

## Academic Chairs:

- Animal Science: Professor Andrew Thompson [Andrew.Thompson@murdoch.edu.au](mailto:Andrew.Thompson@murdoch.edu.au)
- Animal Science: Associate Professor Serina Hancock [S.Hancock@murdoch.edu.au](mailto:S.Hancock@murdoch.edu.au)

## Course Core Units

Students must complete (or be exempt from) the following units: **ANS100, MAS183, CHE140, BIO152**

*Note: Students who achieved a final scaled score of 50 percent or more in Chemistry 3A/3B or Chemistry ATAR within the past three years should apply for exemption for CHE140 Fundamentals of Chemistry.*

*Note: Students commencing pre 2024 that have completed BSC100 have exemption for ANS100.*

## Animal Science Major

Students must complete the following units: **BMS107, ANS101, VET272, ANS230, ANS221, VET380, ANS333, ANS337**

## Career Learning Spine

Students must complete **THREE** career learning spine units from the approved list:

Highly recommended: **ANS301, ANS302, ANS303, ANS305 (can be repeated for credit), ANS200**

Also suitable for completion of career Learning Spine: **MSP100, MSP200, MSP201, MSP202, VLS302**

## Options

You must include ONE of the following 3 options:

1. A second (additional) major (24 credit points) or co-major (18 credit points)
2. A minor (12 credit points)
3. Specified electives (12 credit points)

### 1. Additional major

Recommended additional majors:

- Animal Health
- Crop and Pasture Science

Other suggested additional majors:

- Conservation and Wildlife Biology
- Applied Mathematics and Statistics

## 2. Minors (12 points)

You may complete one or two minors

Recommended minors

- Equine Science (BIO152, BMS107, ANS365, ANS366)
- Applied Animal Production (BIO152, VET272, ANS363, ANS364)

Other suggested minors

- Molecular Biology (BIO152, BIO282, BIO246, BIO394)
- Applied Statistics (MAS183, MAS353, plus 2 from this list: MAS182, MAS223, MAS224)
- Wildlife Conservation (BIO375, BIO376, ENV241, plus one from this list: BIO103 or BIO180)
- Plant Biology (BIO245; plus 1 from this list - BIO103, BIO180; plus 2 from this list – BIO254, BIO257, ENV334)

## 3. Specified electives

If you are NOT completing a second Major OR Co-Major OR Minor, you are required to complete **minimum of 12 points** of Specified Electives IN ADDITION to 24 points for the Primary Major and 9 points for the career learning spine.

This means “extra” career learning spine units may be used as specified electives. i.e. units approved for the career leaning spine can count towards the career spine OR specified elective, but the same unit cannot be double counted against both unless completing the unit twice for credit. Similarly, you can't double count the same unit for the major and as an elective.

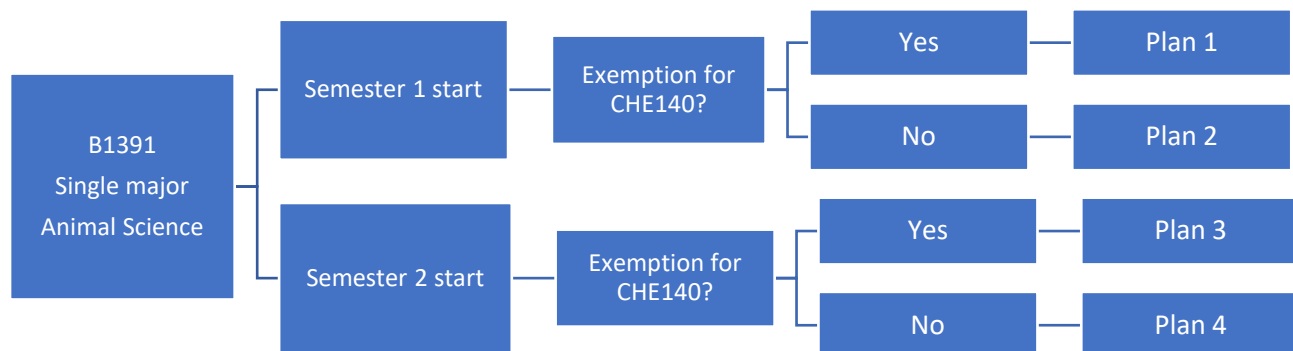
Select FOUR specified elective units from this list:

- **ANS363** Applied Animal Agriculture – 3 pts (S2 or year)
- **ANS364** Applied Animal Breeding – 3 pts (S1 or year)
- **ANS365** Equine Physiology and Behaviour - 3 pts (S1)
- **ANS366** Equine Performance and Management - 3 pts (S2)
- **ANS300** Applied Livestock Health Management - 3 pts (S2)
- **ANS207** Crop and Pasture Science - 3 pts (S2)
- **ANS208** Crop Protection and Plant Biosecurity - 3 pts (S2)
- **ENV243** Water and Earth Science - 3 pts (S1)
- **ANS309** Agricultural Markets, Economics and Policy - 3 pts (S1)
- **ANS200** International Field Work in Agricultural and Environmental Sciences – Thailand – 3 pts. S1 but tour completed in summer break.
- **ANS301** International Study Tour Opportunities – 3 pts (S2 – with tour usually conducted in winter break)
- **ANS302** Farm Placement – 3 pts (Year – commence in S1)
- **ANS303** Livestock Industry Career Readiness – 3 pts (S2)
- **ANS305** Advanced Agricultural Skills – 3 pts (MURDOCH: S1, S2, Summer, Winter) *Note: Students may be able to repeat ANS305 for credit*

## General Electives added to bring total credit points to 72 points

- You can use general electives to bring total credit points to 72 points.
- The timing and type of elective units is flexible. The only restriction on general electives is that no more than 30 credit points can come from Part 1 units (i.e. you cannot count more than ten 100- level units for completion of the degree)
- Units listed above under specified electives are recommended general electives
- “Extra” career learning spine units may be used as general electives (i.e. can count towards the career spine OR specified/general elective, but cannot be double counted against both unless completing the unit twice for credit)

## Choose the correct course plan template



**Please note:** These course plans are a sample only and must be read in conjunction with the full course structure, unit prerequisites and enrolment options as outlined in the [Handbook](#). Students should note that due to unit prerequisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at DD/MM/YY.

## PLAN 1: exemption for CHE140 (chemistry)

Start Date: Semester 1 2024

Year 1 – 2024	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	ANS100 Introduction to Agricultural Science	3	BIO152 Cell Biology	3
	MAS183 Statistical data analysis	3	ANS101 Introduction to Livestock Science & Genetics	3
	Career Learning Spine or elective <sup>A</sup>	3	BMS107 Foundations of Vertebrate Form & Function	3
	Career Learning Spine or elective	3	Career Learning Spine or elective <sup>B</sup>	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 2 - 2025	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	VET272 Comparative Mammalian Biochemistry	3	ANS221 Animal Structure and Function	3
	ANS230 Animal Production Systems II	3	Career Learning Spine or Elective	3
	Career Learning Spine or General Elective <sup>C</sup>	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 3 - 2026	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	VET380 Veterinary Nutrition & Animal Toxicology	3	ANS337 Animal Industry Experience	3
	ANS333 Animal Production Systems III	3		3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>

**TOTAL CREDIT POINTS 72**

<sup>A</sup> ANS102 Introduction to Animal Body highly recommend

<sup>B</sup> VET101 highly recommended for students aiming to transfer into Year 2 of the veterinary program

<sup>C</sup> Students wanting to do ANS302 Farm Placements (Y enrolment) should commence in semester 1

## PLAN 2: No exemption for CHE140 (chemistry)

Start Date: Semester 1 2024

Year 1 – 2024	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	ANS100 Introduction to Agricultural Science	3	BIO152 Cell Biology	3
	MAS183 Statistical data analysis	3	ANS101 Introduction to Livestock Science & Genetics	3
	CHE140 Fundamentals of Chemistry	3	BMS107 Foundations of Vertebrate Form & Function	3
	Career Learning Spine or elective <sup>A</sup>	3	Career Learning Spine or elective <sup>B</sup>	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 2 - 2025	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	VET272 Comparative Mammalian Biochemistry	3	ANS221 Animal Structure and Function	3
	ANS230 Animal Production Systems II	3	Career Learning Spine or Elective	3
	Career Learning Spine or General Elective <sup>C</sup>	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 3 - 2026	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	VET380 Veterinary Nutrition & Animal Toxicology	3	ANS337 Animal Industry Experience	3
	ANS333 Animal Production Systems III	3		3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>

**TOTAL CREDIT POINTS 72**

<sup>A</sup> ANS102 Introduction to Animal Body highly recommend

<sup>B</sup> VET101 highly recommended for students aiming to transfer into Year 2 of the veterinary program

<sup>C</sup> Students wanting to do ANS302 Farm Placements (Y enrolment) should commence in semester 1

## PLAN 3: exemption for CHE140 (chemistry)

Start Date: Semester 2 2024

Year 1 – 2024			<b>Semester 2 Units</b>	<b>CP</b>
			<b>ANS100</b> Introduction to Agricultural Science	3
			<b>BIO152</b> Cell Biology	3
			<b>BMS107</b> Foundations of Vertebrate Form & Function	3
			<b>ANS101</b> Introduction to Livestock Science & Genetics	3
			<b>Summer Units</b>	<b>CP</b>
		<b>Total</b>	<b>12</b>	
Year 2 - 2025	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	<b>MAS183</b> Statistical Data Analysis	3	<b>ANS221</b> Animal Structure and Function	3
	<b>VET272</b> Comparative Mammalian Biochemistry	3	Career Learning Spine or Elective	3
	<b>ANS230</b> Animal Production Systems II	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective <sup>A</sup>	3	Career Learning Spine or Elective <sup>B</sup>	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 3 - 2026	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	<b>ANS333</b> Animal Production Systems III	3	<b>ANS337</b> Animal Industry Experience	3
	<b>VET380</b> Veterinary Nutrition & Animal Toxicology	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective <sup>C</sup>	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 4 - 2027	<b>Semester 1 Units</b>	<b>CP</b>		
	Career Learning Spine or Elective	3		
	Career Learning Spine or Elective	3		
	Career Learning Spine or Elective	3		
	Career Learning Spine or Elective	3		
	<b>Winter Units</b>	<b>CP</b>		
	<b>Total</b>	<b>12</b>		

**TOTAL CREDIT POINTS 72**

<sup>A</sup> ANS102 Introduction to Animal Body highly recommend

<sup>B</sup> VET101 highly recommended for students aiming to transfer into Year 2 of the veterinary program

<sup>C</sup> Students wanting to do ANS302 Farm Placements (Y enrolment) should commence in semester 1

## PLAN 4: No exemption for CHE140 (chemistry)

Start Date: Semester 2 2024

Year 1 – 2024			<b>Semester 2 Units</b>	<b>CP</b>
			<b>ANS100</b> Introduction to Agricultural Science	3
			<b>CHE140</b> Fundamentals of Chemistry	3
			<b>BMS107</b> Foundations of Vertebrate Form & Function	3
			<b>ANS101</b> Introduction to Livestock Science & Genetics	3
			<b>Summer Units</b>	<b>CP</b>
			Career Learning Spine or Elective <sup>B</sup>	
		<b>Total</b>	<b>12</b>	
Year 2 - 2025	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	<b>MAS183</b> Statistical Data Analysis	3	<b>ANS221</b> Animal Structure and Function	3
	<b>BIO152</b> Cell Biology	3	Career Learning Spine or Elective	3
	<b>ANS230</b> Animal Production Systems II	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective <sup>A</sup>	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
<b>Total</b>		<b>12</b>	<b>Total</b>	
			<b>12</b>	
Year 3 - 2026	<b>Semester 1 Units</b>	<b>CP</b>	<b>Semester 2 Units</b>	<b>CP</b>
	<b>ANS333</b> Animal Production Systems III	3	<b>ANS337</b> Animal Industry Experience	3
	<b>VET272</b> Comparative Mammalian Biochemistry	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective <sup>C</sup>	3	Career Learning Spine or Elective	3
	Career Learning Spine or Elective	3	Career Learning Spine or Elective	3
	<b>Winter Units</b>	<b>CP</b>	<b>Summer Units</b>	<b>CP</b>
<b>Total</b>		<b>12</b>	<b>Total</b>	
			<b>12</b>	
Year 4 - 2027	<b>Semester 1 Units</b>	<b>CP</b>		
	<b>VET380</b> Veterinary Nutrition & Animal Toxicology	3		
	Career Learning Spine or Elective	3		
	Career Learning Spine or Elective	3		
	Career Learning Spine or Elective	3		
	<b>Winter Units</b>	<b>CP</b>		
<b>Total</b>		<b>12</b>		

**TOTAL CREDIT POINTS 72**

<sup>A</sup> ANS102 Introduction to Animal Body highly recommend

<sup>B</sup> VET101 highly recommended for students aiming to transfer into Year 2 of the veterinary program

<sup>C</sup> Students wanting to do ANS302 Farm Placements (Y enrolment) should commence in semester 1



## Pre-requisite checklist 2024

### Core

Code	Name	Pre-req	Enrolment notes
ANS100	Introduction to Agricultural Science	None	
MAS183	Statistical Data Analysis	None	
CHE140	Fundamentals of Chemistry	None	
BIO152	Cell Biology	CHE140	Recommend completing 12 points prior to enrolment

### Animal Health Major

Code	Name	Pre-req	Enrolment notes
ANS101	Introduction to Livestock Science & Genetics	None	
BMS107	Foundations of Vertebrate Form & Function	None	It is recommended that students complete BMS101 or ANS102 prior to enrolment.
VET272	Veterinary Biochemistry	BIO152	
ANS230	Animal Production Systems II	ANS101	
ANS221	Animal Structure & Function	BIO152 BMS107	
ANS333	Animal Production Systems III	ANS221 ANS230	
VET380	Veterinary Nutrition & Animal Toxicology	VET272 ANS221	Concurrent enrolment with VET272 considered only under exceptional circumstances
ANS337	Advanced Animal Production	ANS333	

### Career learning spine

Code	Name	Pre-req	Enrolment notes
ANS301	Agricultural Study Tour Opportunities	TBA	Students will need to submit an application for enrolment, please contact Unit Coordinator.
ANS302	Farm Placements	ANS100/ANS101 Or ANS101 (2020-22)	
ANS303	Livestock Industry Career Readiness	ANS333	
ANS305	Advanced Agricultural Career Skills	ANS100/ANS101 Or ANS101 (2020-22)	Some placements may be available for students that have not completed pre-reqs
ANS200	International Field Work in Agricultural and Environmental Sciences – Thailand	None	Students must have completed 24 credit points before enrolling in this unit
MSP100	Career Learning: Managing Your Career	None	
MSP200	Building Employability Skills	None	
MSP201	Real World Learning	None	Successful completion of 24 credit points.
MSP202	The Search for Everything: Data Analytics and Storytelling in the Twenty-First Century	None	
VLS302	Professional Placement in Environmental and Life Sciences	None	Students must have completed 36 credit points towards their degree Students must have a GPA of 2.0 or higher.

## Options: Specified electives and recommended general electives

Code	Name	Pre-req	Enrolment notes
ANS363	Applied Animal Agriculture	None	Should have completed 24 credit points before enrolling in this unit
ANS364	Applied Animal Breeding	None	Should have completed 24 credit points before enrolling in this unit
ANS365	Equine Physiology & Behaviour	ANS102/BMS107	
ANS366	Equine Health and Performance	None	Prior completion of BMS107 (or equivalent) is recommended, but not essential.
ANS300	Applied Livestock Health Management	ANS101 VET211	Students will need to submit an application for enrolment
ENV243	Water & Earth Science	None	
ANS207	Crop & Pasture Science	CHE140	
ANS208	Crop Protection & Plant Biosecurity	ANS100	Students that have completed BSC100 are exempt from ANS100
ANS309	Agricultural Markets, Economics & Policy	None	
ANS311	Agricultural & Environmental Technologies	None	
ANS301	Agricultural Study Tour Opportunities	TBA	Students will need to submit an application for enrolment, please contact Unit Coordinator.
ANS302	Farm Placements	ANS100/ANS101 Or ANS101 (2020-22)	
ANS303	Livestock Industry Career Readiness	ANS333	
ANS305	Advanced Agricultural Career Skills	ANS100/ANS101 Or ANS101 (2020-22)	Some placements may be available for students that have not completed pre-reqs
ANS200	International Field Work in Agricultural and Environmental Sciences – Thailand	None	Students must have completed 24 credit points before enrolling in this unit

# Bachelor of Agricultural Science (Animal Science)

## Options: recommended minors

	Code	Name	Pre-req	Enrolment notes
<b>Equine Science</b>	BIO152	Cell Biology	CHE140	
	BMS107	Foundations of Vertebrate Form and Function	None	It is recommended that students complete BMS101 or ANS102 prior to enrolment.
	ANS365	Equine Physiology & Behaviour	ANS102/BMS107	
	ANS366	Equine Health & Performance	None	Prior completion of BMS107 (or equivalent) is recommended, but not essential.
<b>Applied Animal Production</b>	BIO152	Cell Biology	CHE140	Recommend completing 12 points prior to enrolment
	VET272	Veterinary Biochemistry	BIO152	
	ANS363	Applied Animal Agriculture		Should have completed 24 credit points before enrolling in this unit
	ANS364	Applied Animal Breeding		Should have completed 24 credit points before enrolling in this unit
<b>Molecular Biology</b>	BIO152	Cell Biology	CHE140	Recommend completing 12 points prior to enrolment
	BIO282	Molecular Biology	BIO152	
	BIO246	Microbiology	BIO152	
	BIO394	Genetic Engineering	BIO282	
<b>Applied Statistics</b>	MAS183	Statistical Data Analysis	None	
	MAS182	Intro Calculus with Applications	MAS164	A final scaled score of 55% or more in ATAR Mathematics Methods (or equivalent), or MAS164. Students who have successfully completed a calculus unit of the level of MAS161 Calculus and Matrix Algebra or higher may not enrol in this unit for credit.
	MAS223	Applied Statistics	MAS183	
	MAS224	Biostatistics	MAS180/MAS183	
	MAS353	Statistical Design and Data Analysis	MAS222/MAS223/MAS224/MAS230/MAS278/MAS284	Cannot do MAS180 or MAS183 concurrently
<b>Wildlife Conservation</b>	BIO103	Environmental Biology	None	
	BIO180	Introduction to Marine Biology	None	
	BIO375	Conservation Biology	ENV241	
	BIO376	Wildlife Biology	BIO375	
	ENV241	Ecology	BIO103/BIO180 MAS183	
<b>Plant Biology</b>	BIO245	Plant Evolution, Radiation and Adaptation	BIO103/BIO180	
	BIO103	Environmental Biology	None	
	BIO254	Marine Botany	BIO103/BIO180	
	BIO257	Australian Biodiversity	None	
	ENV334	Environmental Restoration	ENV241	