

BL4249 Scientific Diving

(BL4249 online module handbook version 35)

Credits: 15

Semester: 2

Module Organiser

Dr Miguel Barbosa

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Pre-requisite Modules:

BL4249 Pre-Requisite.

Permission of Biology

Honours Adviser required,

PADI Advanced Open Water

Diver or BSAC Sports Diver

(or equivalent)



image: diver carrying quadrat during survey activities

Anti-requisite Modules:

Post-requisite Modules:

Additional Module

Information:

[Please check MMS regularly for additional module information](#)

This module will provide both theoretical and practical experience of the techniques used by scientific divers. The module is restricted to students who have an existing diving qualification (PADI Advanced Open Water Diver or BSAC Sports Diver or equivalent). Seminars during the field trip will cover diving safety, dive project planning, management, risk assessment and the theory behind underwater surveying techniques. Abroad, students will receive training in underwater marine identification, construction and deployment of underwater surveys and sampling techniques, gaining practical experience of recording, analysing and interpreting survey data. Then they conduct a mini-research project using suitable survey techniques and present their findings through a report and a presentation. There are additional costs attached to this module which the student will be expected to meet.

[BL4249View content for BL4249 \(2022/3\) in the Module Management System \(MMS\)](#)

[View the current Biology Online Module Catalogue for BL4249](#)

[BL4249View BL4249 \(2022/3\) in the University of St Andrews Module Catalogue](#)

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BL4249: Timetable

Legend (not all modules have every event type):

lecture	tutorial	workshop	practical	other
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Semester 2: Week -2

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 27-12-2022 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O1: Departure for Edinburgh Airport <small>2022-3_BL4249_01</small> Departure will be 10/11 January 2023 depending on flight connections
Wednesday 28-12-2022 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O2: Research centre briefing and diving kit allocation <small>2022-3_BL4249_02</small>
Wednesday 28-12-2022 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O3: Techniques dives- Buoyancy skills <small>2022-3_BL4249_03</small>
Wednesday 28-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O4: Techniques dives- Skills check <small>2022-3_BL4249_04</small>
Wednesday 28-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O5: Techniques dives- Species ID <small>2022-3_BL4249_05</small>
Thursday 29-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O6: Techniques dives - Time interval survey <small>2022-3_BL4249_06</small>
Thursday 29-12-2022 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O7: Techniques dives- Quadrat sampling <small>2022-3_BL4249_07</small>
Thursday 29-12-2022 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O8: Techniques dives - Line transect sampling <small>2022-3_BL4249_08</small>
Friday 30-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O9: Techniques dives - Point transect sampling <small>2022-3_BL4249_09</small>
Friday 30-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O10: Techniques dives -Video quadrat sampling <small>2022-3_BL4249_010</small>
Friday 30-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O11: Techniques dives - BRUV Sampling <small>2022-3_BL4249_011</small>
Saturday 31-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O12: Techniques dives - Species accumulation curve <small>2022-3_BL4249_012</small>
Saturday 31-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O13: Techniques dives - Cleaning station exercise <small>2022-3_BL4249_013</small>
Saturday 31-12-2022 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O14: Techniques dives - Fish species ID <small>2022-3_BL4249_014</small>
Sunday 01-01-2023 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O15: Techniques dives - Home range exercise <small>2022-3_BL4249_015</small>
Sunday 01-01-2023 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O16: Techniques dives - Herbivory exercise <small>2022-3_BL4249_016</small>
Sunday 01-01-2023 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O17: Techniques dives - Coral structural complexity exercise <small>2022-3_BL4249_017</small>

Semester 2: Week -1

DATE & TIME	VENUE	STAFF	EVENT
Monday 02-01-2023 00:00 to 00:00	Other	Dr Miguel Barbosa -	Other O18: Project work and presentations <small>2022-3_BL4249_O18</small>
Monday 02-01-2023 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O19: Project data collection <small>2022-3_BL4249_O19</small>
Tuesday 03-01-2023 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O20: Project data collection <small>2022-3_BL4249_O20</small>
Wednesday 04-01-2023 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O21: Project data collection <small>2022-3_BL4249_O21</small>
Thursday 05-01-2023 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O22: Project data collection <small>2022-3_BL4249_O22</small>
Friday 06-01-2023 00:00 to 00:00	Offsite	-	Other O23: Night dive <small>2022-3_BL4249_O23</small>
Saturday 07-01-2023 00:00 to 00:00	Offsite	Dr Miguel Barbosa -	Other O24: Return flight <small>2022-3_BL4249_O24</small>

BL4249: Reading List

[BL4249Click for BL4249 reading list](#)

BL4249: Assessment

Coursework = 100%

[BL4249View coursework assessment details for BL4249 \(2022/3\) in MMS](#)

The following related information applies to all Biology modules:

School of Biology Marking Criteria:	See School of Biology Undergraduate Handbook
Late submission of continuous assessment work:	All late submissions of coursework that do not require electronic submission should be made via the Biology Teaching Office, Level 2, BMS Building, North Haugh.
Exam details:	See School of Biology Undergraduate Handbook ;All Biology exams will be conducted online for 2022-23.
Exam timetable:	see http://www.st-andrews.ac.uk/students/academic/examinations/examtimetables/current/
Expected attendance:	See School of Biology Undergraduate Handbook for detailed attendance requirements.
Good Academic Practice & Avoiding Academic Misconduct:	See School of Biology Undergraduate Handbook
University Student Handbook:	University Student Handbook
School and University regulations in the School and University Undergraduate Handbook relating to absence reporting, penalties and rules for late submission of work, extensions for coursework, return of coursework, S-coding, good academic practice and Academic Alerts.:	School of Biology Undergraduate Handbook University Student Handbook

Who to ask

(Information in this section applies to all Biology Modules)

Before contacting staff, students should check the content of the Biology Undergraduate Handbook, the module handbook and specific task instructions.

Questions about

General teaching matters

Rescheduled or cancelled events

Lecture or practical content

Completing assessed practical assignments

Completing assessments

Marking on continuous assessment

Marking on exams

Rearranging practical days

Absence and/or extensions

Difficulties with academic progress which impact more than one module:

Overall performance, progress or future directions:

Disability:

For advice and support on any issue e.g. academic, financial, international, personal or health matters, or if you are unsure of who to go to for help:

University assistance with urgent matters out of office hours:

Contact

Biology Teaching Office (bioteach@st-andrews.ac.uk)

Check your University email

The lecturer who presented the material

The lecturer who set the assignment

Module Organiser ([Dr Miguel Barbosa mb334@st-andrews.ac.uk](mailto:Dr.Miguel.Barbosa.mb334@st-andrews.ac.uk))

The Demonstrator or Module Organiser ([Dr Miguel Barbosa mb334@st-andrews.ac.uk](mailto:Dr.Miguel.Barbosa.mb334@st-andrews.ac.uk))

Module Organiser ([Dr Miguel Barbosa mb334@st-andrews.ac.uk](mailto:Dr.Miguel.Barbosa.mb334@st-andrews.ac.uk))

[Dr Susan Gurney](#)

Module Organiser ([Dr Miguel Barbosa mb334@st-andrews.ac.uk](mailto:Dr.Miguel.Barbosa.mb334@st-andrews.ac.uk))

and the Biology Teaching Office (bioteach@st-andrews.ac.uk)

Year Coordinator

See [School of Biology Undergraduate student handbook](#) for list:

<https://biology.st-andrews.ac.uk/students/wp-content/uploads/sites/6/2022/08/Undergraduate-Handbook-2022-23-New-version.pdf>

Advisor of Studies

Disability Coordinator ([Dr Jacqueline Nairn jn37@st-andrews.ac.uk](mailto:Dr.Jacqueline.Nairn.jn37@st-andrews.ac.uk))

Advice & Support Centre

Address: 79 North Street, St Andrews

Email: theasc@st-andrews.ac.uk

Web: <https://www.standrews.ac.uk/ask-a-question/>

Tel: 01334 462020

Tel: 01334 476161

Web: <https://www.st-andrews.ac.uk/students/advice/counselling/incrisis/>

Biology Teaching Office:

We are happy to hear from you about teaching matters. The School of Biology Teaching Office is open Monday to Friday 09.00 - 13.00 and 14.00 - 17.00. School of Biology staff will respond to your emails during these hours. Our team will provide a response to you within three working days.

Biology Teaching Office (Level 2), University of St Andrews, Biomolecular Sciences Building, North Haugh, St Andrews, Fife KY16 9ST

Email: bioteach@st-andrews.ac.uk

Tel: 01334 46 3602 or 3566

BL4249: Contributing Staff



Dr Miguel Barbosa
(Module Organiser)

Associate Lecturer (Education
Focussed)

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Associate Lecturer (Education
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BL4249: Learning Outcomes

Students completing module BL4249 successfully should be able to:

- Explain and to employ scientific diving techniques, including transect tapes, PVC quadrats
- Learn an array of marine behavioural techniques
- Identify and describe key marine groups such as fishes and corals
- Design and implement an underwater project based on skills and protocols learned
- Analyse and interpret marine biology data

BL4249: Acquired Skills

Practical Skills

- Field sampling methods (Invertebrates)
- Fieldwork safety awareness
- Sampling of sensitive sites / organisms
- Scientific diving
- Sustainability related practical skills

Transferable Skills

- Group discussion - leading
- Group discussion - participating
- Journal club
- Leading short activity
- Long group presentation on given topic (>15 min)
- Long group presentation on project idea (>15 min)
- Podcast
- Short group presentation on project idea (up to 15 min)
- Short informal presentation (using PowerPoint or not)
- "Full" practical write-up (Intro, Methods, Results, Discussion)
- Blog
- Research proposal
- Critically evaluating sources/information
- Finding information on the web
- Finding literature
- Referencing
- Searching databases
- Sourcing figures/tables
- Ethical considerations
- Generating questions
- Impact considerations
- Peer assessment
- Reflective analysis
- Role play
- Problem-solving questions
- Biodiversity analysis
- Chi-square test
- Data analysis
- Data analysis (depending on project)
- Data presentation
- Deal with outliers
- Distinguish different types of data
- Produce graphs/figures
- Produce tables
- Significant figures
- Use R or R Studio
- Lab or field notebook
- Critiquing experimental design
- Designing experiments

- Sustainability Related Skills
- Managing a team
- Organising group work
- Working in pairs/small groups

Policies

(Information in this section applies to all Biology Modules)

- The procedures and regulations followed by the School of Biology are outlined in the [University Handbook](#) and in the [School of Biology Undergraduate Handbook](#) (<https://biology.st-andrews.ac.uk/students/wp-content/uploads/sites/6/2022/08/Undergraduate-Handbook-2022-23-New-version.pdf>).
- All coursework associated with the module must be completed and submitted by its due date.
- Specific School regulations relating to absence reporting, penalties and rules for late submission of work, extensions for coursework, return of coursework, S-coding, Good Academic Practice and Academic Alert are stated in the [School of Biology Undergraduate Handbook](#) and students are required to carefully read these regulations.
- Students are also referred to the University Handbook, available at: <http://www.st-andrews.ac.uk/studenthandbook/>