History of the landuse, agriculture & domestication, 1 credits
Course number 001.2.2060

Lecturer: Nina Kamennaya + guest lecturers

The course goal:
The goal of this course is to present students with the trajectory of agriculture development in time, stressing the innate link of agricultural advents and demands with the development of civilizations and changes in terrestrial landscape and the environment. The course will follow the historic advancement of agricultural practices from early domestication of animals and plants through invent and advancement of agronomic practices, to introduction of modern technologies. The history of agriculture development will be presented along with its effect on the human society and the natural environment.
The course includes 13 one-hour academic sessions of frontal teaching and will require reading and watching materials in preparation for each session.

Learning objectives:
- understand the current state of landuse
- learn about crop and animal domestication and the emergence of agriculture
- understand the evolution of agricultural practicies
- understand the environmental shifts caused by the development of agriculture
- learn about the concept of sustainablility

Audience:
An introductory course within the Physical Environment Theme in second year of the degree.

Grading: 30% participation, 70% concluding work.

Literature:
An ecological history of agriculture: 10,000 B.C.-A.D. 10,000 by Vasey, Daniel E.

Topics by the meetings:
1. Current state of the landuse: Half of the world's habitable land is used for agriculture.
2. The First Agricultural Revolution: wilderness; transition from foraging to farming.
3. Change in the way of living, increase in population size and immunity to diseases.
4. Croplands and rangelands: deforestation and soil erosion.
5. Irrigation, monoculture and slave labor: agriculture expansion.
6. The Second Agricultural Revolution: crop selection, genetic selection and agronomic practices.
7. Industrial Revolution: mechanization.
8. The Green Revolution: Synthetic fertilizers, pesticides and selective breeding.
9. The impact of agriculture on human anatomy, nutrition and health.
10. The Gene Revolution: GMO - Golden rice, vegan meet and Monsanto.
11. Overpopulation, land and environmental degradation and loss of biodiversity.
12. The population vs resources race; Smith & Maltus vs research and development