



UMEÅ
UNIVERSITY

Date 2020-09-01

Updated schedule
(is subject to change)

Umeå University, SE-901 87 Umeå, Sweden

Department of Molecular Biology

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Avancerad molekylärbiologi (Advanced molecular biology)

5MO105, 15 ECTS

Course dates: August 31 – October 30, 2020.

Lecture halls:

“Thymine”, 6K-148, Building 6K, floor 1, Department of Molecular Biology.

“A103 “Astrid Fagraeus, room A103, NUS Building 6A.

“Hörsal C”, Unod, T9, Dental school, floor 9, Hospital, Northern entry.

Course literature: All relevant information is covered by the lectures, reviews, and original articles. No specific text book is required for this course, but access to a book that covers basic aspects of molecular biology is highly recommended.

Mandatory requirements of the course:

The following group/article discussions, oral presentations, and written assignments are mandatory:

- *Major scientific literature exercise (parts A through to C)*
- *Supplementary scientific literature exercises (parts 1 through to 3)*
- *Bioethics exercises (debate and oral presentations)*
- *Exercise on molecular biological methods*

Your absence from any of these mandatory exercises should immediately be reported to the course leader, who have the right to decide upon an alternative form of examination.

Course leader:

Maria Fällman (MFÄ), Department of Molecular Biology, Phone: 090-785 67 25

e-mail: maria.fallman@umu.se

For written assignments, attach the file to an e-mail and send to:

maria.fallman.umu@analys.orkund.se

Additional teachers:

Matthew Francis (MFR), Department of Molecular Biology, Phone: 090-785 67 52

e-mail: matthew.francis@umu.se

For written assignments, attach the file to an e-mail and send to:

matthew.francis.umu@analys.orkund.se

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Week 36

<u>31-Aug</u>	<u>Teacher</u>	<u>Lecture hall</u>
13.00-14.00 Health and safety information / Roll call	ABE	A103
14.45-15.15 Course introduction	MFÄ	Zoom
15.15-16.15 Lecture 1 "Emergence of molecular biology"	MFÄ	Zoom
16.30-17.00 Introduction to major literature exercise <i>Part A: Original scientific publications</i> <i>Part B: Scientific review publications</i> <i>Part C: Literature review writing exercise (and release of review topics)</i>	MFÄ	Zoom
<u>1-Sep</u>		
13.00-15.00 Lecture 2 "Careers in molecular biology – life as a molecular biologist"	MFR	Zoom
15.15-16.00 Introduction to exercise in molecular biological methods	MFÄ	Zoom
<u>2-Sep</u>		
12.30-14.30 Lecture 3 "The scientific method"	MFÄ	Zoom
<u>3-Sep</u>		
12.30-14.30 Lecture 4 "Scientific communication"	MFÄ	Zoom
15.00-15.30 Introduction to supplementary literature exercise 1 " <i>Original research article</i> "	MFR	Zoom
<u>4-Sep</u>		
Self-study		

Week 37

7-Sep

09.30-11.30 Lecture 5 "Experimental design"

Teacher

YSC

Lecture hall

A103

13.00-16.30 Group discussions

MFÄ

Thymine

Major literature exercise

Part A – *meeting 1*

(separate schedule will be provided)

20.00 *Deadline* for written method description

maria.fallman.umu@analys.orkund.se

8-Sep

09.30-11.30 Lecture 6 "Experimental context"

MFR

Zoom

13.00-17.00 Group presentations

MFÄ

Zoom

"Molecular biological methods"

9-Sep

Student sports day (teaching free)

10-Sep

12.30-16.00 Group discussions

MFÄ

Hörsal C

Major literature exercise

Part A – *meeting 2*

(separate schedule will be provided)

11-Sep

09.00-12.00 Thesis defence

Zoom

17.00 *Deadline* for submission of topic preferences
prioritised from 1-5, for major review writing exercise

maria.fallman@umu.se

Week 38

<u>14-Sep</u>	<u>Teacher</u>	<u>Lecture hall</u>
12.00-16.30 Group discussions Major literature exercise Part B – <i>meeting 3</i> (separate schedule will be provided)	MFÄ	A103
17.00 Part C – Recapitulate our expectations for your major writing exercise	MFÄ	Zoom
<u>15-Sep</u>		
12.15-14.15 Lecture 7 “Literature mining workshop”	MFÄ	A103
15.00-16.00 Introduction to supplementary literature exercise 3 “ <i>Biology of an experiment</i> ”	MFÄ	A103
19.00 <i>Deadline</i> for peer-review on molecular biological methods maria.fallman.umu@analys.urkund.se		
<u>16-Sep</u>		
13.00-15.00 Lecture 8 “Microscopic image analysis”	JPE	Zoom
15.15-16.15 Introduction to supplementary literature exercise 2 “ <i>Scientific debate</i> ”	SBO	Zoom
<u>17 Sep</u>		
08.30-11.30 Supplementary literature exercise 1 – discussion of “ <i>Original research article</i> ”	MFR	A103
<u>18-Sep</u>		
Self-study		
24.00 <i>Deadline</i> for submission of 1 st , 2 nd and 3 rd paper/PI preferences for Biography of an experiment exercise matthew.francis@umu.se		

Week 39

21-Sep

Teacher

Lecture hall

08.45-10.30 Lecture 9 "Ethics in experimental biology" MFR Zoom

10.45-11.30 Introduction to exercises in bioethics MFR Zoom

22-Sep

Self-study

23-Sep

Self-study

24-Sep

09.30-12.00 Lecture 10 "Biostatistics workshop" YSC A103

13.00-14.15 Supplementary literature exercise 2 SBO A103
"Scientific debate" group 1

14.30-15.45 Supplementary literature exercise 2 SBO A103
"Scientific debate" group 2

25-Sep

09.00-10.15 Supplementary literature exercise 2 SBO A103
"Scientific debate" group 3

10.30-11.45 Supplementary literature exercise 2 SBO A103
"Scientific debate" group 4

Week 40

28-Sept

12.00-17.00 Major literature exercise
Part C –
Presentation of the chosen topic - overview
(5 min presentations)

Teacher

MFÄ

Lecture hall

Thymine

16.00 **Deadline** for submission of Bioethics abstract

matthew.francis@umu.se

29-Sept

13.00-14.00 Bioethics debate (Group 1 and 3)

MFR

Thymine

14.15-17.00 Oral presentations in bioethics (Group 1 and 3)

MFR

Thymine

30-Sept

13.00-14.00 Bioethics debate (Group 2 and 4)

MFR

Thymine

14.15-17.00 Oral presentations in bioethics (Group 2 and 4)

MFR

Thymine

1-Oct

Self study

2-Oct

08.00-12.00 Open office for a progress update on
supplementary literature exercise 3 "*Biography of an
experiment*"

MFÄ

Uracil

(separate schedule will be provided)

Week 41

5-Oct

09.00-12.00 Open office for a progress update on major literature exercise, individual meetings with members of group 1-2) -separate schedule (Part C – review writing) - *meeting 4*

Must present a semi-detailed written outline/flowchart of your proposed review.

Must present a series of personalised questions that identify what you take issue with, with the intention to give your review a personalised point of view

Teacher

MFÄ

Lecture hall

Uracil

6-Oct

12.00-16.00 Open office for a progress update on major literature exercise individual meetings with members of group 3-4) -separate schedule (Part C – review writing) - *meeting 4*

Must present a semi-detailed written outline/flowchart of your proposed review.

Must present a series of personalised questions that identify what you take issue with, with the intention to give your review a personalised point of view

MFÄ

Uracil

7-Oct

Self-study

8-Oct

Self-study

9-Oct

Self-study

Week 42

12-Oct

16.00 **Deadline** for written report on supplementary literature exercise 3 "*Biography of an experiment*"
maria.fallman.umu@analys.urkund.se

Teacher

Lecture hall

13-Oct

Self-study

14-Oct

Self-study

15-Oct

13.00-17.00 Oral presentations and peer-review for supplementary literature exercise 3 "*Biography of an experiment*"

MFÄ

A103

16-Oct

09.00-16.00 Final open office for a progress update on major literature exercise, Individual meetings (Part C – *review writing*)
-meeting 5

MFÄ

Thymine

(A separate meeting schedule will be provided)

Week 43

19-Oct

Teacher

Lecture hall

Self study

20 Oct

Self study

21-Oct

Self-study

22-Oct

Self study

23-Oct

16.00 **Deadline** for completed major literature exercise

– Part C: *written review*

maria.fallman.umu@analys.orkund.se

Week 44

26-Oct

Self study

Teacher

Lecture hall

27-Oct

08.30-14.30 Oral presentations and open class discussion of major literature exercise

MFÄ

A103

28-Oct

08.30-14.30 Oral presentations and open class discussion of major literature exercise

MFÄ

Thymine / Uracil

14.30-15.30 Course evaluation, feedback and closure

MFÄ

Thymine / Uracil

29-Oct

Self study

30-Oct

13.00 Deadline for written peer-review of major literature exercise
maria.fallman.umu@analys.orkund.se

Authors will receive an **anonymous** written peer-review

Between Week 45 and Week 48

Voluntary:

You have the opportunity to organise with the course leader for a dedicated occasion for individual student feedback – it is your responsibility to initiate this process (contact the course leader to book a suitable time)

Week 48

27 Nov

16.00 **Deadline** for (optional) resubmission of revised major literature exercise – Part C: *written review*
maria.fallman.umu@analys.orkund.se

The revised resubmission is expected to take into account comments from the anonymous peer-review and from the course leader

Timetable of deadlines for written exercises/examinations

Examined exercise	Specific activity	Examination date
Molecular biological method assignment	Written molecular biological method description	September 7
	Oral presentation	September 8
	Peer-review on molecular biological methods	September 15
Major literature exercise (<i>Part A</i>) (original article)	Meeting 1 (group) Discussion of article (answers to preparatory questions)	September 7
	Meeting 2 (group) Discussion of article (answers to preparatory questions)	September 10
Major literature exercise (<i>Part B</i>) (Reviews discussions)	Meeting 3 (group) Discussions of review articles (answers to preparatory questions)	September 14
Major literature exercise (<i>Part C</i>) (written review assignment)	Topic selection deadline	September 11
	Short informal oral presentation of chosen topic (white board) – motivation and overview (class)	September 28
	Written outline/flow chart of review content (individual) Documented original questions!	October 5-6
	Follow-up report on updates and progress of work with writing the review (individual)	October 16

	First submission of full review	October 23
	Formal oral presentations (PowerPoint) and oral peer review (class) Open to questions from the audience	October 27 & 28
	Submission of written peer-review	October 30
	Resubmission of revised full review	November 27
	Supplementary Literature exercise 2 (Scientific debate)	Presentation, preparation and debate
Ethics in experimental biology	Bioethics abstract submission	September 28
	Bioethics debate	September 29 & 30
	Informal oral presentations in bioethics (white board) Open to questions from the audience	September 29 & 30
Supplementary Literature exercise 3 (Biology of an experiment)	Paper/PI selection deadline	September 18
	Presentation of plan for interview	October 2
	Interview with lead investigator (author of the study)	It is your responsibility to initiate contact with the principal investigator (PI) to organise the day and time for interview!
	Submission of written report	October 12
	Formal oral presentation (PowerPoint) and oral peer-review	October 15

	Open to questions from the audience	
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