

T87C304-3001 EMISSION MEASUREMENTS AND ENVIRONMENTAL TECHNOLOGY 5 cr

Participants

Environmental Technology T5415KN, Environmental Engineering T8715SN, Spring 2018

Intended learning outcomes

After completing this course, you will be able to

- explain the mechanisms of environmental pollution in soil, air and water
- describe the related cleaning technologies and waste handling processes
- physical and chemical working principles of online and offline emission measurement technology
- use emission measurement equipment in industrial and authority practices
- analyse and calculate the amount of emissions coming from different anthropogenic activities, and produce emission measurement reports
- describe the main features of field specific environmental administration, legislation, regulation and related economic factors.

Course content

- 12 hours online lectures and supervision classes
- 27 hours project work
- 96 hours self-study with Massive Open Online Course (MOOC) materials and Moodle materials

Part 1. Where do emissions come from? 2 ects

The recommended learning period is from January to February 2018.

Part 2. What about heavy metals? 1 ects

The recommended learning period is from February to March 2018.

Part 3. How do we measure, monitor and control emissions in energy production? 1 ects

Online lectures will be held in March 2018 <http://flax.xamk.fi/merjamakela>.

Part 4. How does it look with the environmental legislation and regulation? 1 ects

The recommended learning period is in April 2018.

- What are the theoretical principles and mechanisms related to the pollution and cleaning of emissions?
- What are the key cleaning technologies?
- How do the emission measurement systems and analysers work?
- How are you able to estimate emissions and produce measurement reports?
- What are most significant emissions related administrative, legislative and economic issues?

Course assessment

The course grade consists of partial grades: Total grade = 0.4 * Part 1 grade + 0.2 * Part 2 grade + 0.2 * Part 3 grade + 0.2 * Part 4 grade.

Learning materials

- Moodle materials in <https://moodle.xamk.fi/course/view.php?id=16517#section-3>.
- Learning Environment for Papermaking and Automation, KnowPap, AEL and Prowledge, 2015, Finland.
- Learning Environment for Chemical Pulping and Automation, KnowPulp, AEL and Prowledge, 2015, Finland.
- TOXOER MOOC material in <http://moodle.toxoer.com/>, EU ERASMUS TOXOER project 2015-2018.

NAVIGATION

- Dashboard
- Site home
- My courses
- Course categories
- Moodle page request (for teachers)

ADMINISTRATION

- Course administration
 - Edit settings
 - Turn editing on
 - Users
 - Filters
 - Reports
 - Gradebook setup
 - Badges
 - Backup
 - Restore
 - Import
 - Reset
 - Question bank
 - Recycle bin

PEOPLE

- Participants

COURSE SUMMARY

After completing this course, you will be able to

- explain the mechanisms of environmental pollution in soil, air and water
- describe the related cleaning technologies and waste handling processes
- physical and chemical working principles of online and offline emission measurement technology
- use emission measurement equipment in industrial and authority practices
- analyse and calculate the amount of emissions coming from different anthropogenic activities, and produce emission measurement reports
- describe the main features of field specific environmental administration, legislation, regulation and related economic factors.

Emission Measurements and Environmental Technology, T8715SN, Spring 2018

General

You are very welcome to participate in this course.

The kick-off lecture will be on Tuesday, January 16th, 2018, at 17 o'clock in <http://flax.xamk.fi/merjamakela>.

- Enter as a guest.
- Give your first name and family name.

The course lecturer and supervisor is Ms. Merja Mäkelä.

News

Course content, Spring 2018

Part 1. Where do emissions come from? 2 ects

Course material Part 1: TOXOER 6.2 Control of emissions from anthropogenic activities and safety

- You may learn free in the TOXOER platform.
- Please, make an account with your official name in TOXOER and login.
- The recommended learning period is from January to February 2018.
- Make the final exam of Part 1 in TOXOER, in February 2018 whenever you like.
- Get a certificate, and I'll see it.
 - The final exam has been opened February 1st, 2018, in TOXOER.
 - With 33 % you will get 1, with 90 % 5.
- Enjoy your E-learning 😊

Lecture 16.1.2018 Power production and emissions

Recording Lecture 16.1.2018 Power production and emissions

Part 2. What about heavy metals? 1 ects

Course material Part 2: TOXOER 4.2 Environmental pollutants - Heavy metals

- The recommended learning period is from February to March 2018.
- Supervisor classes on Friday, February 16th, 2018, 17 - 19.30 <http://flax.xamk.fi/merjamakela>