Active major as at 12-09-2025

TRIM: F20/502
ID: 4846

MJD-AGTEC Agricultural Technology

Major information

Code	MJD-AGTEC
Title	Agricultural Technology
Undergraduate degree	BSc
Broadening guidance	All students studying towards a Bachelor's Degree at UWA are required to Broaden their studies by completing a minimum of four units (24 points) of study outside their degree specific major. Broadening is your opportunity to explore other areas of interest, investigate new disciplines and knowledge paradigms and to shape your degree to suit your own aspirations and interests. Many of you will be able to undertake more than this minimum amount of broadening study and we encourage you to do so if this suits your aspirations. Over the next few months you will find here some broadening suggestions related to your degree-specific major. While we know that many students value guidance of this sort, these are only suggestions and students should not lose sight of the opportunity to explore that is afforded by your Broadening Choices. Advice can also be sought from your Allocated Student Advising Office.
School	Agriculture and Environment
Board Of Studies	Life, Health and Natural Sciences
Responsible Organisational Entity	Agriculture and Environment
School Collaborations	{"School Collaborations" blank}
Coordinator	Dr Judith Lichtenzveig {00053386}
Availability	Available for new enrolments
Approved	02/07/2020
First year of offer	2021
Structure	3+3+4

Major type

Type of major	Single major
Degree-specific major?	True
Second major?	True
Undergraduate Diploma (graduate-only entry)?	True
Name of Undergraduate Diploma (graduate-only entry)	Agricultural Technology
Major has end-on honours?	True
Specify the End-On Honours Specialisation	HON-AGSCI Agricultural Science

Details

About this major	There is a critical need to produce food and fibre more efficiently and sustainably. There are now rapid changes in the agricultural sector, largely due to developments in agricultural technologies in automation and remote sensing. This data-intensive technology has the potential to significantly increase production efficiency and reduce the environmental impact from agriculture; however, the key is making sense of the data and developing profitable and sustainable farming strategies. The Agricultural Technology major provides a broad agricultural background along with the necessary skills in data management and analysis, geographic information systems (GIS) and remote sensing. In this major, you will develop skills to integrate data analysis and knowledge of complex agricultural systems to make decisions for improved efficiency and profitability.

Outcomes

#	Outcome
1	critically assess mixed farming systems in Western Australia
2	demonstrate skills and knowledge to assess agricultural systems using experimental, modelling and statistical methods
3	explain fundamental spatial data techniques and digital systems and sensors for agricultural applications
4	demonstrate capacity to solve farming-related problems using programming and data science methods
5	integrate agricultural data with farming systems information to guide decision making for improved efficiency, profitability and/or environmental outcomes
6	demonstrate effective networking and communication skills
7	demonstrate competency in laboratory practice, report writing, oral presentation and team work skills suited to gain employment in the discipline of Agricultural Tecnology.

Why offer the proposed course

Rationale for offering the major

{"Rationale for offering the major" blank}

Field of Education

Broad Field of Education

05 - Agriculture, Environmental and Related Studies

Narrow Field of Education

0501 - Agriculture

Detailed Field of Education

050101 - Agricultural Science

Experiential Learning

Type of experiential learning

Other;

Experiential learning required for accreditation?

No

Units in the major's unit sequence that include experiential learning activities

AGRI1001
SCIE1104
SCOM1101
SCIE2205
AGRI2201
GEOG2201
SCIE3314
AGRI3003
GEOG3301

Overview of the experiential learning activities included in the major

The experiential activities/skills developed include modelling skills, Python programming, research methods, communication skills, data management and analysis skills, GIS applications, modelling crop growth and systems and application to on-farm decisions, Students will also use real farm data and far visits as part of learning to integrate agricultural data with farming systems for improving efficiency and profitability of farming. In addition students learn to work in teams and to communicate their work through oral and written presentations.

Outcomes of experiential learning

The key to achieving the learning outcomes of this major is the ability to integrate agricultural science knowledge with GIS, data science and digital systems skills. The farm visits in some of the above mentioned units (AGRI1101 AGRI2201, SCIE3314, and AGRI3003), along with the background given in the units will contribute to "demonstrating and understanding of mixed farming systems in Western Australia". The python programming activities are combined with an agricultural systems background as well as data analysis, research methods, GIS and digital embedded systems skills to "demonstrate capacity to solve farming-related problems using programming and data science methods". These will also "demonstrate skills and knowledge to assess agricultural systems using experimental, modelling and statistical methods" and "integrate agricultural data with farming systems information to guide decision making for improved efficiency and profitability". The GIS units will provide an "understanding of fundamental spatial processing techniques for agricultural applications". This combination also allows the student to "apply the knowledge and skills for employment related to agricultural science and technology". The SCOM unit and the team work and presentation skills, which are embedded in many of the above mentioned units, demonstrate networking, communication and leadership skills.

Rules

Prerequisites

Mathematics Methods ATAR or Mathematics Applications ATAR with a mathematics unit taken in the first year. Students without ATAR mathematics will take two level one mathematics units. ATAR Chemistry. Students without ATAR Chemistry will need to take a level one chemistry unit.

Corequisites

Nil

Incompatibilities

MJD-AGSCI Agricultural Science, MJD-AGTDM Agricultural Science and Technology

Suggested Majors that can be taken by the student to compliment this major	MJD-AGSCI Agricultural Science MJD-ENVDM Environmental Science and Management MJD-AGBUS Agribusiness

Unit sequence

Level 1

Take all units (18 points):			
AGRI1001	Feeding the World	6 points	Active
SCIE1104	Science, Society and Data Analysis	6 points	Active
SCOM1101	Communicating Science	6 points	Active

Bridging units must be successfully completed within the first 48 points of study. Students who have not achieved a scaled mark of at least 50 in Mathematics Methods ATAR or equivalent or higher are required to complete SCIE1500. Students who have not achieved a scaled mark of at least 50 in Mathematics Applications ATAR or equivalent or higher are required to complete MATH1720 and SCIE1500.

Note: Students who have completed MATH1721, are not required to complete SCIE1500.

Students who have not achieved a scaled mark of at least 50 in Chemistry ATAR or equivalent or higher are required to complete CHEM1003.

CHEM1003	Introductory Chemistry	6 points	Active
MATH1720	Mathematics Fundamentals	6 points	Active
SCIE1500	Analytical Methods for Scientists	6 points	Active

Level 2

Take all units (18 points):			
AGRI2201	Pasture and Livestock Systems	6 points	Active
GEOG2201	Geographic Information Systems	6 points	Active
SCIE2205	Science Work Placement	6 points	Active

Level 3

Take all units (24 points):			
AGRI3003	Decisions from Data in Agriculture	6 points	Active
ECON3300	Agricultural Economics and Marketing	6 points	Active
GEOG3301	Advanced GIS and Remote Sensing	6 points	Active
SCIE3314	Crops and Cropping Systems	6 points	Active

Rules met within major?	True

History and committee endorsements/approvals

Event	Date	Outcome
Faculty	25-05-2020	**Endorsed**: Science Education Committee RR 2020/36 **Approval reference:** 2020 Resolutions Register Faculty of Science Education Committee (F20/39)
University Curriculum Committee	19-06-2020	**Endorsed**: R38/20
Academic Council	01-07-2020	**Approved**: R43/20 **Approval reference:** http://www.governance.uwa.edu.au/committees/academic-council/Academic-Council-agendas-and-mins-current