WELCOME TO

BIOR55 Chemical ecology / Kemisk ekologi 15 ECTS credits/hp

(21 March – 1 June 2012)

Introduction Wednesday 21 March 0900 in room Raggmossan, Ecology Building, Sölvegatan 37, Lund

The course is held in English.

Course literature:
Articles, compendia and book chapters will be handed out during the course.

Compulsory subjects (obligatoriska moment) during the course are:
- Seminars (S)
- Projects (P)
- Excursion (X)
- Examination (E)

You have to attend at least 80% of the compulsory subjects to get any credits for the course.

Course co-ordinator:
Olle Anderbrant (OA)
Room D222 at the first floor in the west wing, tel 2224997, olle.anderbrant@biol.lu.se

Most welcome to this course!

Olle Anderbrant

Some links:

Students' rights (in Swedish): http://www.lu.se/o.o.i.s/218
Equal rights policy (in Swedish): http://www.lu.se/o.o.i.s/780

Some instructions:

Read the two documents dealing with **safety** once more in peace and quiet at home!

Lectures are introducing and summarizing methods or a field of research. Sometimes you are supposed to read literature in advance (see lit. list).

During **seminars**, literature (read in advance) related to methodology or theory of various fields of chemical ecology is discussed and sometimes problems to solve are added (see lit. list). Each of you should work on the problems before the seminar and be prepared to present a solution.

The **Lab project** will take you step by step through the procedures to isolate, identify and verify a semiochemical. Each of you should prepare a **Lab report** where you summarize what you have done during the project work. The report should be organized according to the outline below:

Introduction (aims)
Methods (detailed but condensed)
Results and comments (including tables and graphs, when necessary, and explanations of possible "odd" results)
Conclusions

The length may be 4-6 pages + illustrations. No references are needed, and the main purpose is that you show that you have understood what you have done and how the results were obtained. You are strongly advised to **keep a diary** where all lab project work is documented. This will make the writing of the report much easier! The report will be discussed with students and teachers.

The **Written examination** will contain questions similar to the "problems to solve" tasks during seminars.

At the end of the course each of you (or possibly with a course mate) make a two and a half week own **Course project**. The written report should follow the guidelines found at:
http://www.biol.lu.se/upload/biol_grund/pdf/scientific_writing.pdf
The projects will also be presented orally and critically examined by one other student (and teachers).

BIOR55 Chemical ecology schedule 21 March - 1 June 2012

L=lecture, S=discussion seminar, P=project work, X=excursion, E=examination

the Lab project starting 23 March includes practical work with:

Preparation of material, pluggs etc.
Aeration and extraction
Flight tunnel
Gas chromatography
Electrophysiology
Mass spectroscopy

We 21 Mar **Room Raggmossan**

0900	L	Introduction (OA)
1000	L	Plant odours and pollination (JK)
1100	L	Where do all the molecules come from?: Plant compounds (JK)

Th 22 Mar **Room Raggmossan**

0900	L	Pheromones: evolution, speciation (GS)
1000	L	Where do all the molecules come from?: Pheromones (GS)
1100	L	Collection & isolation of active compounds (GS)

Fr 23 Mar

0900	S	Molecules & biosynthesis I & Problem solving (students only)
then	S	Molecules & biosynthesis I & Problem solving (JK)
	P	Lab project (GS, JJ)

Mo 26 Mar

0900	L	Verifications-Bioassays (GS)
then	P	Lab project (GS)

Tu 27 Mar

0900	S	Molecules & biosynthesis II (students only)
then	S	Molecules & biosynthesis II (GS)
then	P	Lab project (GS)

We 28 Mar

0900		*Group meeting Darwin room*
1030	S	Collection, isolation, verification, bioassays & Problem solving (students only)
then	S	Collection, isolation, verification, bioassays & Problem solving (OA)
	P	Lab project (GS)

Th 29 Mar

0900	L	Separation - gas chromatography (HLW)
	L	Quantification (HLW)
	L	Identification - mass spectroscopy (HWL)
	P	Lab project

Fr 30 Mar

0900	L	Electrophysiology (GS)
1000	S	Separation, quantification, identification (students only)
then	S	Separation, quantification, identification (HLW)
	P	Lab project

Mo 2 Apr

P (Lab project)

Tu 3 Apr

P (Lab project)

We 4 Apr

P (Lab project)

Th 5 Apr

P (Lab project)

Fr 6 Apr, Good Friday

No teaching

Mo 9 Apr, Easter Monday
No teaching

Tu 10 Apr
1030 S Electrophysiology (students only)
1100 S Electrophysiology (GS)
P Lab project

We 11 Apr
0900 *Group meeting Darwin room*
1030 P Lab project

Th 12 Apr
0900 P Lab project
1300 S Finding food or host (students only)
then S Finding food or host (OA)
L Chemical control in practice (OA)

Fr 13 Apr
0900 L Use of semiochemicals in conservation biology (GS)
P Lab project

Mo 16 Apr
0900 S Monitoring and pest control & Problem solving (students only)
then S Monitoring and pest control & Problem solving (OA)
P Lab project

Tu 17 Apr
P Lab project

We 18 Apr
0900 *Group meeting Darwin room*
1030 S Chemical defence (students only)
then S Chemical defence (OA)
P Lab project

Th 19 Apr
P Lab project

Fr 20 Apr
0900 S Finding a mate (students only)
then S Finding a mate (OA)
P Lab project

Mo 23 Apr
0900 S Social interactions (students only)
then S Social interactions (MDF)
P Lab project

Tu 24 Apr
P Lab project

We 25 Apr
0900 *Group meeting Darwin room*
1000 L Arms race in aquatic systems (ME)
S Interactions in aquatic systems (ME)
P Demonstration: Aquatic bioassays (ME)
P Lab project

Th 26 Apr
P Lab project
S Tri-trophic interactions & Problem solving (students only)

1300	S	Tri-trophic interactions & Problem solving (OA)
	P	Lab project

Fr 27 Apr

0900	S	Mutualism, parasitism, eavesdropping, allelopathy (students only)
then	S	Mutualism, parasitism, eavesdropping, allelopathy (OA)
	P	Lab project

Mo 30 Apr

No teaching

Tu 1 May

No teaching

We 2 May

0900		*Group meeting Darwin room*
	P	Lab project

Th 3 May

1200	P	Lab project: Hand in report
	P	Lab project: Read reports

Fr 4 May

0900	P	Lab project: Discussion of reports
	P	Course project - brain storming (GS, OA)

Mo 7 May

Time to read

Tu 8 May

0900-1300	X	Written examination

We 9 May

0900		*Group meeting Darwin room*
		Course projects start

Th 10 May

Course projects

Fr 11 May

Course projects

Mo 14 May

Course projects

Tu 15 May

Course projects

We 16 May

Group meeting Darwin room
Course projects

Th 17 May, Ascension Day

No teaching

Fr 18 May

No teaching

Mo 21 May

Course projects

Tu 22 May

Course projects

We 23 May

0900	*Group meeting Darwin room*
	Course projects

Th 24 May

	Course projects

Fr 25 May

	Course projects

Mo 28 May

	Course projects

Tu 29 May

	Course projects

We 30 May

0900	*Group meeting Darwin room*
1600	Hand in project reports

Th 31 May

	Preparation for project presentation and opposition

Fr 1 Jun

0900	Project presentations (OA, etc)
	Course evaluation (OA)

Not yet scheduled:

- L Separation by HPLC (JW)
- L Human pheromones (CL)
- L Underground chemical ecology (KH)
- E Visit to at some place using pheromone monitoring system (OA)

Teachers

CL	Christer Löfstedt, Pheromone group
GS	Glenn Svensson, Pheromone group
HLW	Hong-Lei Wang, Pheromone group
JK	Jette Knudsen, Pheromone group
JJ	Johan Jakobsson, Pheromone group
JW	Johanna Witzell, Swedish University of Agricultural Sciences, Alnarp
KH	Katarina Hedlund, Conservation biology and Biodiversity
MDF	Monica De Facci, Pheromone group
ME	Mikael Ekvall, Aquatic ecology
OA	Olle Anderbrant, Pheromone group