

# QBio405: Science Ethics & Communication

**Module Responsible:**  
Prof. Dr. Guido Grossmann

**Version:**  
02/01/2021

**Module Organizer:**  
Prof. Dr. Guido Grossmann

**Type:**  
Compulsory

**Lecturer:**  
Prof. Dr. Guido Grossmann, Dr. Divykriti Chopra-Ufer

Total Working Time	Credit Points	Contact Time	Self Study	Duration
90 h	3CP	60 h	30 h	1 Semester

Course Components	Group Size	Frequency
Seminar	P: 40	Every Summer Semester
Exercise	P: 20	

## Learning Competencies:

After completing the module, students will be able to

- define good scientific practice and identify scientific misconduct,
- discuss scientific topics in an ethical context,
- communicate science to a wider audience.

## Content:

In this module, students will deal with scientific communication and ethical questions related to biological sciences. The range of topics range cover central questions of science ethics, such as good scientific practice and scientific fraud, as well as science journalism and the successful realization of public outreach projects.

In the first part, basic ethical standards will be defined as well as forms of scientific misconduct, esp. plagiarism, falsification and fabrication, as well as topics such as "conflict of interest", fake news and science communication. Reasons, consequences and prevention measures will be discussed.

In the second part, ethical questions will be discussed on the example of specific topics of modern life sciences. For each topic, the students should prepare arguments for and against and be able to represent them in a discussion group. In the face-to-face event, the ethical problems are discussed in the group.

Topics:

- Animal experiments, clinical studies and big pharma
- Cloning, Genetic Engineering, Genome Editing, and Synthetic Biology
- Artificial intelligence
- Biopiracy and patents
- Modern agriculture, fertilizers and pesticides, climate change and meat consumption
- In vitro fertilization, abortion, gene therapy and designer babies

- Euthanasia and life-prolonging measures

In the practical part, the students will, in small groups, conceptualize and carry out a scientific outreach or scientific communication project on a topic of their choice.

**Conditions of Participation:**

Passed Modules QBio105, QBio302 and QBio305

**Examination:**

**Prerequisites for Awarding Credits for this Module:**

- Participation in 80% of the lectures
- Participation in the outreach exercise

**Factor for the Overall Grade:**

The grade is weighted according to the credit points (CP) in the overall grade.

**Language:**

English

**Literature:**

**Further Information: -**