

BL2301 Cell Biology

(BL2301 online module handbook version 52)

Credits: 15

Semester: 1

Module Organiser

Prof Frank Gunn-Moore
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Pre-requisite Modules:

Before taking this module
you must pass BL1101 and
pass BL1102

Anti-requisite Modules:

Post-requisite Modules:

Additional Module

Information:

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

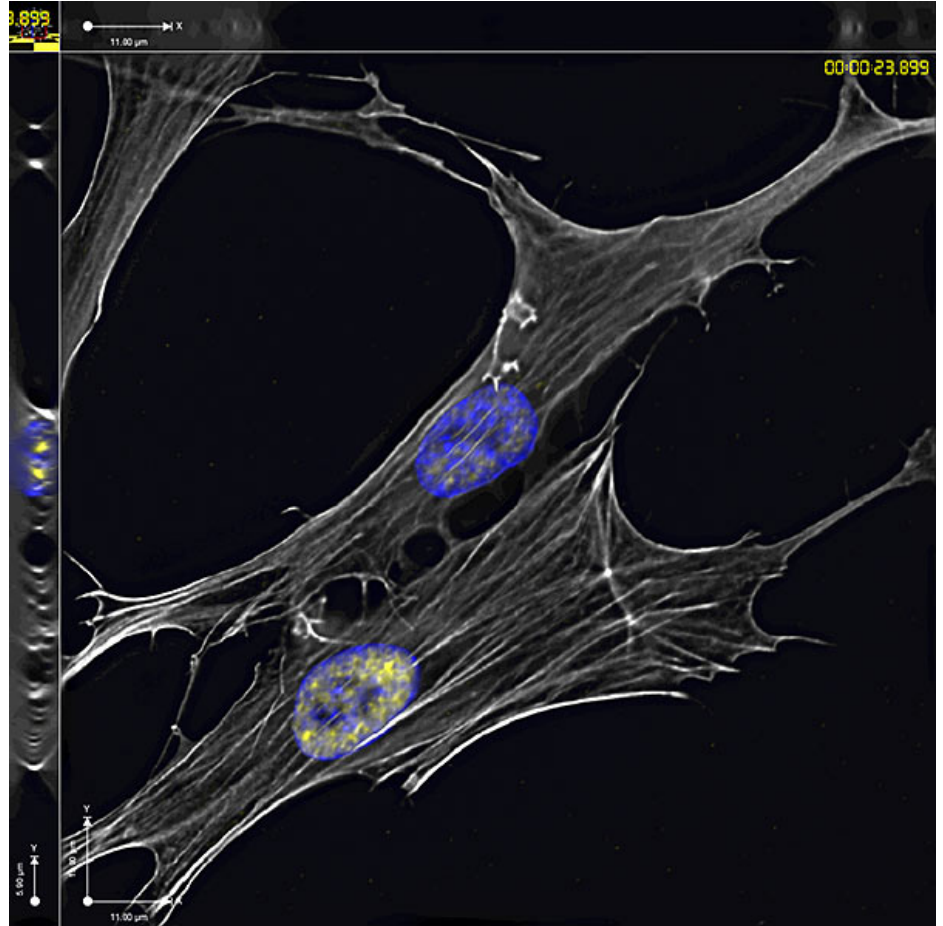


image: Cultured primary fibroblast cells expressing a GFP-tagged pre-mRNA splicing factor (yellow) and stained with DAPI (blue) and phalloidin (white).

The module will introduce the concept of 'a cell', moving on to discuss different types of prokaryotic and eukaryotic cell. The structure and function of a variety of sub-cellular compartments will be examined. The diversity of different cell types within multicellular organisms will be highlighted, together with an overview of how this diversity is achieved.

[BL2301View content for BL2301 \(2023/4\) in the Module Management System \(MMS\)](#)

[View the current Biology Online Module Catalogue for BL2301](#)

[BL2301View BL2301 \(2023/4\) in the University of St Andrews Module Catalogue](#)

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BL2301: 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
Monday 11-09-2023 09:00 to 10:00	Online Panopto recording	Dr Judith Sleeman -	Lecture L1: Introduction to Module 2023-4_BL2301_L1
Monday 11-09-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Prof Frank Gunn-Moore -	Practical P1: Cell counting and viability 2023-4_BL2301_P1 Please attend on your assigned day
Tuesday 12-09-2023 09:00 to 10:00	Purdie Building Lecture Theatre B	Dr Peter Coote -	Lecture L2: Introduction to Bacteriology 2023-4_BL2301_L2
Tuesday 12-09-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Prof Frank Gunn-Moore -	Practical P2: Cell counting and viability 2023-4_BL2301_P2 Please attend on your assigned day
Wednesday 13-09-2023 09:00 to 10:00	Purdie Building Lecture Theatre B	Dr Peter Coote -	Lecture L3: Bacterial Structure and Function 2023-4_BL2301_L3

Semester 1: Week 2

DATE & TIME	VENUE	STAFF	EVENT
Monday 18-09-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Peter Coote -	Lecture L4: Bacterial Pathogenicity-adhesion, colonisation and toxins 2023-4_BL2301_L4
Tuesday 19-09-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Peter Coote -	Lecture L5: Introduction to Parasitology 2023-4_BL2301_L5

Semester 1: Week 3

DATE & TIME	VENUE	STAFF	EVENT
Monday 25-09-2023 09:00 to 10:00	Online Panopto recording	Dr Judith Sleeman -	Lecture L6: Multi-cellular eukaryotes 2023-4_BL2301_L6
Monday 25-09-2023 14:00 to 17:00	Biomolecular Sciences Building Biology Teaching Laboratory	Dr Peter Coote -	Practical P3: Microbiology 2023-4_BL2301_P3 Please attend on your assigned day
Tuesday 26-09-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Michela Cerone -	Lecture L7: Lipids and Membranes 2023-4_BL2301_L7
Tuesday 26-09-2023 14:00 to 17:00	Biomolecular Sciences Building Biology Teaching Laboratory	Dr Peter Coote -	Practical P4: Microbiology 2023-4_BL2301_P4 Please attend on your assigned day
Wednesday 27-09-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Michela Cerone -	Lecture L8: Membrane Bound Organelles 1 2023-4_BL2301_L8

Semester 1: Week 4

DATE & TIME	VENUE	STAFF	EVENT
Monday 02-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Michela Cerone -	Lecture L9: Membrane bound organelles 2 2023-4_BL2301_L9
Tuesday 03-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Michela Cerone -	Workshop W1: Working with cells 2023-4_BL2301_W1 Practical focus session

Semester 1: Week 5

DATE & TIME	VENUE	STAFF	EVENT
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Monday 09-10-2023 09:00 to 10:00	Online Panopto recording	Dr Judith Sleeman -	Lecture L10: Nucleus and Gene Expression 2023-4_BL2301_L10
Monday 09-10-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Michela Cerone -	Practical P5: Mammalian cell culture 2023-4_BL2301_P5 Please attend on your assigned day
Tuesday 10-10-2023 09:00 to 10:00	Online Panopto recording	Dr Judith Sleeman -	Lecture L11: Communication between nucleus and cytoplasm 2023-4_BL2301_L11
Tuesday 10-10-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Michela Cerone -	Practical P6: Mammalian cell culture 2023-4_BL2301_P6 Please attend on your assigned day
Wednesday 11-10-2023 09:00 to 10:00	Online Panopto recording	Dr Judith Sleeman -	Lecture L12: Studying gene expression 2023-4_BL2301_L12

Semester 1: Week 7

DATE & TIME	VENUE	STAFF	EVENT
Monday 23-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L13: Cytoskeleton 1 2023-4_BL2301_L13
Tuesday 24-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L14: Cytoskeleton 2 2023-4_BL2301_L14
Wednesday 25-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L15: Cell Junctions 2023-4_BL2301_L15

Semester 1: Week 8

DATE & TIME	VENUE	STAFF	EVENT
Monday 30-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Stuart MacNeill -	Lecture L16: Cell Cycle 1 2023-4_BL2301_L16
Monday 30-10-2023 13:30 to 15:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Stuart MacNeill -	Practical P7: Cell Cycle Assessed Practical: Group 1 2023-4_BL2301_P7 Please attend on your assigned day and time
Monday 30-10-2023 15:30 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Stuart MacNeill -	Practical P8: Cell Cycle Assessed Practical: Group 2 2023-4_BL2301_P8 Please attend on your assigned day and time
Tuesday 31-10-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Stuart MacNeill -	Lecture L17: Cell Cycle 2 2023-4_BL2301_L17
Tuesday 31-10-2023 13:30 to 15:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Stuart MacNeill -	Practical P9: Cell Cycle Assessed Practical: Group 3 2023-4_BL2301_P9 Please attend on your assigned day and time
Tuesday 31-10-2023 15:30 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Stuart MacNeill -	Practical P10: Cell Cycle Assessed Practical: Group 4 2023-4_BL2301_P10 Please attend on your assigned day and time

Semester 1: Week 9

DATE & TIME	VENUE	STAFF	EVENT
Monday 06-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L18: Neuronal Differentiation 1 2023-4_BL2301_L18
Tuesday 07-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L19: Neuronal Differentiation 2 2023-4_BL2301_L19
Wednesday 08-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Prof Frank Gunn-Moore -	Lecture L20: Neuronal Differentiation 3 2023-4_BL2301_L20

Semester 1: Week 10

DATE & TIME	VENUE	STAFF	EVENT
Monday 13-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	jew7 -	Lecture L21: Stem Cells 1 <small>2023-4_BL2301_L21</small>
Monday 13-11-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Judith Sleeman -	Practical P11: Histology <small>2023-4_BL2301_P11</small> Please attend on your assigned day and time
Tuesday 14-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	jew7 -	Lecture L22: Stem Cells 2 <small>2023-4_BL2301_L22</small>
Tuesday 14-11-2023 14:00 to 17:00	Medical and Biological Sciences Building Biology Teaching Laboratory	Dr Judith Sleeman -	Practical P12: Histology <small>2023-4_BL2301_P12</small> Please attend on your assigned day and time

Semester 1: Week 11

DATE & TIME	VENUE	STAFF	EVENT
Monday 20-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	jew7 -	Workshop W2: Stem Cells workshop <small>2023-4_BL2301_W2</small>
Tuesday 21-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	Dr Susan Gurney -	Workshop W3: PSQ and exam practice <small>2023-4_BL2301_W3</small>
Wednesday 22-11-2023 09:00 to 10:00	Buchanan Building Lecture Theatre	tba -	Other O1: Question & Answer session <small>2023-4_BL2301_O1</small>

BL2301: Reading List

[BL2301Click for BL2301 reading list](#)

BL2301: Assessment

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

[BL2301View coursework assessment details for BL2301 \(2023/4\) in MMS](#)

The following related information applies to all Biology modules:

School of Biology Marking Criteria:	See JH booklet info (st-andrews.ac.uk)
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 JH booklet info (st-andrews.ac.uk) : All Biology exams will be conducted online for 2022-23.
Exam timetable:	See Timetables - Exams - University of St Andrews (st-andrews.ac.uk)
Expected attendance:	See JH booklet info (st-andrews.ac.uk) for detailed attendance requirements.
Good Academic Practice & Avoiding Academic Misconduct:	See JH booklet info (st-andrews.ac.uk)
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.:	JH booklet info (st-andrews.ac.uk) 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 (Prof Frank Gunn-Moore ffg1@st-andrews.ac.uk)
The Demonstrator or Module Organiser (Prof Frank Gunn-Moore ffg1@st-andrews.ac.uk)
Module Organiser (Prof Frank Gunn-Moore ffg1@st-andrews.ac.uk)
Module Organiser (Prof Frank Gunn-Moore ffg1@st-andrews.ac.uk)
Module Organiser (Prof Frank Gunn-Moore ffg1@st-andrews.ac.uk)
and the Biology Teaching Office (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)
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

BL2301: Contributing Staff

Prof Frank Gunn-Moore
(Module Organiser)

Dr Michela Cerone

Dr Peter Coote

Prof Frank Gunn-Moore
(Module Organiser)

Dr Susan Gurney

Dr Stuart MacNeill

Dr Judith Sleeman

Professor of Molecular
Neurobiology, Head of School

Lecturer in Biochemistry

Lecturer

Professor of Molecular
Neurobiology, Head of School

Associate Lecturer in Biology

SULSA Reader in Translational
Biology

Senior Lecturer in Cell and
Developmental Biology

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BL2301: Learning Outcomes

Students completing module BL2301 successfully should be able to:

- Consider the characteristics of a wide range of cells (prokaryotic and eukaryotic) including their requirements for growth and how they can be exploited experimentally
- Relate the component parts of cells to their functions, including how these can be investigated experimentally
- Consider the characteristics of a wide range of cells (prokaryotic and eukaryotic) including their requirements for growth and how they can be exploited experimentally
- Relate the component parts of cells to their functions, including how these can be investigated experimentally
- Appreciate the plasticity of the genome, and its control, and how this can be studied experimentally

BL2301: Acquired Skills

Practical Skills

- Biological drawing and photography
- Buffers
- Compound Microscopy
- Handling invertebrate cells
- Handling microbes
- Pipetting

Transferable Skills

- Group discussion - leading
- Group discussion - participating
- "Full" practical write-up (Intro, Methods, Results, Discussion)
- Short essay (1000-2000 words)
- Critically evaluating sources/information
- Finding information on the web
- Finding literature
- Referencing
- Searching databases
- Sourcing figures/tables
- Ethical considerations
- Lab safety awareness
- Problem-solving questions
- Data analysis
- Data presentation
- Produce graphs/figures
- Volumes
- Critiquing experimental design
- Designing experiments
- Generate class dataset
- 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 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/>