

BL4255 Marine and Environmental Biotechnology

(BL4255 online module handbook version 23)

Credits: 15

Semester: 1

Module Organiser

Dr Valerie Smith
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Pre-requisite Modules:

Permission of biology
honours adviser required

Anti-requisite Modules:

Post-requisite Modules:

Additional Module

Information:

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

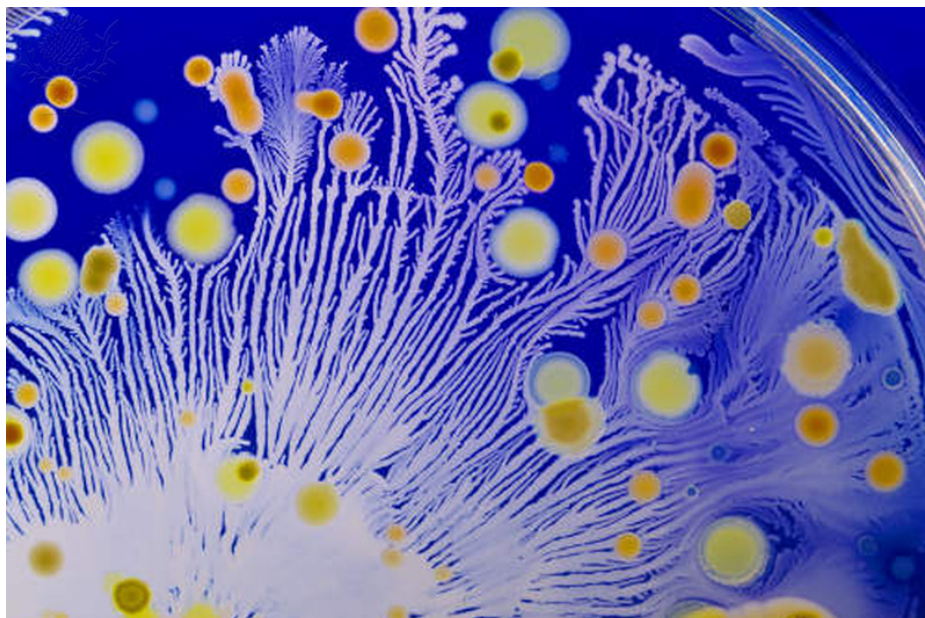


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This module will examine the diversity of useful natural products or services that are derived from marine organisms or other natural environments. In particular it will cover a variety of novel compounds of pharmaceutical or nutraceutical value considering also the process from bio-prospecting through the drug discovery pipeline to clinical use. In addition the module will examine other compounds and processes from marine and environmental sources that have application in ways. These include biotechnology in aquaculture and environmental management, bioengineering and sustainable use of natural resources through biotechnology. The societal, ethical and environmental issues associated with technical exploitation of the natural environment are also considered. Learning and assessed work are designed to foster creativity and ingenuity, and to present a 'business-facing' aspect of biology.

[View the current Biology Online Module Catalogue for BL4255](#)

[BL4255View BL4255 \(2018/9\) in the University of St Andrews Module Catalogue](#)

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BL4255: Timetable

Legend (not all modules have every event type):

lecture	tutorial	workshop	practical	other
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Semester 1: Week 1

DATE & TIME	VENUE	STAFF	EVENT
Thursday 20-09-2018 11:05 to 13:00	Medical and Biological Sciences Building Tutorial Room 13	VJS	Lecture L1: Introduction & the drug discovery pipeline 2018-9_BL4255_L1

Semester 1: Week 2

DATE & TIME	VENUE	STAFF	EVENT
Thursday 27-09-2018 11:05 to 13:00	Medical and Biological Sciences Building Tutorial Room 13	VJS GrpA	Lecture L2: Anti-infective agents 2018-9_BL4255_L2 Student presentations

Semester 1: Week 3

DATE & TIME	VENUE	STAFF	EVENT
Friday 05-10-2018 14:05 to 16:00	Medical and Biological Sciences Building Tutorial Room 1	VJS GrpB	Lecture L3: Analgesics & anti-inflammatory agents 2018-9_BL4255_L3 Biotech in food production and/or security

Semester 1: Week 4

DATE & TIME	VENUE	STAFF	EVENT
Wednesday 10-10-2018 14:05 to 16:00	Medical and Biological Sciences Building Tutorial Room 13	VJS GrpA	Lecture L4: Anti-cancer drugs 2018-9_BL4255_L4 Useful products from venoms & natural toxins

Semester 1: Week 5

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 16-10-2018 11:05 to 13:00	Bute Building C26	VJS GrpB	Lecture L5: Diagnostics 2018-9_BL4255_L5 Useful compounds from extreme environments

Semester 1: Week 7

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 30-10-2018 11:05 to 13:00	Bute Building C26	VJS VJS	Lecture L6: Bio-remediation of waste water 2018-9_BL4255_L6 Examples of Dragon's Den

Semester 1: Week 8

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 06-11-2018 11:05 to 13:00	Bute Building C26	VJS VJS	Lecture L7: Disease control in aquaculture 2018-9_BL4255_L7 Feedback on Science article and Q & A for DD exercise

Semester 1: Week 9

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 13-11-2018 11:05 to 13:00	Bute Building C26	VJS GrpA	Lecture L8: Bio-robotics & biomechanics 2018-9_BL4255_L8 Biotechnology: minerals, fuels or energy

Semester 1: Week 10

DATE & TIME	VENUE	STAFF	EVENT
Thursday 22-11-2018 11:00 to 13:00	Medical and Biological Sciences Building Tutorial Room 13	VJS GrpB	Lecture L9: Exobiology 2018-9_BL4255_L9 Biotechnology in pollution clean up

Semester 1: Week 11

DATE & TIME	VENUE	STAFF	EVENT
Wednesday 28-11-2018 14:00 to 17:00	Mathematical Institute LTB	VJS Dragon	Other O1: Dragons Den pitches <small>2018-9_BL4255_01</small>

BL4255: Reading List

[BL4255 Click for BL4255 reading list](#)

BL4255: Assessment

Practical Examinations = 30%, Coursework = 70%

Assessment:	Science article
Due by:	29/10/2018 13:10
Feedback due by:	12/11/2018 13:10
Type:	Turnitin
Weight:	30%

Assessment:	Business plan
Due by:	28/11/2018 14:10
Feedback due by:	12/12/2018 14:10
Type:	Turnitin
Weight:	35%

Assessment:	Presentation pitch
Due by:	28/11/2018 17:00
Feedback due by:	12/12/2018 17:00
Type:	Turnitin
Weight:	35%

(MMS assessment data cached: 24 April 2019
23:20:18.)

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 late submissions box in the Biomolecular Science Building (beside the Teaching Office)
Exam details:	See School of Biology Undergraduate Handbook
Exam timetable:	see http://www.st-andrews.ac.uk/students/academic/examinations/examtimetable/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)

Questions about different aspects of the module should be directed to different people:

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 Valerie Smith vjs1@st-andrews.ac.uk)

The Demonstrator or Module Organiser (Dr Valerie Smith vjs1@st-andrews.ac.uk)

Module Organiser (Dr Valerie Smith vjs1@st-andrews.ac.uk)

[Grant Brown](#)

Module Organiser (Dr Valerie Smith vjs1@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:

<http://biology.st-andrews.ac.uk/documents/UndergraduateHandbook.pdf>

Advisor of Studies

Disability Coordinator (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, The Biology Hive, New Technology Centre, University of St Andrews, North Haugh, St Andrews, Fife KY16 9SR

Email: bioteach@st-andrews.ac.uk

Tel: 01334 463602/3566

BL4255: Contributing Staff

BL4255: Learning Outcomes

Students completing module BL4255 successfully should be able to:

- Understand what biotechnology is and why it is an important and wide-ranging discipline
- Appreciate of the diversity of drugs, products and services have and can be sourced from the natural environment
- Be cognisant of bioprospecting and what is meant by the drug discovery pipeline
- Understand what clinical trials are and the need for informed consent
- Have gained practice giving short pitch presentations to non-experts
- Prepare a business plan
- Demonstrate creativity in imagining a biotechnological product or service of potential commercial use

BL4255: Acquired Skills

Practical Skills

Transferable Skills

- Group discussion - leading
- Group discussion - participating
- Short individual presentation on given topic (up to 15 min)
- Short individual presentation on project idea (up to 15 min)
- Short informal presentation (using PowerPoint or not)
- Business plan
- Science journalism piece aimed at general audience
- Critically evaluating sources/information
- Finding information on the web
- Finding literature
- Peer assessment
- Role play

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://synergy.st-andrews.ac.uk/biocurrentstudent/files/2017/09/UndergraduateHandbook.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/>