



UMEÅ
UNIVERSITY

Date 2021-08-23

Updated schedule
(can be subject to change)

Umeå University, SE-901 87 Umeå, Sweden
Department of Molecular Biology
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5MO105

Avancerad molekylärbiologi, 15 hp

Advanced molecular biology, 15 ECTS

Course dates: August 30 – November 1, 2021.

Online Zoom Link:

<https://umu.zoom.us/j/69492805445>

Meeting ID: 694 9280 5445

Lecture halls:

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

“Uracil”, 6L-129, Building 6L, floor 1, Department of Molecular Biology.

“Guanine”, 6K-53, Building 6K, floor 0, Department of Molecular Biology.

“A103” Astrid Fagraeus, room A103, Norrlands Hospital (NUS), Building 6A.

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 Literature Assignment #1 - Writing an original research article (parts A and B)*
- *Major Literature Assignment #2 - Biography of an experiment*
- *Major Literature Assignment #3 - Frontiers in Molecular Biology*
- *Supplementary Exercise #1 - Methods in Molecular Biology*
- *Supplementary Exercise #2 - Original research article*
- *Supplementary Exercise #3 - Bioethics in experimental biology*

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 leaders:

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.arkund.se

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.arkund.se

Additional teachers:

Jenny Persson (JPE)

e-mail: jenny.persson@umu.se

Studies administrator:

Ingela Nilsson and Lina Helgesson, Department of Molecular Biology

E-mail: studieadm.molbiol@umu.se

Studies counsellor:

Yngve Östberg and Viktoria Vedin Department of Molecular Biology

E-mail: studievagledare@molbiol.umu.se

International studies liaison officer:

Mikael Wikström, Department of Molecular Biology, Phone 090-785 67 54

E-mail: mikael.wikstrom@umu.se

CAMPUS UMEÅ

1. Vårdvetarhuset
2. Samverkanshuset
3. Föreläsningshuset
4. Lärovetenskapshuset
5. Samhällsvetarhuset
6. Lindellhallen
7. Umeå studentkår
8. Humanisthuset
9. Humanistpa Villan
10. Polisutbildningshuset
11. Norra beteendevetarhuset
12. Beteendevetarhuset
13. Universitetsbiblioteket
14. Universum
15. Aula Nordica
16. UCCB-huset
17. Biologihuset
18. Naturvetarhuset
19. MIT-huset
20. Tekniskhuset
21. Fysikhuset
22. KBC-huset
23. Elektronikkopparhuset
24. Sveriges lantbruksuniversitet (SLU)
25. Kårhuset Origo
26. IKSU Sport
27. Östra paviljongen

1. Caring Sciences Building
2. University Union Building
3. Administration Building
4. Teacher Education Building
5. Social Sciences Building
6. Lindell Hall
7. Umeå Student Union
8. Humanities Building
9. Humanities Pavilion
10. Police Education Building
11. Northern Behavioural Sciences Building
12. Behavioural Sciences Building
13. Umeå University Library
14. Universum
15. Aula Nordica
16. UCCB Building
17. Biology Building
18. Natural Sciences Building
19. MIT Building
20. Technology Building
21. Physics Building
22. KBC Building
23. Electron Microscopy Building
24. Swedish University of Agricultural Sciences
25. Origo Student Union Building
26. IKSU Sport
27. Eastern Pavilion

 NORRLANDS UNIVERSITETSSJUKHUS (NUS)
UNIVERSITY HOSPITAL OF UMEÅ

28. Tandläkarhögskolan
29. Medicinska biblioteket
30. Kårhuset Villan

**Here – Building 6A
(A103 - Astrid Fagraeus)**



**Here – Building 6K and 6L
(Department of Molecular Biology)**

-  INFOCENTER
-  BUSHÅLLPLATSER BUS STOPS
-  GÅNG- OCH CYKELVÄGAR PEDESTRIAN AND BICYCLE PATHS
-  PARKERINGSPLATSER PARKING AREAS

Hospital area



Week 35<https://umu.zoom.us/j/69492805445>**Meeting ID: 694 9280 5445****30-Aug****Teacher****Lecture hall****13.00-15.00** Course introduction / Covid-19 information / Roll call

MFR

Online via Zoom

15.15-16.15 Lecture 1 "Emergence of molecular biology"

MFÄ

Online via Zoom

31-Aug**13.00-15.00** Lecture 2 "Careers in molecular biology – life as a molecular biologist"

MFR

Online via Zoom

15.30-16.30 Introduction to "Major Literature Assignment #1 - Writing an original research article"
Part A: Original scientific publications
Part B: Scientific writing exercise

MFÄ/MFR

Online via Zoom

1-Sep**12.30-14.30** Lecture 3 "The scientific method"

MFÄ

Online via Zoom

15.00-16.00 Introduction to "Supplementary Exercise #1 - Methods in Molecular Biology"

MFÄ

Online via Zoom

2-Sep**12.30-14.30** Lecture 4 "Scientific communication"

MFÄ

Online via Zoom

15.00-15.30 Introduction to "Supplementary Exercise #2 – Original research article"

MFR

Online via Zoom

3-Sep

Self-study

Week 36

6-Sep

09.00-11.00 Lecture 5 "Experimental design"

Teacher

MFR

Lecture hall

A103

13.30-16.30 Major Literature Assignment #1

Part A – *meeting 1*

Group discussions

(separate schedule will be provided)

MFÄ/MFR

Uracil, Guanine

7-Sep

09.00-11.00 Lecture 6 "Experimental context"

MFR

A103

8-Sep

Self study

9-Sep

08.00-11.00 Major Literature Assignment #1

Part A – *meeting 2*

Group discussions

(separate schedule will be provided)

MFÄ/MFR

Guanine, Adenine

13.00-14.00 Major Literature Assignment #1

Part B – *meeting 1*

Introduction to part B

Distribution of data

(separate schedule will be provided)

MFÄ/MFR

Guanine, Adenine

20.00 *Deadline* for written method description

maria.fallman.umu@analys.urkund.se

10-Sep

13.00-17.00 Oral group presentations for "Supplementary Exercise #1 - Methods in Molecular Biology"

MFÄ

Thymine/Uracil

Week 37

13-Sep

08.00-12.00 Major Literature Assignment #1
Part B – *meeting 2*
Group discussions of data & introductions of “*Structuring of a scientific article*” and “*Writing an Introduction*” (separate schedule will be provided)

Teacher

MFR/MFÄ

Lecture hall

Uracil, Guanine

14-Sep

09.00-11.00 Lecture 7 “Microscopic image analysis”

JPE

A103

12.15-14.15 Lecture 8 “Literature mining workshop”

MFÄ

A103

14.30-15.15 Introduction to “Major Literature Assignment #2 - Biography of an experiment”

MFR

A103

20.00 *Deadline* for peer-review on molecular biological methods maria.fallman.umu@analys.orkund.se

15-Sep

Student sport day (Teaching free)

16 Sep

Self study

17-Sep

08.30-11.30 Group work and active discussion within Supplementary Exercise #2 - Original research article

MFR

A103

24.00 *Deadline* for submission of 1st, 2nd and 3rd paper/PI preferences for “Major Literature Assignment #2 - Biography of an experiment” matthew.francis@umu.se

Deadline for submission for Major Literature Assignment #1 “General structure and Introduction”

maria.fallman.umu@analys.orkund.se

matthew.francis.umu@analys.orkund.se

Week 38

20-Sep

08.45-10.30 Lecture 9 "Ethics in experimental biology"

Teacher

MFR

Lecture hall

A103

10.45-11.30 Introduction to Supplementary Exercise #3 -
Bioethics in experimental biology

MFR

A103

21-Sep

08.30-12.00 Major Literature Assignment #1

MFÄ/MFR

Uracil, Guanine

Part B – *meeting 3*

Group discussions "*General structure and Writing of
Introduction*" & introduction to "*Writing Material & Methods,
Figure legends, and Result section*"

(separate schedule will be provided)

22-Sep

Self study

23-Sep

Self study

24-Sep

Self study

Week 39

27-Sept

Self study

Teacher

Lecture hall

28-Sept

Self study

20.00 Deadline for submission for Major Literature Assignment
#1 "Material & Methods, Figure legends, and Result section"

maria.fallman.umu@analys.orkund.se

matthew.francis.umu@analys.orkund.se

Deadline for submission of Supplementary Exercise #3 -
Bioethics abstract

matthew.francis@umu.se

29-Sept

13.00-14.00 Supplementary Exercise #3 - Bioethics in
experimental biology – Debate (Group 1 and 3)

MFR

A103

MFR

A103

14.15-17.00 Supplementary Exercise #3 - Bioethics in
experimental biology – Oral presentations in bioethics (Group 1
and 3)

30-Sept

13.00-14.00 Supplementary Exercise #3 - Bioethics in
experimental biology – Debate (Group 2 and 4)

MFR

A103

MFR

A103

14.15-17.00 Supplementary Exercise #3 - Bioethics in
experimental biology – Oral presentations in bioethics (Group 2
and 4)

1-Oct

08.00-12.00 Open office for a progress update on “Major Literature Assignment #2 - Biography of an experiment” (separate schedule will be provided)

MFR/MFÄ

Guanine

13.30-16.30 Major Literature Assignment #1

Part B – *meeting 4*

Group discussions “*Material & Methods, Figure legends, and Result section*” & introduction to “*Writing a Discussion*” (separate schedule will be provided)

MFÄ/MFR

Uracil, Guanine

Week 40

4-Oct

09.00-12.00 Introduction to Major Literature Assignment #3
- Frontiers in Molecular Biology

Teacher

MFÄ

Lecture hall

A103

5-Oct

Self study

6-Oct

20.00 *Deadline* for submission for Major Literature
Assignment #1 "*Written discussion*"
maria.fallman.umu@analys.orkund.se
matthew.francis.umu@analys.orkund.se

7-Oct

Self-study

8-Oct

09.00-12.00 Major Literature Assignment #1
Part B – *meeting 5*
Group discussions about "*Written discussion*" and
introduction to "*Abstract and title*"
(separate schedule will be provided)

MFÄ/MFR

Uracil, Guanine

Week 41

11-Oct

Teacher

Lecture hall

Self study

12-Oct

Self study

13-Oct

Self study

20.00 *Deadline* for submission of Major Literature Assignment #1 "Abstract and Title"
maria.fallman.umu@analys.orkund.se
matthew.francis.umu@analys.orkund.se

14-Oct

Self study

15-Oct

13.30-16.00 Major Literature Assignment #1
Part B – *meeting 6*
Group discussions about "*Abstract and title*"
(separate schedule will be provided)

MFÄ/MFR

Uracil, Guanine

24.00 *Deadline* for submission of Major Literature Assignment #2 - Biography of an experiment
maria.fallman.umu@analys.orkund.se
matthew.francis.umu@analys.orkund.se

Week 42

18-Oct

08.00-12.00 Oral presentations and peer-review for "Major Literature Assignment #2 - Biography of an experiment"

Teacher

MFÄ/MFR

Lecture hall

A103

19 Oct

Self study

20-Oct

Self study

21-Oct

Self study

22-Oct

Self study

Week 43

25-Oct

16.00 *Deadline* written summary of Major Literature Assignment #3 - Frontiers in Molecular Biology
maria.fallman.umu@analys.orkund.se

Teacher

Lecture hall

26-Oct

09.00-16.30 Oral presentations of Major Literature Assignment #3 - Frontiers in Molecular Biology

MFÄ

A103

27-Oct

Self study

28-Oct

16.00 *Deadline* for submission of completed Major Literature Assignment #1 – Part B: “Written scientific article”
maria.fallman.umu@analys.orkund.se
matthew.francis.umu@analys.orkund.se

29-Oct

08.00-16.00 Major Literature Assignment #1
Part B - *presentations*
Cross-group presentations and discussions of written scientific articles (cross-group 1-6; separate schedule will be provided)

Uracil, Guanine

16.00-16.30 Course evaluation, feedback and closure

Zoom

Between Week 44 and Week 47

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)

Timetable of deadlines for written exercises/examinations

Examined exercise	Specific activity	Examination date
Supplementary Exercise #1 - Methods in Molecular Biology	Written molecular biological method description	September 9
	Informal oral presentations (white board) Open to questions from the audience	September 10
	Peer-review on molecular biological methods	September 14
Supplementary Exercise #2 - Original research article	Group work and discussion	September 17
Supplementary Exercise #3 - Bioethics 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
Major Literature Assignment #1 (Part A) (original article discussions)	Meeting 1 (group) Discussion of article (answers to preparatory questions)	September 6
	Meeting 2 (group)	September 9

	Discussion of article (answers to preparatory questions)	
Major Literature Assignment #1 (Part B) (writing a scientific article)	Meeting 1 (whole class activity) Introduction to part B Distribution of data	September 9
	Meeting 2 (group) Group discussions of data & introductions of " <i>Structuring of a scientific article</i> " and " <i>Writing an Introduction</i> "	September 13
	Submission for Major Literature Assignment #1 " <i>General structure and Introduction</i> "	September 17
	Meeting 3 (group) Group discussions " <i>General structure and Writing of Introduction</i> " & introduction to " <i>Writing Material & Methods, Figure legends, and Result section</i> "	September 21
	Submission for Major Literature Assignment #1 " <i>Writing Material & Methods, Figure legends, and Result section</i> "	September 28
	Meeting 4 (group) Group discussions " <i>Material & Methods, Figure legends, and Result section</i> " & introduction to " <i>Writing a Discussion</i> "	October 1
	Submission for Major Literature Assignment #1 " <i>Written discussion</i> "	October 6
	Meeting 5 (group)	October 8

	Group discussions about <i>“Written discussion”</i> and introduction to <i>“Abstract and title”</i>	
	Submission for Major Literature Assignment #1 <i>“Abstract and title”</i>	October 13
	Meeting 6 (group) Group discussions about <i>“Abstract and title”</i>	October 15
	Submission of completed Major Literature Assignment #1 – Part B: <i>“Written scientific article”</i>	October 28
	Cross-group oral presentations and discussions of written scientific articles	October 29
Major Literature Assignment #2 - Biography of an experiment	Paper/PI selection deadline	September 17
	Presentation of plan for interview	October 1
	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 15
	Formal oral presentation (PowerPoint) and oral peer-review Open to questions from the audience	October 18

Major Literature Assignment #3 - Frontiers in Molecular Biology	Submission of summary report	October 25
	Formal oral presentation (white-board)	October 26