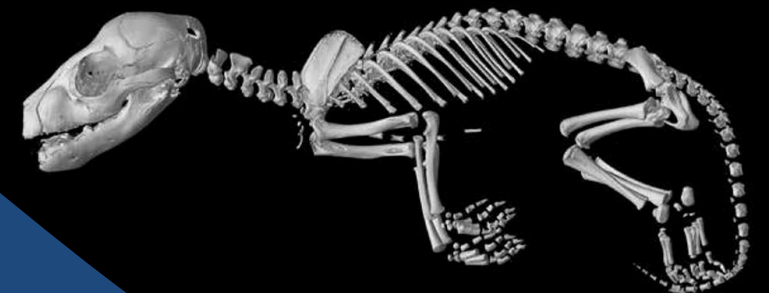


BioSciences Majors Information Session

4.10pm Tuesday 16th September
Turner Theatre

Biotechnology – Daniel Czech
Ecology and Evolutionary Biology – Nicole Rafferty
Genetics – John Golz
Plant Science – Jennifer Fox
Marine Biology – Rebecca Morris
Zoology – Lauren Salo



Acknowledgement of Country



The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi-wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of all Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students we are privileged to work and learn every day with Indigenous colleagues and partners.

Schedule

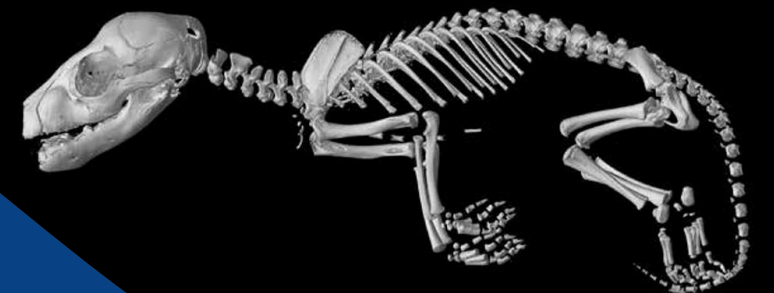
4.10 – 4.40pm:

Information on the six majors

4.40 – 6.00pm:

Meet major coordinators for informal discussion and questions

Light refreshments provided – pizza!



At this point we could insert 1-2 multiple choice Poll Everywhere questions that Nicole can run (taken from feedback from 2024). **These are draft Qs, please feel free to suggest edits (on slide or in notes)**



How certain are you feeling about choosing your major?

- a) Very certain
- b) Quite certain, just want a little more information
- c) Quite uncertain, but starting to narrow down to a few
- d) Very uncertain

In general, do you feel you've been provided with enough information about the BioSciences major pathways?

- a) Yes, and I know where to get more information when I need it.
- b) Mostly yes, with just a few small information gaps.
- c) Not really, which is partly why I'm here.
- d) Not at all, and I would like a lot more guidance.

Course Planning Resources

What subjects do I do, and when?!



General Planning Guide

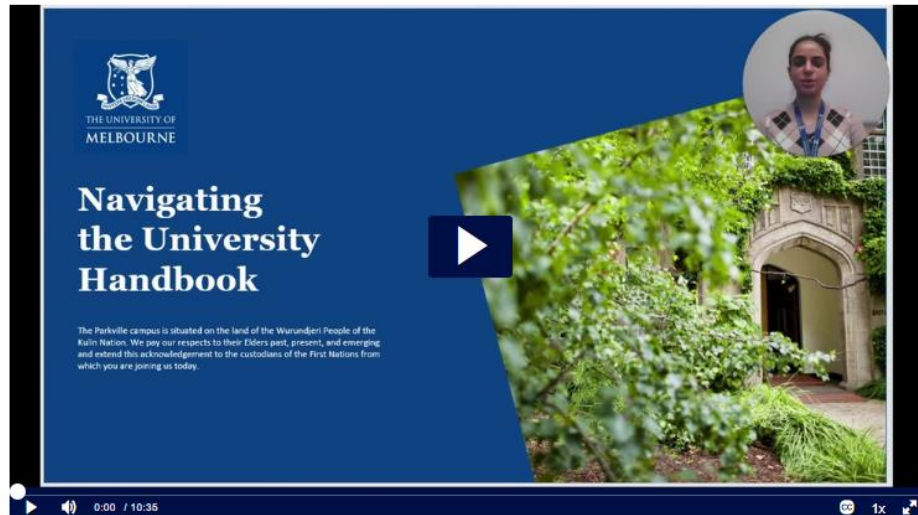
Faculty Specific Guides

Understanding your course

Each course has individual rules that you need to meet to be eligible to graduate. A key feature of most undergraduate courses is the flexibility to try out different disciplines and tailor majors and specialisations to your interests and goals.

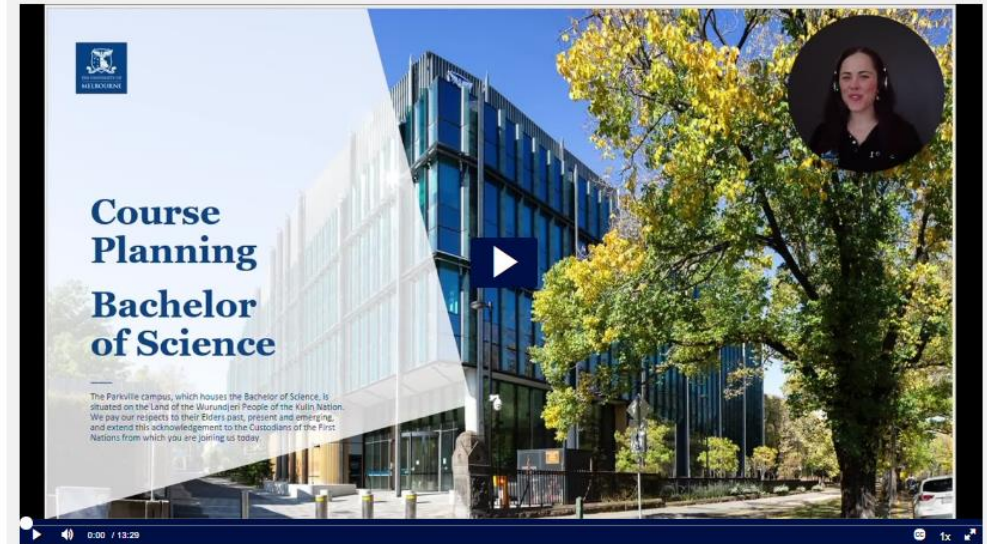
That means it's important to understand the essential structure of your course, and to check the rules for your course using the [Handbook](#) and your [faculty or graduate school's course planning resources](#).

Watch the short video below to learn more about using the Handbook to plan your course.



Science

Bachelor of Science



Recommended actions

1. **Read the [Plan Your Bachelor of Science resources](#)** (below) to get started with planning your course, choosing your subjects and understanding your options.
2. **Attend [Science: Day 1](#)**, a day full of activities and information sessions and new friends! If you are unable to attend, session recordings are available.
3. **Use [My Course Planner](#) to create a course map**, so you know which subjects to enrol in.
4. If you still need help, **contact one of our specialist advisers at [Stop 1](#)**. Don't forget to bring your completed course map with you.

Course Planning Resources

What subjects do I do, and when?!



My Course Planner

N/A : Clear plan

Bachelor of Science Plant Science

2024 : ^

Semester 1

COMPULSORY	DISCIPLINE		
SCIE10005 Level 1 12.5 points Today's Science, Tomorrow's World Semester 1 Semester 2	BIOL10008 Level 1 12.5 points Foundational Biology: Life's Machinery Semester 1 Summer Term	🔍	🔍
		🔍	🔍

Semester 2 +

DISCIPLINE			
BIOL10010 Level 1 12.5 points Foundational Biology: Life's Complexity Semester 2	🔍	🔍	🔍

Book a Course Planning Appointment





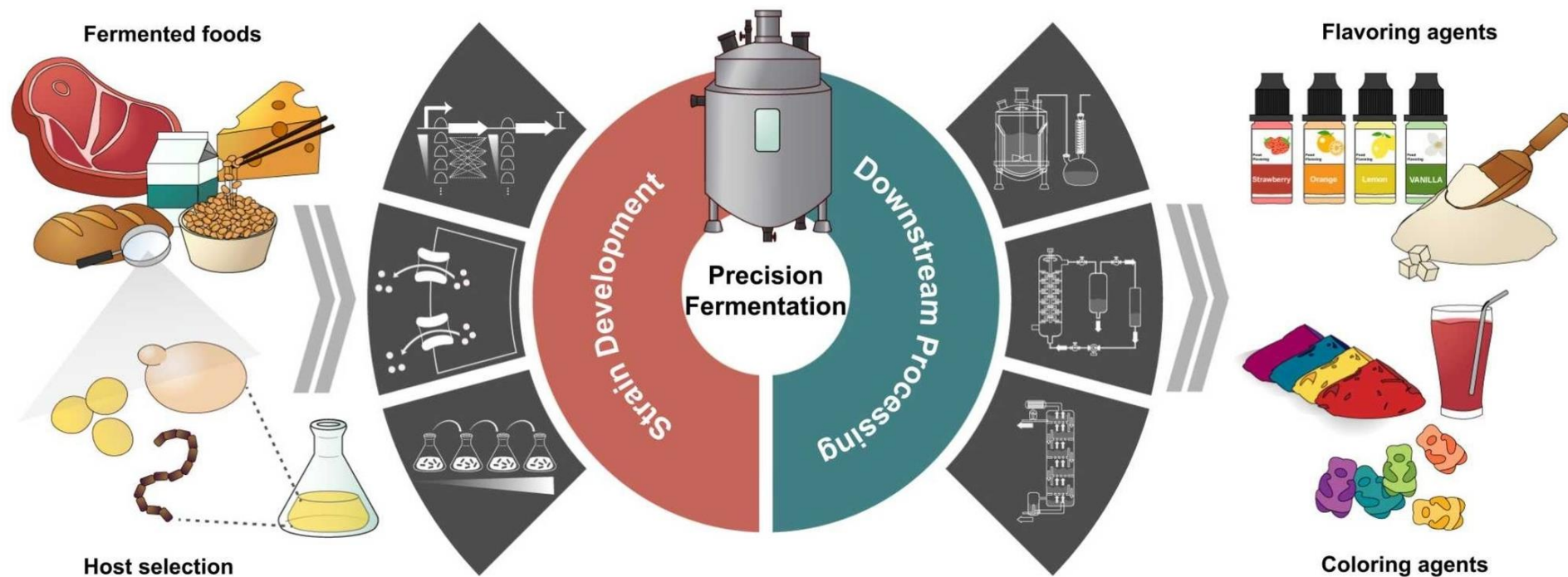
Biotechnology Major

Daniel Czech
Major Coordinator



Why major in biotechnology?

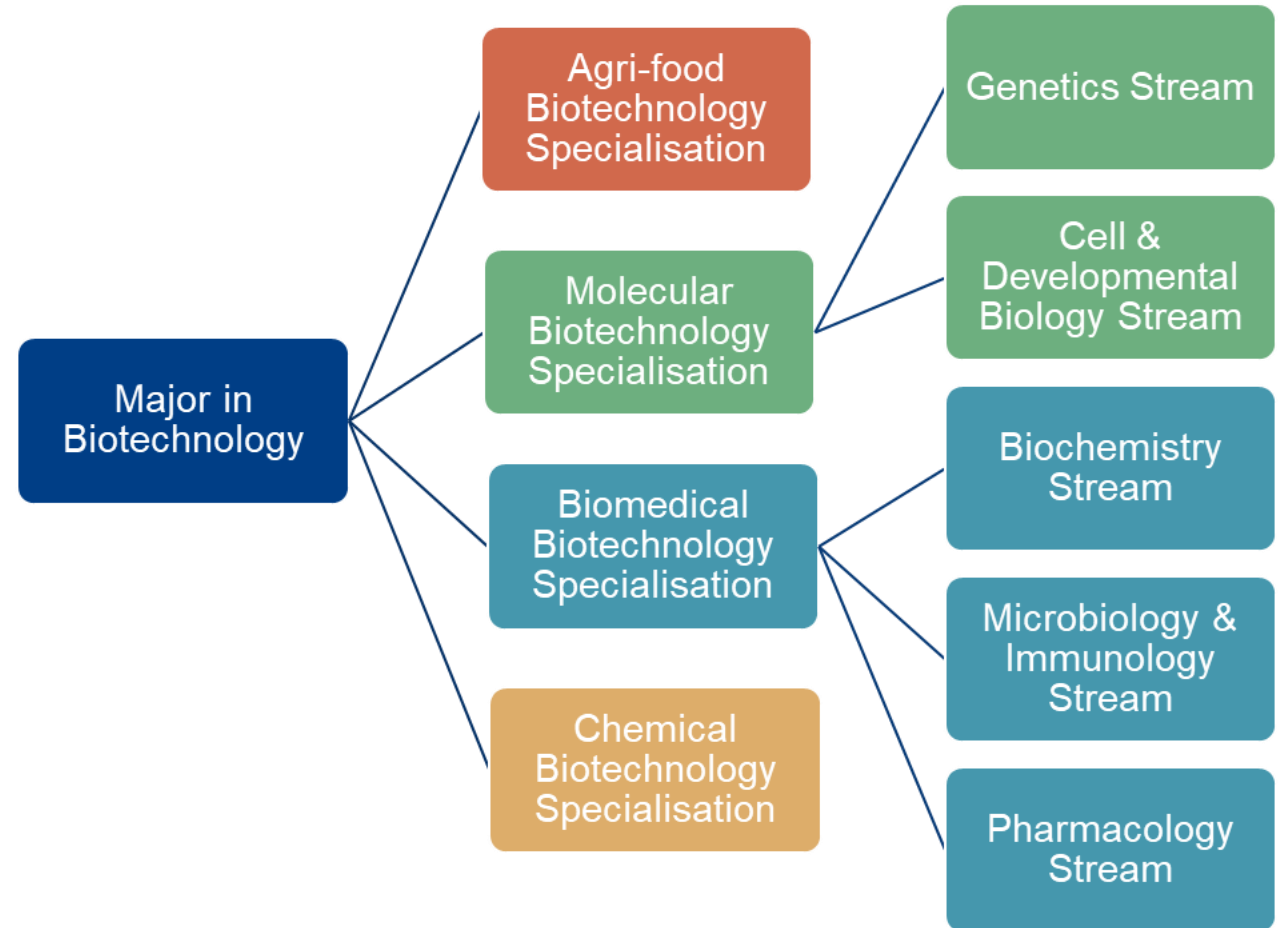
- Apply knowledge of biology to develop solutions that benefit society.
- Rapidly growing field, both scientifically and financially. Strong commercial focus.



The major in biotechnology in 2026



- Four specialisations and five streams across a variety of disciplines.
- This major allows you to develop:
 - ✓ detailed knowledge of a particular biotechnology area;
 - ✓ practical experience in the laboratory; and
 - ✓ transferable skills for work.



Great careers in biotechnology



CSL



Manufacturing Technician

CSL Limited ★ 2.9 · [26 reviews](#)

📍 Broadmeadows, Melbourne VIC

🏢 Assembly & Process Work (Manufacturing, Transport & Logistics)

🕒 Full time

💰 Competitive salary + Bonus + Super

The Opportunity

An exciting opportunity exists for a Manufacturing Technician to join our Biotechnology Manufacturing Facility (BMF). Reporting to the Senior Manufacturing Manager Upstream Operations and based at Broadmeadows, you will be required to perform a variety of tasks with the BMF facility to meet compliance cGXP regulations. We are looking for someone who is flexible and adaptable to ensure critical success in this role.

The BMF facility uses mammalian cells and DNA technology to manufacture drugs that will be used to treat life-threatening diseases. The facility works closely with Process Development, Quality, and other technical and business functions to ensure efficient and safe drug substance manufacturing processes for the production of multiple recombinant proteins.

The Role

- Ensure a safe work environment and practices as covered by Occupational Health
- Perform CIP operations
- Inspect single use equipment (bags and tubing sets)
- Operate mixers for process solution preparation
- Weigh chemicals and equipment and environmental cleaning
- Perform line clearances
- Follow all GMP requirements related to the position

Pair your biotech major with an internship



Science and Technology Internship (SCIE30002)

Undergraduate level 3 / Points: 12.5 / Off Campus

This subject involves completion of an 80-100 hour science or technology work placement integrating academic learning in science areas of study, employability skills and attributes and an improved knowledge of science and technology organisations, workplace culture and career pathways. The placement is supplemented by pre- and post-placement classes designed to develop an understanding of science and technology professions, introduce skills for developing, identifying and articulating employability skills and attributes and linking them to employer requirements in the science and technology domains. Work conducted during the placement will be suitable for an undergraduate level of expertise and experience. Pre-placement seminars will also include consideration of career planning and professional skills.

• Summer

• Semester 1

• Semester 2



Ecology and Evolutionary Biology Major

Nicole Rafferty

Major Coordinator



Why major in Ecology and Evolutionary Biology?



- This major is about understanding our **natural world**.
 - Why are some regions more biologically **diverse** than others?
 - What **processes** maintain diversity?
 - How are these processes affected by **climate change**?
- Gain an **interdisciplinary** perspective; genetics, biology, ecosystem science.
- Benefit from a mix of **learning and practice**; theoretical and applied aspects.



The Ecology and Evolutionary Biology Experience



Enriching, hands-on third-year subjects:

- Applied Ecology
- Ecology in Changing Environments
- Evolutionary Genetics and Genomics
- Evolutionary Applications
- Experimental Animal Behaviour
- Field Ecology



The Ecology and Evolutionary Biology Experience



Capstone research experiences provide the opportunity to:

- design your own research project;
- gain hands-on field experience;
- apply research methods to collect and record data; and
- get out of the classroom and into the lab or outdoors!

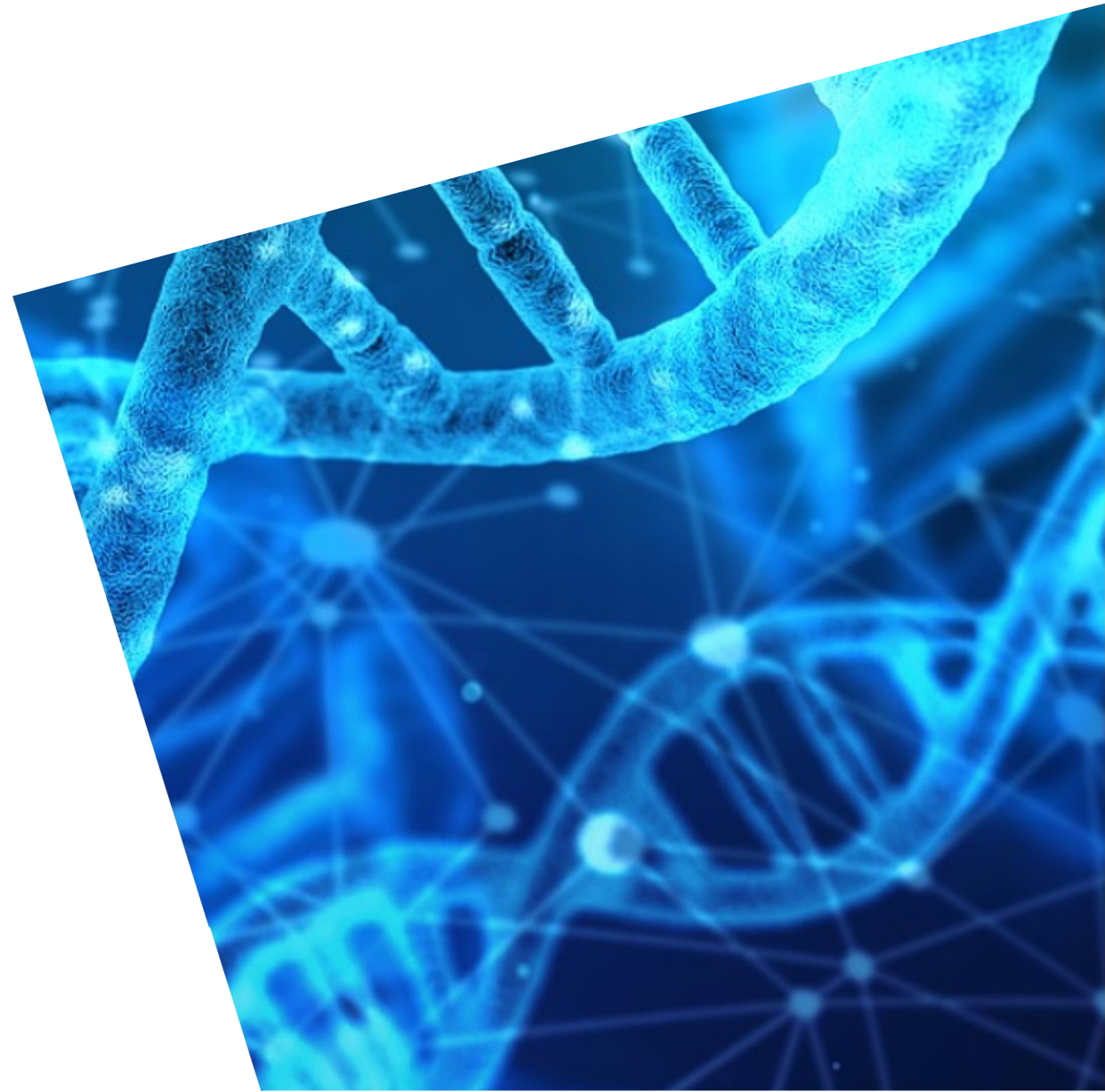




Genetics Major

John Golz

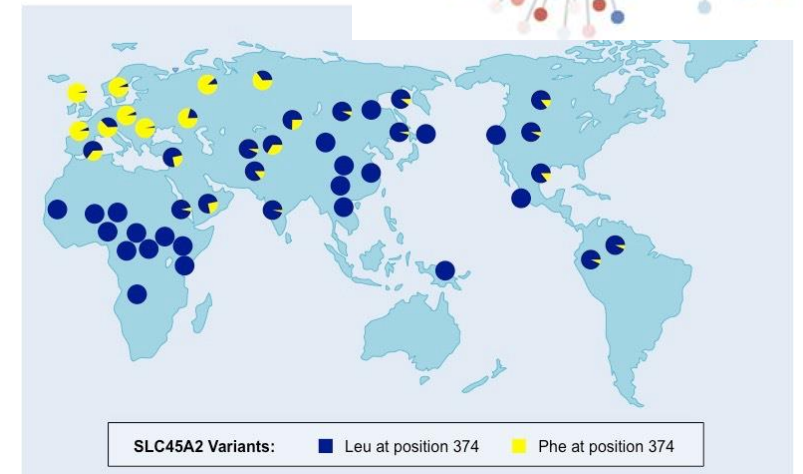
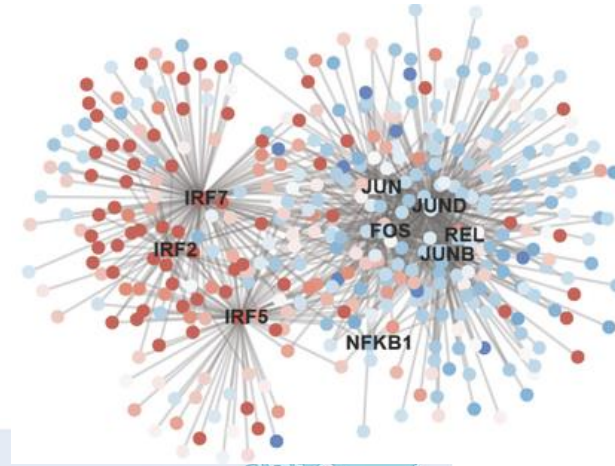
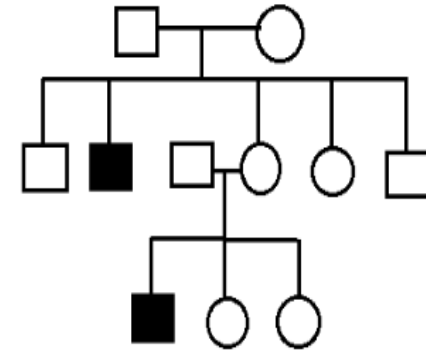
Major Coordinator



Why major in Genetics?



- This major is about studying the genetic basis of life
 - How is genetic information transmitted between generations?
 - How are genes regulated and how do they perform their function?
 - What processes regulate genetic variation within populations?
- Develop analytical skills in genetics and genomics that underpin studies of biological processes
- Mixture of theory-based and experimental subjects

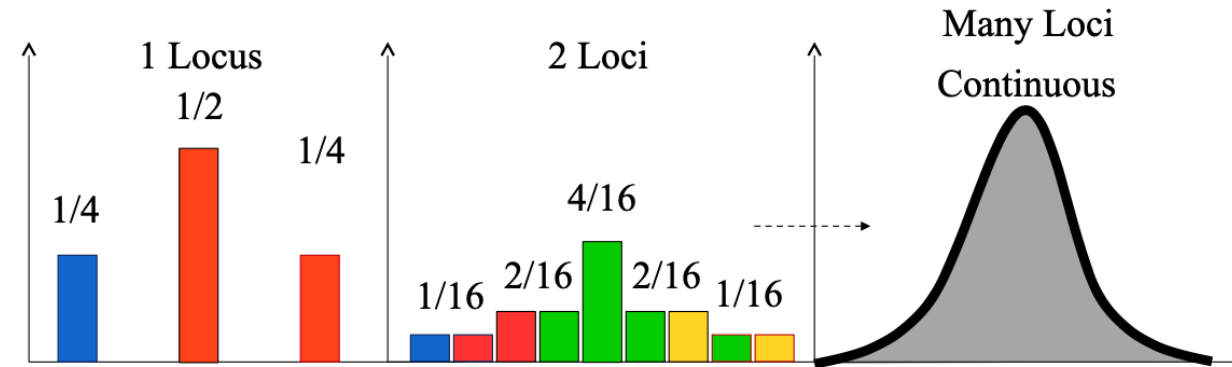


The Genetics Experience



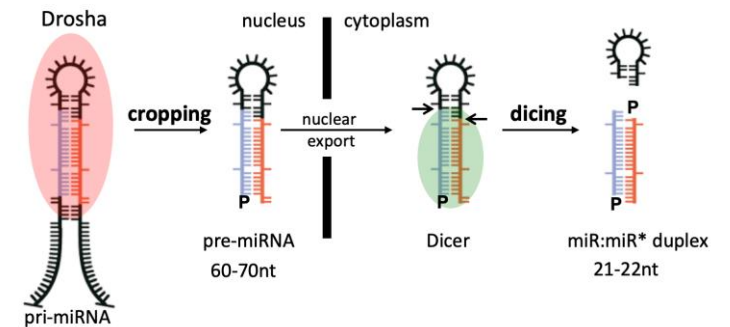
Broad discipline coverage:

- Evolutionary Genetics and Genomics
- Gene: Organisation and function
- Human and Medical Genetics



3-week modular structure

Lectures -> Workshops -> Tutorials -> Q&A



The Genetics Experience

GENE30004 – Genetic Analysis is an integrated practical capstone experience that provides an opportunity to:

- learn techniques commonly used in genetic research
- design your own experimental approach to characterise variation in flies for a variety of traits
- summarize current research papers to your peers in journal club style meetings



Examples:

- Brain damage
- Male courtship behaviour
- Sleeplessness induced hyperactivity
- Resistance to toxins (alcohol)
- Flight strength





Plant Science Major

Jennifer Fox

Major Coordinator



Why major in Plant Science?

- This major is about understanding **plants** at many scales
 - How can we study the phylogeny (relationships) of plants?
 - How can we best manage and conserve vegetation?
 - How can we understand plant processes and manipulate these to solve global challenges?
- Comprehensive study of plants from many perspectives; systematics, evolution, conservation, physiology, molecular biology and biotechnology
- Field and laboratory experiences in a small cohort



The Plant Science Experience



A diverse range of third-year subjects with both field and lab skills:

- **Plant Evolution**
- **Plant Molecular Biology and Biotechnology**
- Field Botany
- Plant Pathology
- Vegetation Conservation and Management
- Ecology in Changing Environments
- Forest Systems



The Plant Science Experience



Capstone experiences in BOTA30002 provide the opportunity to:

- Gain hands-on field experience with Australian flora
- Class research project incorporating sample collection and analysis
- Learn a range of evolutionary analyses; many different techniques and software
- Trip to the Royal Botanic Gardens to engage with the systematic, conservation and curation work done there
- Professional skills: writing and oral presentation



The Plant Science Experience



Capstone experiences in BOTA30005 provide the opportunity to:

- Cutting edge techniques like CRISPR gene editing, the only subject at the Uni offering this
- Comprehensive study of plant biotechnology to solve global challenges and the underpinning plant processes
- Develop and practice laboratory skills (experimental design, bioinformatics)
- Professional skills: communication, preparing for job interviews





Marine Biology Major

Rebecca Morris (rebecca.morris@unimelb.edu.au)

Major Coordinator



Photo: Dean Chamberlain

Why major in Marine Biology?



- **Specialised knowledge** in marine biology systems
- **Practical experience** in laboratory skills, data analysis and undertaking field work.
- Integrated workplace knowledge with a focus on **translating science** into applications.
- Lead to careers in marine ecology, fisheries, commercial aquaculture, environmental consulting and management, science education and tourism.



The Marine Biology Experience



- Study the amazing diversity of marine life in **Blue Planet: Introduction to Marine Biology** (2nd year) and **Marine Biodiversity and Biogeography** (3rd year)
- Learn how scientist and organisations work together to manage impacts that humans have on our oceans in **Applied Marine Biology** (3rd year)

The Marine Biology Experience



The 3rd year capstone experience in Experimental Marine Biology:

- Field-based summer intensive subject in Queenscliff (1.5 hours from Melbourne).
- Design and run your own marine research project.
- Write a research report.
- A fun cohort experience where you study closely with staff and peers.





Zoology Major

Lauren Salo

Major Coordinator



Why major in Zoology?



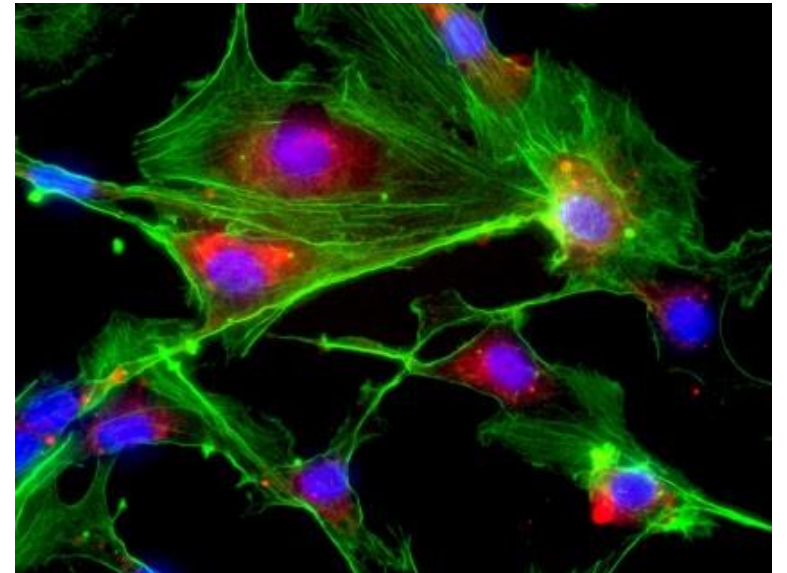
- This major is about **investigating** the complexities of **animal systems** by integrating knowledge from the biology of the cell to the behaviour of whole organisms and populations
- **Explore fundamental & interesting issues** ranging from molecular and cellular mechanisms, animal behaviour and physiology, evolutionary relationships between species, the interaction between animal species and their environment, etc.
- Gain experience applying the theoretical knowledge and frameworks to your own **projects**, working in the **field and/or laboratory**



The Zoology Experience



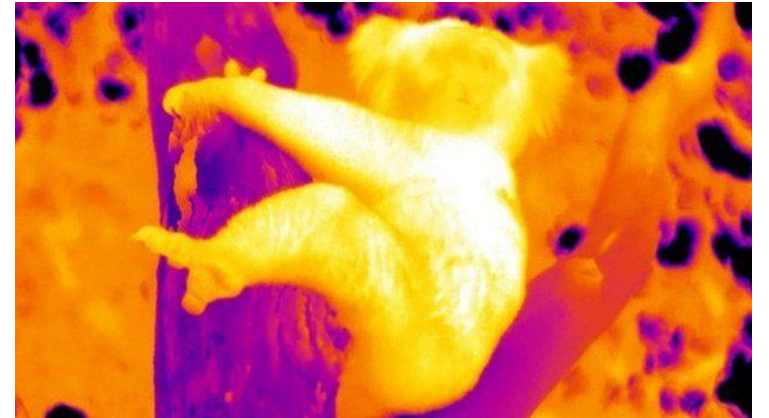
- Find your flavour!
- Pathways through this Major allow you to delve more deeply into **Animal Biology** or **Animal Behaviour**;
- Focus on **Reproduction** and **Development**;
- Dabble in **Marine Biodiversity** and Biogeography or **Health and Disease in Wildlife** populations;
- And many others



The Zoology Experience



- **The 3rd year capstone subjects are an opportunity to:**
- Collaborate with staff and work on your own research project;
- Practice hands-on science;
- Create and carry out real experiments;
- Be a scientist, maybe in the lab or maybe in the field.



Thank you for attending

Please join us in G26/G27 down the hall in BioSciences 1



THE UNIVERSITY OF
MELBOURNE



Recording of the presentation will be available on the
Faculty of Science website