed a Bachelor of Agricultural Science with First Class Honours at the University of Tasmania. My degree was a very challenging, yet rewarding experience. This course provided an excellent foundation in the broad science streams of biology, chemistry and animal science, as well as Australian and global agriculture. I then gained a broad, but excellent coverage of every major agricultural industry in Australia, the scientific theory, processes and research underpinning each industry and the skills required to gain employment.

This encompassed detailed plant and animal physiology and pathology, microbiology, entomology, advanced plant and animal breeding processes, as well as extensive practical research projects. We also undertook complex and challenging statistical analysis classes throughout the degree, which are essential for understanding and writing your own research papers. In addition to the core units across the four years of the degree, having the opportunity to design, coordinate, gain funding, manage and finalise an honours research project, is a brilliant learning opportunity.

The final year also allows students to undertake honours research projects in their chosen specialist area of agriculture. As each agricultural industry is highly specific, students should not expect to gain expertise in any one field after completing this degree. Rather, the degree provides graduates with the essential skills required to learn quickly and adapt to any agricultural pathway and is an excellent platform to begin a career in agriculture.

What did you love about your course? I thoroughly enjoyed the diversity of my course. In the first 2 years, I received a great foundation of understanding for animal, plant and chemistry sciences from highly experienced university researchers, while my final 2 years became much more specifically focused on agricultural principles, theories and techniques. As the complexity of the scientific learning increased, I particularly enjoyed leaning on the essential knowledge gained in the first years of the degree.

Since Australian agriculture is incredibly diverse, I enjoyed how well each key industry was covered and the scientific processes and opportunities involved. In addition, undertaking key field trips and research projects for each specialist area of agriculture was very enlightening. I thoroughly enjoyed studying plant breeding and research, as well as the complexities of soil science.

Gaining a complex scientific understanding of soil and plant relationships and applying this knowledge in practical agricultural research projects, was very valuable. Also, having the opportunity to plan, coordinate, manage and complete an honours project was incredibly challenging, but also provided an opportunity to excel in the university environment.

How did the subjects at school prepare you for your course? My senior subjects in biology and English were probably the most beneficial for assisting with my preparation to begin university.

- **Biology** provided the essential principles in both plant and animal science, which are critical subjects in all years of this course.
- In addition, there is a substantial volume of report/essay writing and research presentations in science degrees. Therefore, I believe with the volume of writing completed in year 12 **English** and also Year 12 **Text & Traditions** and these being two of my stronger subjects, I felt they were very valuable.
- Aspects of **Maths Methods** 3&4 were useful for statistical analysis and probability, which were quite challenging units to complete. However, it's also important to understand that university subjects are a significant step-up in both the complexity of scientific theory being taught and the independence needed for learning the material.
- However, my entire degree at university would have been considerably easier had I completed Year 10, 11 and 12 **Chemistry**, as I consistently felt I lacked the foundation knowledge compared to my peers.

What advice can you offer students considering studying this course : In terms of considering the degree, while previous industry experience can be useful, it is far from essential. Attending university Open Days will certainly be helpful in understanding what career pathways the degree offers, how the course is structured and the potential scholarships available.

Most importantly, even if you have no prior knowledge of agriculture, if you are interested in science then consider the degree with an open mindset. Many people succumb to the theory that you will ultimately end up directly working on farms, which is far from the truth. There is a wealth of prospective career pathways available through agriculture and in my experience the job diversity, opportunities and securities far outweigh almost any other science based degrees.

If you do consider a career in agriculture, ensure you apply for the scholarships available, as there is typically only a small pool of students, yet considerable university and industry scholarships are often available. Finally, if you know past students or friends who have completed an agricultural science degree, utilise the opportunity to speak with them about their experiences and advice.

What are you doing now in your graduate position? I am currently working as a Product Development Agronomist and Potato Portfolio Manager for a vegetable seed company Fairbank's Selected Seed Co. Pty. Ltd. Initially, this job interview opportunity was gained through previous work experience. The job has since taken me across Australia and the world through Japan, Korea and also Germany.

My role is primarily focussed on coordinating the development and commercialisation of improved vegetable varieties in Australia, with a focus on aesthetic quality traits, yield and disease resistance to meet Australia's tough climatic conditions and complex consumers. In addition, I am now managing an exclusive partnership between Fairbank's Seeds and a German potato breeding company, with the goal of introducing improved potato varieties to the Australian market.

This has also provided me unique opportunities into establishing Plant Breeder's Rights for our potato genetics in Australia, the complexities associated with Intellectual Property across the world and detailed contract law.

What do you love about your job? I love the diversity, flexibility and range of opportunities that I have been given with my job. Having the opportunity to manage a major international partnership between our company and a major German organisation, while still spending significant time assessing and developing new vegetable varieties on farm and travelling throughout Australia, is a fantastic experience. I also work with a young, dynamic and enthusiastic team and we strive to achieve excellence in everything we do.

By being only a medium sized company, we have an incredible flexibility that enables us to make balanced, yet quick decisions to beat our competitors to market. I have had multiple opportunities to coordinate and undertake business trips around the world, have presented at conferences and love being able to launch improved vegetable varieties to the Australian market. I am also fortunate and incredibly grateful that my job allows me to chase my football aspirations away from work, particularly with the intense commitments required.

Give students an example of a 'day in the life' of your course: A typical day would involve getting on the road before 7am and travelling to South East Gippsland. I would catch up with major growers in the vegetable industry, discuss how their crops were performing and usually complete crop assessments on my iPad, for new seed trials I had previously placed on their farm. A new Asian Greens trial for babyleaf packaged salad mix, may include up to 50 untested varieties.

Our company has developed a complex database with digital assessment forms for every vegetable crop and individual variety. This captures all the key criteria to assess crop performance and enables us to clearly demonstrate to growers when we have discovered improved varieties.

I would deliver seed orders to various growers in my region, capture new sales, assess any mature crop trials and then travel back to the head office in the afternoon. I would coordinate with my interstate colleagues to send new varieties to their regions and ensure we implement a national approach to our product development.

Additionally, I would be coordinating with our international suppliers (Plant Breeders) and quarantine to import new varieties they have been developing, as well as providing complex performance reports for each of their varieties we have recently assessed. Ultimately, this assists with guiding their plant breeding processes to better suit Australian market requirements.

Why should students consider studying agriculture? Unfortunately, there is a significant lack of understanding and stigma associated with students finishing Year 12 and considering jobs in agriculture. In my experience, the job opportunities and job security that exists in this industry, effectively outperforms every other major science degree.

Agriculture is a rapidly evolving and technologically innovative industry both domestically and internationally. There is an enormous variation of employment opportunities including Industry Specific Consultation Services, Agricultural Banking, Agronomic Services (soil/chemical/fertiliser management for growers), Intellectual Property Services, Chemical/Fertiliser/Seed sales, Laboratory Plant & Soil Analytics, Agricultural Export Management, Supply Chain Management through Supermarkets/ Wholesalers/Growers, National and State Quarantine/Biosecurity, University Research & Scholarships, Farm Management, Microbiology, Administrative Import Management, Teaching and International Agricultural Research Projects just to name a few!

In addition, many agricultural pathways will offer healthy employment packages (incl. car, phone etc.), along with excellent potential for career progression and leadership opportunities. When I graduated in 2013, statistically speaking there were 5 jobs on offer for every Australian student who graduated in agriculture, i.e., the numbers speak for themselves.

In the end, the world will always need advanced scientific thinking to improve the methods by which we develop, produce, package and transport food. It is an exciting and innovative industry and will always require new ideas from young minds.

Course information: Bachelor of Agricultural Science, University of Tasmania.