



## DEPARTMENT OF CHEMISTRY AND MOLECULAR BIOLOGY

### **KEA270 Dermatochemistry, 7.5 credits**

Dermatokemi, 7,5 högskolepoäng

*Second Cycle*

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#### **Confirmation**

This course syllabus was confirmed by Department of Chemistry and Molecular Biology on 2014-04-14 and was last revised on 2022-09-09 to be valid from 2022-09-09, spring semester of 2022.

*Field of education:* Science 100%

*Department:* Department of Chemistry and Molecular Biology

#### **Position in the educational system**

The course is included at the level 90 - 120 credits as an optional course in the Pharmacy programme. The course can be read as a free-standing course.

The course can be part of the following programmes: 1) No translation available (NKEMM), 2) Programme in Pharmacy (F2APO), 3) Chemistry (NKEIM), 4) Programme in Pharmacy (MAPTY), 5) Programme in Pharmacy (MAPOY), 6) Master's Programme in Organic and Medicinal Chemistry (N2KEL), 7) Organic and Medicinal Chemistry (NOKEM), 8) Medicinal Chemistry (NLKEM), 9) Bachelor of Science Programme in Medicinal Chemistry (N1LMK), 10) Master's Programme in Chemistry (N2KEM) and 11) Bachelor of Science Programme in Chemistry (N1KEM)

*Main field of studies*

Chemistry

*Specialization*

A1N, Second cycle, has only first-cycle course/s as entry requirements

#### **Entry requirements**

Entry to the course requires passed courses for semesters 1-5 and completed semesters 6-7 in Pharmacy programme at GU, alternatively 75 credits in chemistry of which KEM030 must be approved or equivalent knowledge.

## Learning outcomes

On completion of the course, the student is expected to be able to:

### *Knowledge and understanding*

- at a general level **describe** the structure, function, and immunology of the skin,
- **explain** physicochemical mechanisms involved in the uptake of substances via the skin and chemical reaction mechanisms at the formation of hapten protein complexes,
- **give an account** of methods to study skin absorption and sensibilisation.

### *Competence and skills*

- **demonstrate** mechanistic relationships between structure and activity for substances,
- **carry out** analyses and calculations regarding skin absorption,
- **search for, interpret, and compile** scientific data regarding experimental skin research.

### *Judgement and approach*

- **demonstrate** scientifically based considerations current topical/cutaneous drug and the function and possible risks of skin products,
- **reflect** on complex relationships in connection with skin exposure.

## Course content

The purpose of the course is to provide the students basic and advanced mechanistic knowledge in the field of dermatochemistry. The course is interdisciplinary, the contents including:

- The structure, function, and immunology of the skin
- Structure-activity relationships
- Photochemistry
- Complex chemical relationships in the skin
- Topical medications, advantages and risks
- Methods for studies of skin absorption and skin sensibilisation
- Risk analysis and prevention

## Form of teaching

The teaching includes lectures, compulsory seminars and project work both individually and in groups. Apart from compulsory activities, 80 % attendance at the scheduled activities of the course is expected.

### *Language of instruction:* Swedish

By default, the course is given in Swedish but it can be given completely or partly in

English if the circumstances require it.

### **Assessment**

To receive a Pass (G) as final course grade, the following is required:

- participation on lectures (at least 80 %),
- active participation in compulsory seminars,
- approved result in project work both individually and in groups,
- approved result on written examination.

### **Grades**

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

- For the grade Pass, approved results for all examining components of the course are required.
- For the grade Pass with distinction, grade Pass with distinction for individual project work and written examination are required in addition.

### **Course evaluation**

The course is evaluated at the end of the course via a final follow-up seminar (not compulsory) and a digital course evaluation on the virtual learning management system of the university. The result of the evaluation is used to support the further development the course. Results and completed course changes are communicated to students via the virtual learning management system as well as at the course introduction for the next course offering.