

# BL4211 Antimicrobials Mode of Action and Resistance

(BL4211 online module handbook version 25)

**Credits:** 15

**Semester:** 1

**Module Organiser**

Dr Peter Coote

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01334 463406

**Pre-requisite Modules:**

Before taking this module  
you must pass BL3311

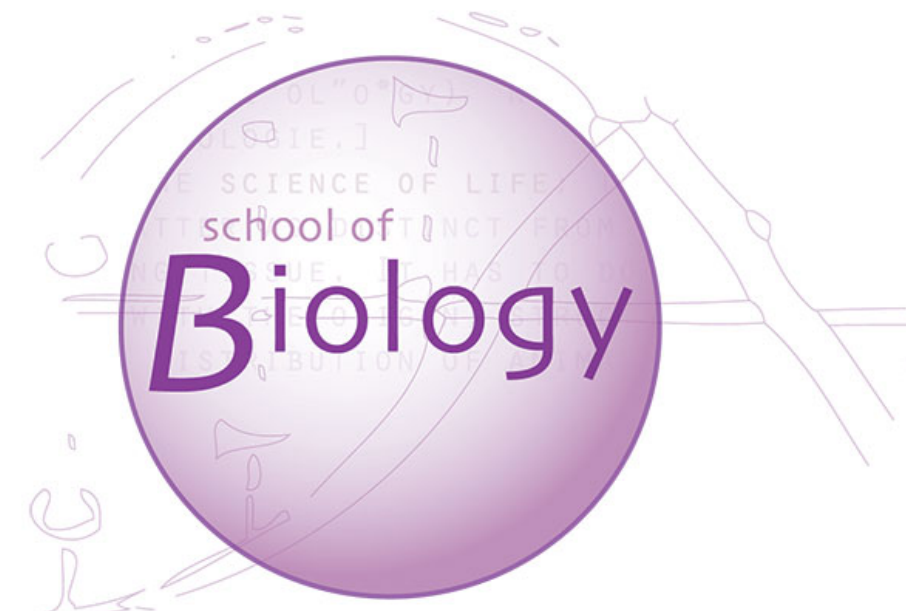
**Anti-requisite Modules:**

**Post-requisite Modules:**

**Additional Module**

**Information:**

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



This module will commence by establishing the fundamental basis of antimicrobial efficacy in terms of selective toxicity, with a brief history of antimicrobials and factors that make the ideal antimicrobial. This will be followed by study of the known inhibitory action of antibacterial and antifungal drugs at the molecular level, and study of the molecular basis of microbial resistance to these drugs. Lastly, potential new sources of antimicrobials will be considered, particularly antimicrobial peptides and 'natural' antimicrobials.

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[BL4211View content for BL4211 \(2023/4\) in the Module Management System \(MMS\)](#)

[View the current Biology Online Module Catalogue for BL4211](#)

[BL4211View BL4211 \(2023/4\) in the University of St Andrews Module Catalogue](#)

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# BL4211: 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
Tuesday 12-09-2023 16:00 to 17:00	Biomolecular Sciences Building BMS lecture theatre	<a href="#">Dr Peter Coote</a> -	Lecture L1: <b>1. Introduction</b> <a href="#">2023-4_BL4211_L1</a>
Thursday 14-09-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Tutorial T1: <b>Group Discussion 1</b> <a href="#">2023-4_BL4211_T1</a> Factors that make the ideal antimicrobial

## Semester 1: Week 2

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 19-09-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Lecture L2: <b>2. Introduction to antibiotic resistance</b> <a href="#">2023-4_BL4211_L2</a>
Thursday 21-09-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Other O1: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O1</a> Beta-lactams - penicillin

## Semester 1: Week 3

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 26-09-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Other O2: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O2</a> 30S Ribosome binders - streptomycin
Thursday 28-09-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Other O3: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O3</a> 30S Ribosome binders - tetracycline

## Semester 1: Week 4

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 03-10-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Other O4: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O4</a> 50S Ribosome binders - erythromycin
Friday 06-10-2023 13:00 to 14:00	Biomolecular Sciences Building BMS Lecture theatre	<a href="#">Dr Peter Coote</a> -	Other O5: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O5</a> Topoisomerase inhibitors/fluoroquinolones - eg. ciprofloxacin

## Semester 1: Week 5

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 10-10-2023 10:00 to 11:00	Medical and Biological Sciences Building MBS Room 103, seminar room 1	<a href="#">Dr Peter Coote</a> -	Other O6: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O6</a> Peptidoglycan intermediate structure binders - vancomycin
Thursday 12-10-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Other O7: <b>Student talks (x2)</b> <a href="#">2023-4_BL4211_O7</a> Bacterial membrane disruptors - colistin

## Semester 1: Week 7

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 24-10-2023 10:00 to 11:00	Medical and Biological Sciences Building MBS Room 103, Seminar room 1	<a href="#">Dr Peter Coote</a> -	Other O8: <b>Student talks (x1)</b> <a href="#">2023-4_BL4211_O8</a> RNA polymerase inhibitors - rifampicin
Thursday 26-10-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Lecture L3: <b>3. Antifungals</b> <a href="#">2023-4_BL4211_L3</a>

## Semester 1: Week 8

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 31-10-2023 10:00 to 11:00	Medical and Biological Sciences Building MBS Room 103, Seminar room 1	<a href="#">Dr Peter Coote</a> -	Tutorial T2: <b>Group discussion 2</b> <a href="#">2023-4_BL4211_T2</a> How do we combat resistance arising? O'Neill AMR report
Thursday 02-11-2023 11:00 to 12:00	Medical and Biological Sciences Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Other O9: <b>Student talks (x3)</b> <a href="#">2023-4_BL4211_O9</a> Published paper interpretation

## Semester 1: Week 9

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 07-11-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Other O10: <b>Student talks (x3)</b> <a href="#">2023-4_BL4211_O10</a> Published paper interpretation
Friday 10-11-2023 10:00 to 11:00	Biomolecular Sciences Building BMS lecture theatre	<a href="#">Dr Peter Coote</a> -	Other O11: <b>Student talks (x3)</b> <a href="#">2023-4_BL4211_O11</a> Published paper interpretation

## Semester 1: Week 10

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 14-11-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Lecture L4: <b>4. A novel treatment for MRSA</b> <a href="#">2023-4_BL4211_L4</a>
Thursday 16-11-2023 11:00 to 12:00	Purdie Building Purdie LT C	<a href="#">Dr Peter Coote</a> -	Other O12: <b>Student talks (x3)</b> <a href="#">2023-4_BL4211_O12</a> Published paper interpretation

## Semester 1: Week 11

DATE & TIME	VENUE	STAFF	EVENT
Tuesday 21-11-2023 11:00 to 12:00	Mathematical Institute Maths 3B	<a href="#">Dr Peter Coote</a> -	Other O13: <b>Student talks (x3)</b> <a href="#">2023-4_BL4211_O13</a> Published paper interpretation
Thursday 23-11-2023 11:00 to 12:00	Medical and Biological Sciences Building MBS Room 103, Seminar room 1	<a href="#">Dr Peter Coote</a> -	Other O14: <a href="#">2023-4_BL4211_O14</a>

# BL4211: Reading List

[BL4211Click for BL4211 reading list](#)

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## BL4211: Assessment

1-hour Written Examination = 50%, Coursework = 50%

[BL4211View coursework assessment details for BL4211 \(2023/4\) in MMS](#)

The following related information applies to all Biology modules:

School of Biology Marking Criteria:	See <a href="#">JH booklet info (st-andrews.ac.uk)</a>
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 UG Handbook <a href="#">JH booklet info (st-andrews.ac.uk)</a> : All Biology exams will be conducted online for 2022-23.
Exam timetable:	See <a href="#">Timetables - Exams - University of St Andrews (st-andrews.ac.uk)</a>
Expected attendance:	See <a href="#">JH booklet info (st-andrews.ac.uk)</a> for detailed attendance requirements.
Good Academic Practice & Avoiding Academic Misconduct:	See <a href="#">JH booklet info (st-andrews.ac.uk)</a>
University Student Handbook:	<a href="#">University Student Handbook</a>
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.:	<a href="#">JH booklet info (st-andrews.ac.uk)</a> <a href="#">University Student Handbook</a>

# 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](mailto:bioteach@st-andrews.ac.uk) )  
Check your University email  
The lecturer who presented the material  
The lecturer who set the assignment  
Module Organiser ( [Dr Peter Coote pjc5@st-andrews.ac.uk](mailto:Dr Peter Coote pjc5@st-andrews.ac.uk) )  
The Demonstrator or Module Organiser ( [Dr Peter Coote pjc5@st-andrews.ac.uk](mailto:Dr Peter Coote pjc5@st-andrews.ac.uk) )  
Module Organiser ( [Dr Peter Coote pjc5@st-andrews.ac.uk](mailto:Dr Peter Coote pjc5@st-andrews.ac.uk) )  
Module Organiser ( [Dr Peter Coote pjc5@st-andrews.ac.uk](mailto:Dr Peter Coote pjc5@st-andrews.ac.uk) )  
Module Organiser ( [Dr Peter Coote pjc5@st-andrews.ac.uk](mailto:Dr Peter Coote pjc5@st-andrews.ac.uk) )  
**and** the Biology Teaching Office ( [bioteach@st-andrews.ac.uk](mailto:bioteach@st-andrews.ac.uk) )  
Year Coordinator  
See School of Biology UG Handbook for list:  
[JH booklet info \(st-andrews.ac.uk\)](#)  
Advisor of Studies  
Disability Coordinator ( [biodisabilities@st-andrews.ac.uk](mailto:biodisabilities@st-andrews.ac.uk) )  
Advice & Support Centre  
Address: 79 North Street, St Andrews  
Email: [theasc@st-andrews.ac.uk](mailto: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](mailto:bioteach@st-andrews.ac.uk)

Tel: 01334 46 3602 or 3566

## BL4211: Contributing Staff

[Dr Peter Coote](#)  
(Module Organiser)

Lecturer

[pjc5@st-andrews.ac.uk](mailto:pjc5@st-andrews.ac.uk)

[Dr Peter Coote](#)  
(Module Organiser)

Lecturer

[pjc5@st-andrews.ac.uk](mailto:pjc5@st-andrews.ac.uk)

## **BL4211: Learning Outcomes**

Students completing module BL4211 successfully should be able to:

- written communication - essay writing
- oral communication - preparation and delivery of individual presentations
- information literacy - sourcing and interpretation of relevant primary literature



# **BL4211: Acquired Skills**

## **Practical Skills**

### **Transferable Skills**

- Group discussion - participating
- Long group presentation on given topic (>15 min)
- Short individual presentation on given topic (up to 15 min)
- Review article on given topic
- Critically evaluating sources/information
- Finding literature
- Sourcing figures/tables

# 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 UG handbook [JH booklet info \(st-andrews.ac.uk\)](#)
- 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 UG handbook [JH booklet info \(st-andrews.ac.uk\)](#) 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/>