



THE UNIVERSITY of EDINBURGH
The Royal (Dick) School
of Veterinary Studies

An introduction to Applied Conservation Genetics with Wildlife Forensics

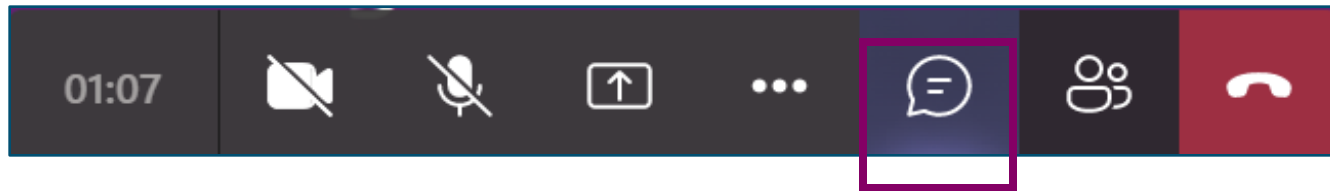


Sílvia Pérez-Espona | 22 May 2025

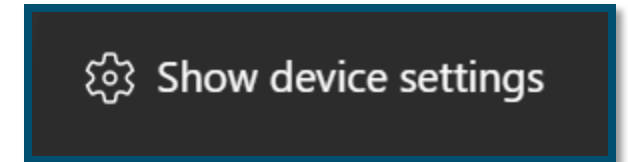
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Audio check

- Can you hear the presenter speaking?
- Please type “no” in the Chat area if you cannot hear the presenter



- If you can't hear:
 - Check your settings by clicking on the three little dots on the options bar and then 'show device settings'. Here you can check and change your speakers.
 - Try signing out and signing back into the session
 - Don't worry, the session is being recorded

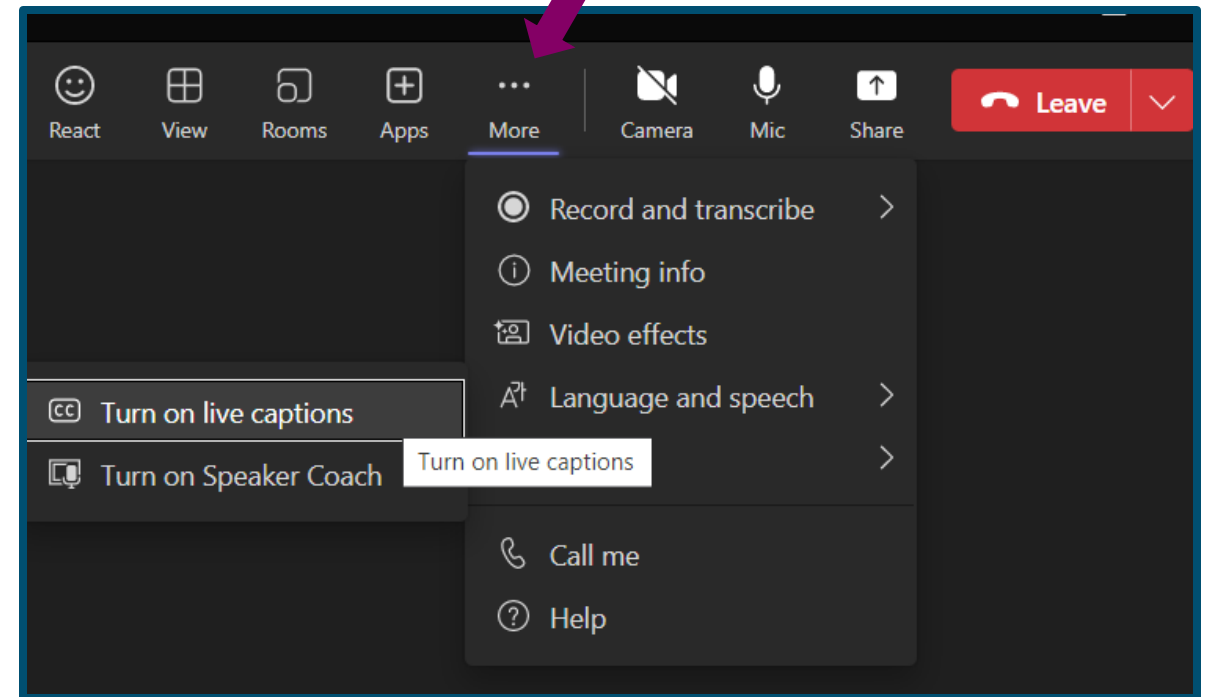


Live captions

You can turn on automated live captions as follows:

- More > Language and speech > Turn on live captions

These are automated therefore won't be 100% accurate



Recording



- Today's session is being recorded
- Any information that you provide during a session is optional and in doing so you give us consent to process this information
- If you don't want your question or name read out in public, you can email your question to futurestudents@ed.ac.uk
- Please note - a few attendees' names may be visible in the recording, if it is important that your name not be visible in the recording, please exit the session and re-enter using an incognito browser and typing in a pseudonym for yourself
- The session will be stored by the University of Edinburgh and published on our website after the event on a non-indexed web page
- ***You will be emailed with a link to watch the session recording by the end of next week***





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An introduction to Applied Conservation Genetics with Wildlife Forensics



ACGWF Team | 22nd May 2025

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Programme Staff

Teaching



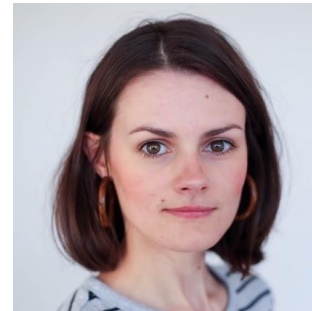
Dr Sílvia Pérez-Espona
Programme Director and Coordinator



Dr Lucy Webster
Deputy Programme Director



Prof Rob Ogden
Programme Tutor/Formal Director



Dr Emily Humble
Programme Tutor



Programme Staff

Administration



Mr Michael Winpenny
Programme Administrator

Student support



Dr Celeste de Blois
Student Advisor

Digital Education Unit



Mr Brian Mather
Senior E-developer



Ms Charlotte Grisham
E-developer



Mr Chris Smith
E-learning assistant



Ms Anna Pan
E-learning assistant



Collaborations



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Programme

- This postgraduate provides a blend of **theoretical and practical** education in the application of **genetic data** to wildlife management and conservation law enforcement.
- The overall aim of the programme is to equip current and future wildlife professionals with the **knowledge, skills and global networks** to address modern challenges in conservation management and law enforcement.

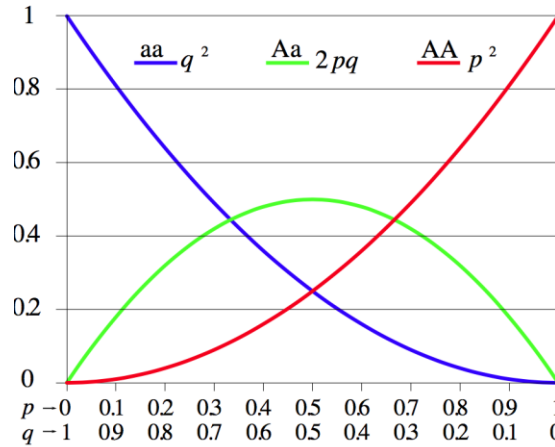


Image from Canva

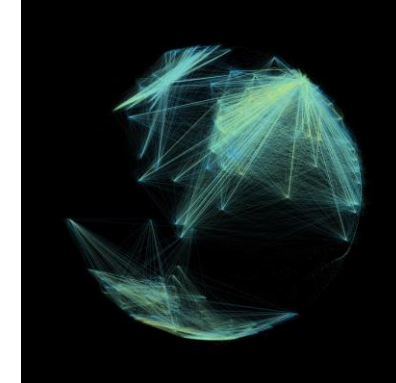


Photo by [Mario Verduzco](#) on [Unsplash](#)

Modalities of the programme

Master of Science
(MSc)
180 credits

3 - 6 years
3 years (if UK loan)
Dissertation in 1 year

Postgraduate
Diploma (PG Dip)
120 credits

2 – 4 years

Postgraduate
Certificate
PG Cert
60 credits

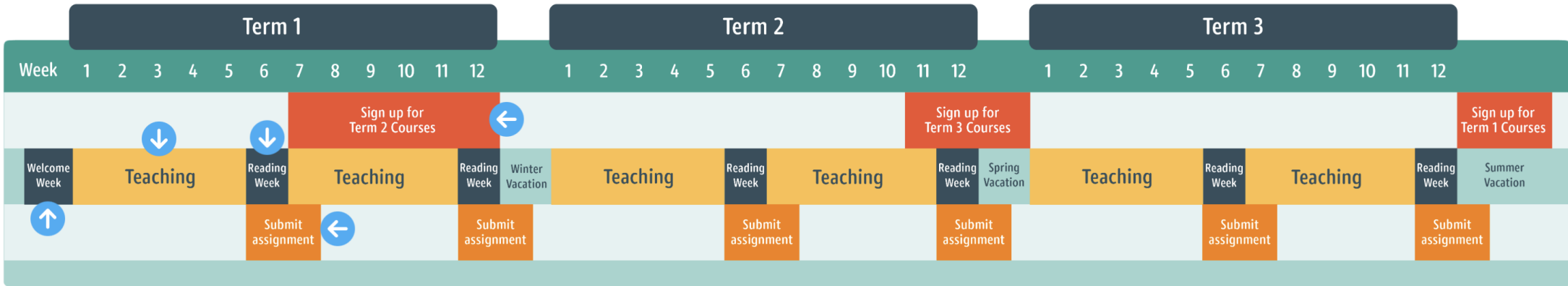
1 – 2 years

Postgraduate
Professional
Development
PPD
Up to 50 credits

Up to 2 years



Academic year structure for taught courses



10 credit courses (5 weeks of teaching)

1 graded assessment

20 credit courses (10 weeks of teaching)

2 graded assessments

Year 1

Term 1

Essential Population Genetic
Theory and Techniques
(20 credits)

Term 2

Introduction to Applied
Conservation Genetics -
Part 1
(10 credits)

Introduction to Applied
Conservation Genetics -
Part 2
(10 credits)

Term 3

Introduction to Wildlife
Forensics
(10 credits)

Genetic Data Analysis for
Conservation
Management and Wildlife
Forensics
(10 credits)



Year 2

Term 1

Applied Conservation
Genetics and Wildlife
Forensics
(20 credits)

Term 2

Elective 1
(10 credits)

Elective 2
(10 credits)

Term 3

The Role of Wildlife
Genetics in Global
Conservation Challenges
(20 credits)

Pre-Dissertation
(no credits)



Year 2

Term 2

Electives

Conservation Genetics

Population Genetics for
Conservation Breeding
(10 credits)

Conservation Genetics for
Reintroductions,
Translocations and
Population Monitoring
(10 credits)

Wildlife Forensics

Quality Management in
Wildlife Forensic Science
(10 credits)

Reporting Forensic
Evidence(10 credits)



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Year 3 Dissertation

Experimental project



Photo by [National Cancer Institute](#) on [Unsplash](#)

Desk-based project



Photo by [Lukas Blazek](#) on [Unsplash](#)



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Year 3 Dissertation examples - experimental

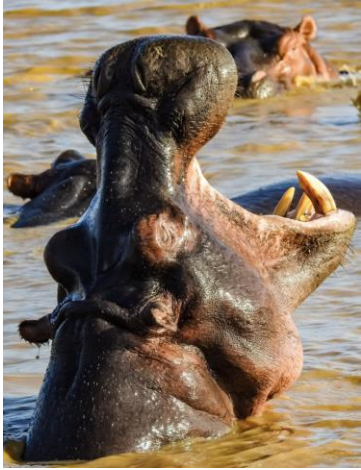


Photo by [Aji Vinister Denistan](#) on [Unsplash](#)

Tool development for
hippopotamus
(*Hippopotamus
amphibious*) DNA
forensics



Photo by [naushad mohamed](#) on [Unsplash](#)

DNA tools to authenticate
trade in CITES listed
species: An investigation
with Reef Manta Ray and
Oceanic Manta Ray



Image from Wikipedia

Ex-situ conservation
genetics of the Pancake
Tortoise
(*Malacochersus tornieri*)



Photo by [Y S](#) on [Unsplash](#)

Conservation genetics
of south Texas canids:
using genetic
approaches to assess
red wolf ancestry and
diet selection



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Year 3 Dissertation examples – desk-based



Photo by [Sercan Jenkins](#) on [Unsplash](#)

A Systematic Review of Population Monitoring Studies of Sea Turtles and Its Application to Conservation



Photo by [Kartik Iyer](#) on [Unsplash](#)

A systematic review of molecular forensic approaches used for identification of species, sex, and geolocation of seized tiger parts



Image from Alex Wild in AntwWki

Landscape and environmental genetics of the army ant, *Eciton hamatum*, in Panama

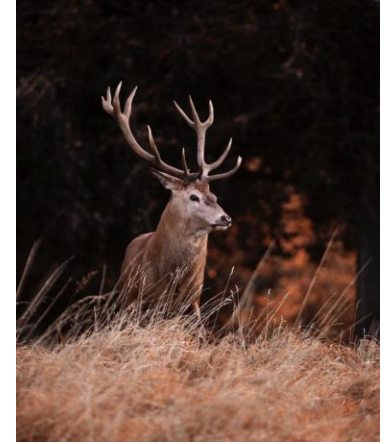


Photo by [Diana Parkhouse](#) on [Unsplash](#)

Investigating the influence of anthropogenic interference on red deer populations in Landes and Sologne, France

Examples of students' career



Bwalya Chibwe

Zambia
Sweden

Since completing her master's, Bwalya has taken on several different roles in conservation research and practice such as **Programme Manager** to the Mistra Geopolitics and the Centre for Climate Science and Policy Research, and **Global Monitoring System Database Manager** for ECO-SOLVE at the Global Initiative Against Transnational Organised Crime.

Bwalya is currently in doing a **PhD** at Linköping University (Sweden) exploring the role digital technologies in biocultural conservation. As part of her research, Bwalya attended last year the Convention on Biological Diversity COP 16 in Colombia.



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Examples of students' career



Claire Delcourt
Luxembourg

Member of Parliament of Luxembourg

Focusing on environmental and agricultural policy

Claire has been working on nature restoration law, biodiversity, food and nutrition policy, animal welfare, PFAS/TFA contamination, GMOs.

She regularly engages with stakeholders, including farmers, researchers, and NGOs, and has been involved in several EU dossiers related to environment and agriculture.

Claire advocates for sustainable, science-based, and responsible solutions.



Examples of students' career



Cordula Walderdoff
Austria

Manager of a forest area at the very steep slopes surrounding the Upper Austrian lake Attersee.

Cordula's job includes traditional economic forestry, management of the forest habitat and wildlife management to prevent wild damage.

"I really enjoyed studying for the MSc. The course outline and aims were clear, lectures well resented and good to follow. I enjoyed working on the assignments, which gave me more insight into individual topics."

"My thesis was a very good opportunity to combine my previous experience in remote sensing with my newly acquired knowledge on population genetics."



LEARN Ultra – Virtual Learning Environment

Applied Conservation Genetics with Wildlife Forensics Base

Content Calendar Announcements (15) Discussions Gradebook Messages Groups



Course Content

 **Getting started - Ultra (05:02)**
Getting started and finding your way around the virtual...



Welcome and Programme Information
Includes programme handbook and staff contacts



Induction Activities
This folder contains activities for you to complete during induction week (new students).



Choosing Your Courses
Course options and timetables



Base course



Student Support

Includes key information on how to find support during your postgraduate studies. The student support hub is particularly helpful and signposts you to some of the wellbeing support services available.



Guidance, Regulations and Study Skills

Includes extensions and exceptional circumstances; fees and finance; study skills resources



Student Representation

Here you will find: Details about your Class Representatives and the Staff Student Liaison Committee

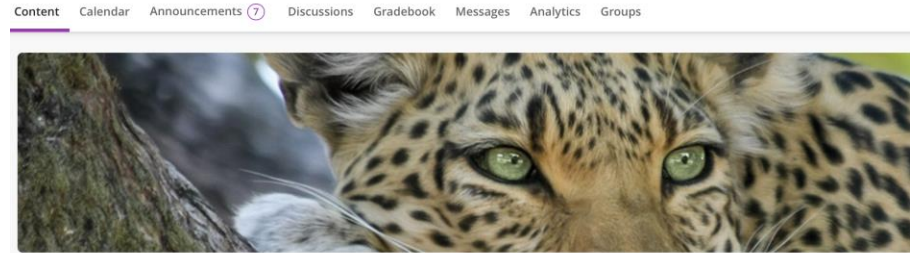


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LEARN Ultra – taught courses

Introduction to Applied Conservation Genetics Part 1 (2024-2025)[SB3]



Course Information

Includes important course information, learning outcomes, course contacts and help and support. (Click to expand)



Library Resources

Reading list, subject guide, DiscoverEd, and Library services.



Assessment

Includes assessment information and submission dropboxes, where to find feedback, and examples of previous assignments.



Live Sessions and Recordings

Includes information about your live sessions, where to find the recordings and what the sessions will be on. (Click to expand)



Week 1: Genetics in Conservation Biology

Welcome to week 1. Your content is available here.



Week 6: Reading Week

Welcome to week 6. This is a time for reading and preparing for your upcoming assessments.



Technical Discussion Board

You can use this discussion board to contact the Digital Education Unit if you have any problems accessing teaching resources or require technical support. Answers will benefit all students. So please get in touch.



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Weekly learning content example

Week 3: Genetic Monitoring - Methods

Welcome to week 3. Your content is available here.

Welcome to Week 3

Week 3 Discussion Board

Complete the exercise described in section 4 of the lecture (part 5 of the slides) and briefly answer the following questions: After considering the results of Ardianiono and colleagues' paper on the effect of human activities in Komodo dragon populations, list two genetic monitoring projects that could be conducted in Komodo National Park. After watching the two videos on Komodo dragon, have your views of komodo conservation and ecotourism changed?

Videos

This folder contains two videos for you to watch. How DNA from snow helps scientists track elusive animals Forest in the lab

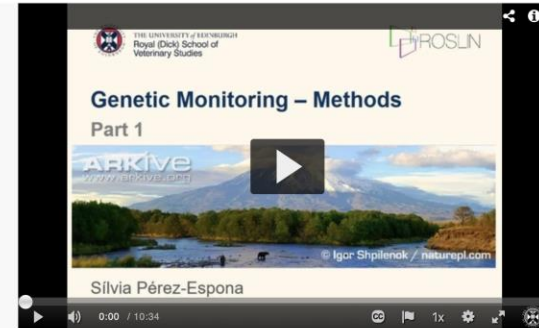
Lecture - Genetic Monitoring - Methods (Part 1)

Lecture - Genetic Monitoring - Methods (Part 2)

Lecture - Genetic Monitoring - Methods (Part 3)

Lecture - Genetic Monitoring - Methods (Part 4)

Lecture - Genetic Monitoring - Methods (Part 5)



Dr Silvia Pérez-Espona (approx. running time 10 mins)

The MP3 (audio), slides (PDF) and notes (PDF) of the presentation are provided for you to download to your personal computer. Please note that the lecture is interactive and includes a number of **Reflective Points** for you to consider.

[View this lecture with subtitles \(automatically generated\)](#)

Genetic Monitoring - Methods Part1 - Audio Only (MP3)



Genetic Monitoring - Methods (Part 1) - Notes (PDF)

Genetic Monitoring - Methods (Part 1) - Slide Handouts (PDF)



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Assessment



Assessment and Feedback Information

Assessment details, important dates, where to find feedback, and other assessment information.



Generative AI guidance for students

Please read the guidance on the use of generative AI in assessments. By following the guidance, you will be able to benefit from using GenAI while also reducing the likelihood of engaging in academic misconduct. Please consult your assignment brief and if you have any questions please ask the programme team.



Referencing your work using Harvard

Guidance on the Harvard referencing system.



Exceptional Circumstances Deadlines

Please check this link for the Vet School PGT Exceptional Circumstances application deadline for this course.



Formative Assessment: MCQs (non-assessed)

An open-book multiple choice questions test.



Formative Assessment: Poster Critique (non-assessed)

Includes assessment criteria, submission details and submission dropbox. Deadline: Friday 24th January at 13:00 GMT



Poster critique- formative

Due date: 24/01/2025, 13:00 (GMT) | Formative

IMPORTANT: Please use your EXAM NUMBER as the title of your submission. This keeps it anonymous for the marker and also allows admin to record your submission as received. By submitting this assignment, you indicate your agreement with the OWN WORK DECLARATION.



Assignment: Poster Preparation and Presentation

Includes assessment criteria, submission details and submission dropbox. Deadline: Tuesday 18th February at 13:00 GMT



Assessment Discussion



Ask your questions about the assessment here.



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Assessment type examples

Article critique



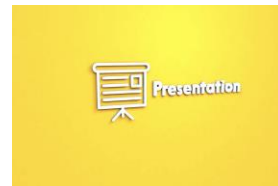
Project plans



Crime scene investigation



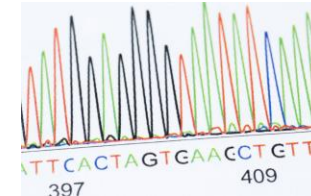
Poster preparation and presentation



Group debate and policy brief



Data interpretation report



Reintroduction plan



Funding proposal




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LEARN Ultra – Pre-dissertation / Dissertation



Dissertation (2024-2025)[FLEX]



[Content](#) [Calendar](#) [Announcements](#) (11) [Discussions](#) [Gradebook](#) [Messages](#) [Groups](#)







Course Content 



**Course Information**
Includes important course information, learning outcomes, course contacts and help and support. (Click to expand) 



**Library and Academic Resources**
This includes information and links to valuable courses and resources that can help you prepare for your dissertation year. Please ensure you consult these, in particular, the Postgraduate Academic Study Skills (PASS) course. The IAD also provide general advice and guidance as well as useful workshop. 



**About your Dissertation Year**
This includes the dissertation year guide which provides information about writing and submitting your dissertation as well as other important information. 



**Referencing**
Knowing how to reference correctly is a crucial skill when writing your dissertation. Here you will find information on why and how you need to reference. There is also a link to the Cite Them Right website, as well as information about referencing management software. 

**Ethics**
Depending on your research project, it may be necessary to go through an ethical review process. This contains some guidance and links to HERC and VERC. There is also a discussion board for you to ask any questions about the ethics process. 

**Risk Assessment**
All potentially hazardous university activities, including desk-based, lab-based, or field-based research projects, must undergo a risk assessment. Here you will find instructions and a range of risk assessment forms that you need to complete. There is also a discussion board where you can post any questions about the risk assessment process. 

**Statistics**
Statistics is an essential part of a dissertation. Here you will find links to some very valuable resources including the excellent Research and Statistics Sharepoint site. There are also instructions on how to download statistical software. 

**Technical Discussion Board** 
You can use this discussion board to contact the Digital Education Unit if you have any problems accessing teaching resources or require technical support. Answers will benefit all students. So please get in touch.

**Dissertation Thesis Submission** 



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Fees and costs

Academic Year 2025/6

10 credits £1,065

20 credits £2,125

Annual tuition fee increase

The tuition fee shown in the table is for entry into AY 2025-26 and is for one year only.

Tuition fees increase every year in the majority of cases.

If you intend to study over additional years, you should take this annual tuition fee increase into consideration when you estimate your fees for a degree.

Part-time intermittent study

This mode of study allows you to complete a degree at your own pace.

You will only be charged when you register for each course, based on the number of credits attached to it. This is described as Invoiced at Course Level (ICL).

Our credits are charged in blocks. The price per credit block is listed beside each degree in the table below.

Taking courses from other programmes

If you take a course from another programme while studying, you will be charged the fee attached to that course. This may mean you are charged more than the course fees for your programme.



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Funding

UK government loans

If you live in the UK, you may be able to apply for a postgraduate loan from one of the UK's governments. The type and amount of financial support you are eligible for will depend on:

- your programme
- the duration of your studies
- your tuition fee status

Programmes studied on a part-time intermittent basis are not eligible for funding. PG Cert and PG Dip awards are also not eligible. However, our 3-year MSc option should be eligible for funding under most schemes.

- [UK government and other external funding](#)

Other funding opportunities

- [Online Learning Scholarships](#) Search for scholarships and funding opportunities:
- [Search for funding](#)

(Revised 9 May 2025 to update UK government loans information)

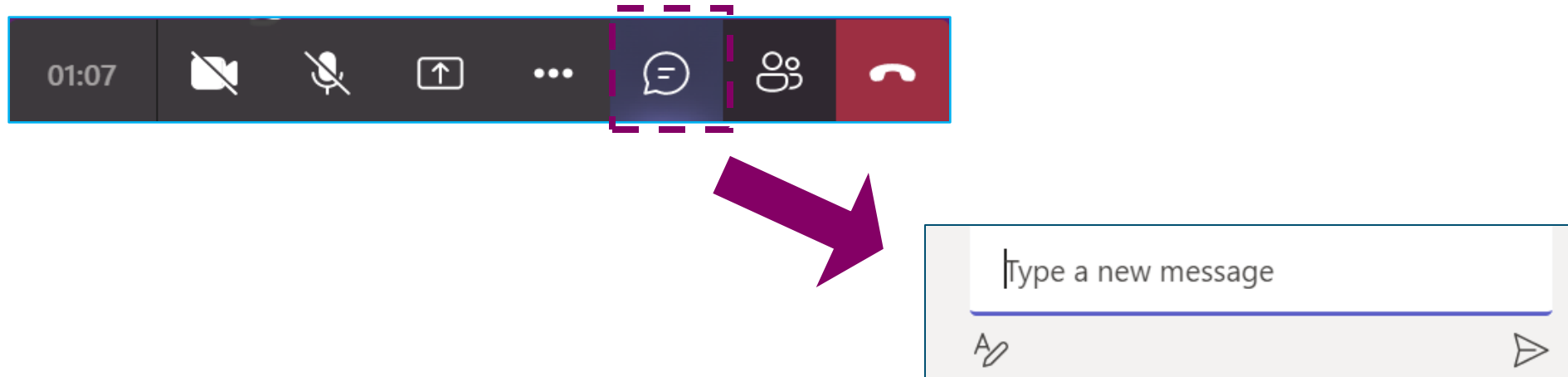
Search for scholarships and funding opportunities:

- [Search for funding](#)
-



Asking questions

- Type your question into the Chat Area



Contact details for follow-up questions

We apologise if we did not get through all of your questions in the time allotted for this session.

If you have further questions that have not been answered, please email:
conservation.genetics@ed.ac.uk





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Thank you

The Applied Conservation Genetics Programme Team
conservation.genetics@ed.ac.uk

Professional skills



**Project
planning &
grant writing**



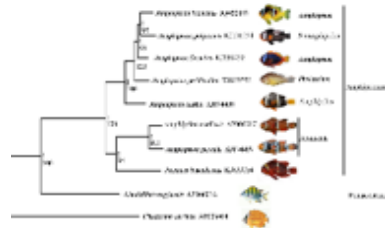
**Application
of emerging
technologies**



**Wildlife genetic
data analysis**



**Wildlife
Forensic
casework**



**Genetic data
interpretation**



**Validating
methods**



**Engagement:
stakeholders
and policy
makers**



**Writing reports
and presenting
evidence**



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Academic skills



**Sourcing
Information**



**Understanding
Data**



**Providing
Feedback**



**General
Resources**



**Critical
Reading**



**Critical
Writing**



**Presentation
Skills**



**Systematic
Reviews**



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Library – reading lists

Resource List

Access readings for this course:



Resource List

How to use Resource Lists

[Video: Resource Lists for Students \(4:09\)](#)

DiscoverEd

Use DiscoverEd to search the Library's collections and find e-books, journal articles and more.

[DiscoverEd](#)



Week 3: Genetic Monitoring – Methods (5)



Genetic monitoring as a promising tool for conservation and management

Article Schwartz, Michael K. ; Luikart, Gordon ; Waples, Robin S., Trends in Ecology & Evolution, 22(1), 2007, 25 - 33

Note: Please read pages 25-27 for background information on genetic monitoring methods. Most of the lecture for week 4 will be based on this paper.

Essential

[View online](#) • [Download article](#)

Complete



The GEO Handbook on Biodiversity Observation Networks

E-book Walters, Michele ; Scholes, Robert J, Cham, Springer International Publishing : Imprint: Springer, 2017

Note: Please read Chapter 5 'Monitoring changes in genetic diversity'

Recommended

[View online](#)

Complete



Population genomics for wildlife conservation and management

Article Hohenlohe, Paul A. ; Funk, W. Chris ; Rajora, Om P., Molecular ecology, 30(1), 2021-01, 62 - 82

Further reading

[View online](#) • [Download article](#)

Complete



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