

## BI1438 Molecular and microbial ecology, 15 hp vt 2024\*

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.

Date	Time	Topic	Type	Teacher	Room
<b>v 3 - self-study</b>					
Mo 15/1	13.15-15	Introduction to the course	L	AS	BioC C213
<b>Tu 16/1</b>	10.15-12	Introduction to microbial ecology and diversity	L	AS	BioC C213
	<b>13.15-15</b>	<b>Introduction lab practicals &amp; sowing</b>	Lab	AS	BioC BÖL 2
Wed 17/1	9.15-12	How to dissect a scientific paper?	S	JA	BioC C213
Tu 18/1	10.15-12	Basic metabolism	L	BL	BioC C212
	13.15-15	Exercise metabolism	E	BL	BioC C212
<b>Fr 19/1</b>	<b>13.15-14</b>	<b>Introduction to project work</b>	L	AS	BioC C213
	14.15-16	Introduction to molecular methods in ecology – part I	E	GP	BioC C213
<b>v 4 - Project work – self-study – read Meet the author paper 1</b>					
Mo 22/1	10.15-12	Introduction to molecular methods in ecology – part II	L	GP	BioC C212
	13.15-16	Exercise methods	E	GP	BioC C212
Tu 23/1	10.15-12	Introduction to methods in ecology	L	EK	Zoom
Wed 24/1	9.15-10	How to look for and reference literature?	S	JP	BioC C212
	10.15-12	Plant-bacteria interactions on land	L	AS	BioC C212
Th 25/1	13.15-15	Biogeography on land and water	L	MB	BioC C212
<b>Fr 26/1</b>	<b>9-11</b>	<b>Study visit SciLifeLab</b>	V	SB	SciLifeLab
	<b>17.00</b>	<b>Deadline submission working plan project work</b>			
<b>v 5 - Project work – self-study</b>					
Mo 29/1	10.15-12	Plant-fungi interactions on land	L	BL	BioC C216
	13.15-15	Meet the author 1: Beneficial microbes in soils	S	GP	BioC C216
Tu 30/1	10.15-12	Plant-fungal pathogen interactions	L	MD	BioC C216
	12.00	Feedback on working plan			

Wed 31/1	9.15-12	Trophic interactions within microbial food webs and metabolic networks, biogeochemical consequences	L	SB, SH	BioC C216
Tu 1/2	10.15-12	Animal-microbe interactions: Overview	L	MS	BioC C212
	13.15-15	Applications: Plant-growth promoting bacteria and biocontrol	L	MK	BioC C212
Fr 2/2	13.15-15	Animal-microbe interactions: Bees	L	JdM	BioC C216

#### **v 6 - Project work – self-study – read Meet the author paper 2**

Mo 5/2	9.15-11	Applications: Animal health	L	JD	BioC C212
	11.15-12	Applications: Antibiotic resistance	L	PLH	BioC C212
Tu 6/2	9.15-12	Microbe-microbe interactions	L	MM	BioC C213
Wed 7/2	9.15-12	Theory: harvest, DNA extraction, PCR, sequencing and qPCR	L	AS, JJ, JV	BioC C212
<b>Tu 8/2</b>	<b>9-17</b>	<b>Harvest &amp; DNA extraction</b>	<b>Lab</b>	<b>AS</b>	BioC BÖL 2
Fr 9/2	13.15-15	Meet the author 2. Trophic interactions	S	SB	BioC C212

#### **v 7 - Project work – Oral presentation – self-study**

<b>Mo 12/2</b>	<b>9-17</b>	<b>Sequencing library preparation</b>	Lab	JV, LD	BioC BÖL 2
<b>Tu 13/2</b>	<b>9-12</b>	<b>Sequencing</b>	Lab	JV, LD	BioC BÖL 2
	<b>17.00</b>	<b>Deadline submission project report for peer-review</b>			
Wed 14/2	9.15-11	Anthropogenic impacts on terrestrial and aquatic ecosystems	L	TN	BioC C212
	11.15-12	Applications: Climate mitigation	L	SH	BioC C212
Tu 15/2	9.15-10	Resistance and resilience	L	CJ	BioC C213
	10.15-11	Applications: Remediation of water and soils	L	MH	BioC C213
	11.15-12	Applications: Environmental monitoring	L	ASze	BioC C213
<b>Fr 16/2</b>	<b>9.15-12</b>	<b>Oral presentations project work</b>	S	AS	BioC C212
		<b>Deadline submission peer-review on project work</b>			

#### **v 8 - Lab report – self-study – read Meet the author paper 3**

<b>Mo 19/2</b>	<b>9-17</b>	<b>Quantitative PCR</b>	Lab	JJ	BioC BÖL 2
<b>Tu 20/2</b>	<b>17.00</b>	<b>Deadline revised project report</b>			
Wed 21/2		/			BioC
Tu 22/2	10.15-12	Meet the author 3. Animal-microbe interactions	S	JdM	BioC C212

<b>Fr 23/2</b>	<b>9.15-11</b>	<b>Study visit 2. Kungsängens gård</b>	V	AS	Kungsängens gård
	13.15-15	Theory: bioinformatic analysis	L	Asza, FPS	BioC C212
<b>v 9 - Lab report – self-study</b>					
Mo 26/2	10.15-12	Community ecology of microbes	L	MB	BioC C213
	13.15-15	Exercise community analysis	E	MB	BioC C212
<b>Tu 27/2</b>	<b>9-12</b>	<b>Sequence data processing</b>	Lab	Asza, FPS	BioC A375
<b>Wed 28/2</b>	<b>9-12</b>	<b>Community analysis</b>	Lab	Asza, FPS	BioC A375
Tu 29/2	13.15-14	Theory: phylogenetic analyses	L	CJ	BioC C212
	14.15-16	Microbial evolutionary processes	L	MM	BioC C212
Fr 1/3		/			
<b>v 10 - Lab report – self-study</b>					
<b>Mo 4/3</b>	<b>9-12</b>	<b>Phylogenetic analyses</b>	Lab	CJ	BioC A375
	13.15-15	Adaptation vs evolution	L	TN	BioC C213
Tu 5/3	10.15-12	Applications: Use of eDNA in conservation	L	AV	BioC C212
	17.00	Deadline submission lab report part 1 (Intro + M&M)			
<b>Wed 6/3</b>	<b>9-11</b>	<b>Study visit 3. To be decided</b>			
Tu 7/3		/			
Fr 8/3	9-12	Data compilation day	Lab	AS	BioC A375
<b>v 11 - Self-study</b>					
Tu 12/3	12.00	Deadline submission lab report part 2 (results + discussion)			
	14.00	Course evaluation and fika		AS	BioC A372
Wed 13/3		/			
Tu 14/3	13.15-14	Questions exam	S	AS	Zoom
Fr 15/3		/			
<b>v 12</b>					

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Mo 18/3		/	
Tu 19/3	13-17	Exam	Särimner, VHC hus 5

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\*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: Tuesday the 19<sup>th</sup> of March 2024, 13.00-17.00 (Särimner, VHC hus 5).
2. First re-examination in connection with the course: Wednesday the 24<sup>th</sup> of April 2024; time and location to be determined.
3. Additional re-examination: Wednesday the 27<sup>th</sup> of August 2024; 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**

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