

BI1438 Molecular and microbial ecology, 15 hp vt 2025\*

Teaching activities: lecture (L), exercise (E), seminar (S), lab, study visit (V)

Mandatory moments are shown in **bold** and deadlines for project work/lab report in **orange**.

The text in *italic* is suggested activities for the week/day.

Date	Time	Topic	Type	Teacher	Room
<b>v 4 - self-study</b>					
Mo 20/1	13.15-15	Introduction to the course	L	AS	A338, BioC (meet in the entrance)
Tu 21/1	10.15-12	Introduction to microbial ecology and diversity	L	AS	A338, BioC (meet in the entrance)
	<b>13.15-15</b>	<b>Introduction lab practicals &amp; sowing</b>	Lab	GP	BÖL 2, BioC
Wed 22/1	<b>9.15-12</b>	<b>How to dissect a scientific paper?</b>	S	JA	A338, BioC (meet in the entrance)
Th 23/1	9.15-11	Introduction to methods in ecology	L	EK	Sal X, Ulls hus D-blocket
	<b>11.15-12</b>	<b>Introduction to project work</b>	L	AS	Sal X, Ulls hus D-blocket
Fr 24/1	<b>9.15-12</b>	<b>Introduction to molecular methods in ecology</b>	L	GP	C212, BioC
	<b>13.15-15.30</b>	<b>Study visit 1. SciLifeLab</b>	V	AS	SciLifeLab
<b>v 5 - Project work – self-study</b>					
Mo 27/1	9.15-12	Introduction to molecular methods in ecology	E	GP	C213, BioC
Tu 28/1	10.15-12	Basic metabolism	L	BL	C216, BioC
	13.15-15	Basic metabolism	E	BL	C213, BioC
Wed 29/1	9.15-10	<b>How do I look for and reference literature?</b>	S	JP	C212, BioC
	10.15-12	Community ecology of microorganisms	L	MB	C212, BioC
Th 30/1	10.15-12	Plant-bacteria interactions on land	L	AS	Sal L, Undervisningshuset
	13.15-15	Biogeography on land and water	L	MB	C213, BioC
Fr 31/1	<b>16.00</b>	<b>Deadline submission working plan project work</b>			
<b>v 6 - Project work – self-study</b>					
Mo 3/2	<b>13.15-14</b>	<b>Meet the author 1: Beneficial microbes in soils</b>	S	AS	C213, BioC
	14.15-16	Applications: Plant-growth promoting bacteria and biocontrol	L	MK	C213, BioC
Tu 4/2	10.15-12	Animal-microbe interactions: Overview	L	MS	Sal Y, Ulls hus D-blocket
	13.15-15	Applications: Animal health	L	JD	C213, BioC
Wed 5/2		<i>Project work</i>			
Th 6/2	<b>9.15-11</b>	The bee microbiome	L	JM	C216, BioC

	13.15-15	Plant-fungi interactions on land	L	BL	C213, BioC
Fr 7/2	9.15-11	Plant-fungal pathogen interactions	L	MD	C212, BioC
	11.15-12	Applications: Disease monitoring in forest nurseries	L	RL	C212, BioC

#### v 7 - Project work – self-study – read Meet the author paper 2

Mo 10/2	10.15-12	Trophic interactions within microbial food webs	L	SB, SH	C216, BioC
	<b>13.15-14</b>	<b>Theory: harvest, DNA extraction, PCR and qPCR</b>	L	GP,CB,JJ,TG	C213, BioC
<b>Tu 11/2</b>	<b>9.15-17</b>	<b>Harvest &amp; DNA extraction</b>	Lab	GP, TG	BÖL 2, BioC
Wed 12/2		<i>Preparation Meet the author 2.</i>			
Th 13/2	<b>10.15-12</b>	<b>Meet the author 2. Trophic interactions</b>	S	SB	C216, BioC
Fr 14/2	9.15-11	Anthropogenic impacts on terrestrial and aquatic ecosystems	L	TN	C213, BioC
	11.15-12	Applications: Climate mitigation	L	SH	C213, BioC

#### v 8 - Project work – Oral presentation – self-study

<b>Mo 17/2</b>	<b>9.15-17</b>	<b>Sequencing library preparation</b>	Lab	CB	BÖL 2, BioC
Tu 18/2	<b>16.00</b>	<b>Deadline submission project report for peer-review</b>			
Wed 19/2	9.15-11	Resistance and resilience	L	CJ	Sal R, Ulls hus B-blocket
	11.15-12	Applications: Environmental monitoring	L	ASz	Sal R, Ulls hus B-blocket
Th 20/2		<i>Preparation oral presentation</i>			
<b>Fr 21/2</b>	<b>9.15-12</b>	<b>Oral presentations project work</b>	S	AS	C213, BioC
	16.00	<b>Deadline submission peer-review on project work</b>			

#### v 9 - Lab report – self-study – read Meet the author paper 3

Mo 24/2	<b>9.15-17</b>	<b>Quantitative PCR</b>	Lab	JJ	BÖL 2, BioC
Tu 25/2		<i>Project work + Lab report</i>			
<b>Wed 26/2</b>	<b>12.00</b>	<b>Deadline revised project report</b>			
Th 27/2	10.15-12	Microbe-microbe interactions	L	MM	C212, BioC
	13.15-15	Microbial evolutionary processes	L	MM	C213, BioC
Fr 28/2	<b>9.15-11</b>	<b>Study visit 2. Sewage plant Kungsängsverket</b>	V	AS	Sewage plant

#### v 10 - Lab report – self-study

Mo 3/3	11.15-12	Theory: bioinformatic analyses	L	FPS	Sal Q, Ulls hus B-blocket
--------	----------	--------------------------------	---	-----	---------------------------

	<b>13.15-16</b>	<b>Sequence data processing</b>	Lab	FPS	Datorsal 2 MVM, MVM
Tu 4/3	<b>9.15-12</b>	<b>Community analysis</b>	Lab	FPS	Datorsal 2 MVM, MVM
	13.15-14	Theory: phylogenetic analyses	L	CJ	C213, BioC
Wed 5/3	<b>9.15-12</b>	<b>Phylogenetic analyses</b>	Lab	CJ	Datorsal 2 MVM, MVM
Th 6/3	<b>16.00</b>	<b>Deadline submission lab report part 1 (Intro + M&amp;M)</b>			
Fr 7/3	<b>10.15-12</b>	<b>Meet the author 3. Microbial ecology in tundra</b>	S	KC	Sal Y, Ulls hus D-blocket

#### v 11 - Lab report – self-study

Mo 10/3	10.15-12	Applications: Use of eDNA in conservation	L	EKa	C213, BioC
	<b>13-15</b>	<b>Study visit 3. Statens veterinärmedicinska anstalt (SVA)</b>	V	AS	Statens veterinärmedicinska anstalt
Tu 11/3		<i>Lab report writing</i>			
Wed 12/3	9-12	Data analysis day	E	GP	
Th 13/3		<i>Lab report writing</i>			
Fr 14/3	<b>12.00</b>	<b>Deadline submission final lab report</b>			
	14.00	Course evaluation and fika			To be decided

#### v 12 - Self-study

Mo 17/3		/			
Tu 18/3		/			
Wed 19/3		/			
Th 20/3		/			
Fr 21/3	8-12	Exam			Tentamenssal 1, Undervisningshuset

#### v 13

Mo 24/3 *Last day to submit assignments*

\*Please note that this schedule may be subject to changes before and during the course.

#### Planned examinations

The following examinations are planned for the course:

1. Regular written examination during the course: Friday the 21<sup>st</sup> of March 2025, 13.00-17.00.
2. First re-examination in connection with the course: Wednesday the 23<sup>rd</sup> of April 2025; time and location to be determined.

3. Additional re-examination: time and location to be determined.

If you plan to attend a written examination, you must register at the latest 10 weekdays (usually two weeks) beforehand. Registration is made via the Student Web; see under 'Ladok'. For a regular examination, registration can be done from the start of the course; for re-examination, it opens about four weeks before the examination. Information on time and location for re-examinations will become available when the time approaches.

For access to extended time, separate location or computer for examination, you must inform the course leader; this requires a special decision from the disabled-student office (see <https://www.slu.se/en/education/contact-and-support/disabilities/>)

## Lecturers

AS Aurélien Saghai, [aurelien.saghai@slu.se](mailto:aurelien.saghai@slu.se)

ASz Anna Székely, [anna.szekely@slu.se](mailto:anna.szekely@slu.se)

BL Björn Lindahl, [Bjorn.Lindahl@slu.se](mailto:Bjorn.Lindahl@slu.se)

CJ Christopher Jones, [chris.jones@slu.se](mailto:chris.jones@slu.se)

EKa Erik Karlsson, [erik.karlsson@slu.se](mailto:erik.karlsson@slu.se)

EK Eveline Krab, [eveline.krab@slu.se](mailto:eveline.krab@slu.se)

GP Grace Pold, [grace.pold@slu.se](mailto:grace.pold@slu.se)

JA Jannie Teinler, [jannie.teinler@slu.se](mailto:jannie.teinler@slu.se)

JD Johan Dicksved, [Johan.Dicksved@slu.se](mailto:Johan.Dicksved@slu.se)

JP Jonas Petersson, [jonas.petersson@slu.se](mailto:jonas.petersson@slu.se)

JM Joachim de Miranda, [joachim.de.miranda@slu.se](mailto:joachim.de.miranda@slu.se)

KC Karina Clemmensen, [karina.clemmensen@slu.se](mailto:karina.clemmensen@slu.se)

MB Mohammad Bahram, [mohammad.bahram@slu.se](mailto:mohammad.bahram@slu.se)

MD Mukesh Dubey, [Mukesh.Dubey@slu.se](mailto:Mukesh.Dubey@slu.se)

MK Magnus Karlsson, [Magnus.Karlsson@slu.se](mailto:Magnus.Karlsson@slu.se)

MM Maliheh Mehrshad, [maliheh.mehrshad@slu.se](mailto:maliheh.mehrshad@slu.se)

MS Monique Smith, [monique.smith@slu.se](mailto:monique.smith@slu.se)

RL Rebecca Larsson (Sveaskog/Svenska skogsplantor)

SB Stefan Bertilsson, [stefan.bertilsson@slu.se](mailto:stefan.bertilsson@slu.se)

SH Sara Hallin, [sara.hallin@slu.se](mailto:sara.hallin@slu.se)

TN Tarquin Netherway, [tarquin.netherway@slu.se](mailto:tarquin.netherway@slu.se)

## Lab teachers (module responsible: Grace Pold)

CB Claudia Bergin, [claudia.bergin@slu.se](mailto:claudia.bergin@slu.se)

CJ Christopher Jones, [chris.jones@slu.se](mailto:chris.jones@slu.se)

FPS Fernando Puente Sánchez, [fernando.puente.sanchez@slu.se](mailto:fernando.puente.sanchez@slu.se)

JJ Jaanis Juhanson, [jaanis.juhanson@slu.se](mailto:jaanis.juhanson@slu.se)

TG Tamlyn Gangiah, [tamlyn.gangiah@slu.se](mailto:tamlyn.gangiah@slu.se)

## Project work supervisors

Jennifer Anderson, [jennifer.anderson@slu.se](mailto:jennifer.anderson@slu.se)

Juan José Rodríguez Serrano, [juan.jose.rodriguez.serrano@slu.se](mailto:juan.jose.rodriguez.serrano@slu.se)

Mahwash Jamy, [mahwash.jamy@slu.se](mailto:mahwash.jamy@slu.se)

Micaela Mafla Endara, [micaela.mafla.endara@slu.se](mailto:micaela.mafla.endara@slu.se)

Monique Smith, [monique.smith@slu.se](mailto:monique.smith@slu.se)