# FOLENS Syllabus

**Subject Title:** Training for Environmental Data Acquisition and Assessment  
**Subject Category:** Domestic Training  
**Department:** FOLENS  
**Credit:** 1  
**Code:** n/a  
**Semester:** Second/Fall  
**Day(s)/Period(s):** 8-9 times, afternoon, from middle October to November, One day whole day for field visit  
**Class Format:** Practical Training: Field survey and laboratory experiment

### Instructor
Hideshige Takada, Mitsunori Tarao and Hirokazu Ozaki

### Office
FOLENS Head Office  
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- tarao@cc.tuat.ac.jp (Tarao)

### Outline & Target
The aim is to obtain field sense for sample collection. We learn the skills and techniques for analysis, determination, and evaluation of the row data obtained from the measurement. This course will be a basic for the overseas field training.

### Course description

1**1st day:** Introduction, by Prof. Takada and Ozaki

2**2nd day and after:**  
(Soil and geosphere part by Ozaki)  
- Soil sampling by random and conventional procedures at FM Fuchu farm  
- Soil treatment and trace element determination by AAS and ICP-MS  
- Data calculation with taking care of calibration curve, detection limit, effective digit, tolerance, pure water quality  
- Statistical investigation to compare the above two sampling procedure, estimate confident assessment, calculate suitable sample size to achieve confident result  

Other potential works  
- Determine radioactivity (Cs-137) of farm soil of TUAT  
- Field visit at severely contaminated area by hexavalent chromium (Cr\(^{6+}\)) and see the local assemblyperson and residents

(Water part by Prof. Takada, Prof. Tarao, and Ozaki)  
- Visit sewage water treatment plant (whole day)  
- River water sampling upstream and downstream of the treatment plant  
- Coliform counting
- Ion analysis by ion-chromatography
- Determine antibiotics
- Suspended solid measurement

### Prerequisites
General knowledge on environmental chemistry

### Textbook(s)
Will be distributed.

### Reference publication(s)


### Evaluation standards
Participation, attendance (5 days or more)
Submit a report

### Course keywords
Field survey, On-site feeling, How to collect sample, How to evaluate the data

■ Schedule
This domestic training course is held from October to November. The schedule is fixed by the beginning of October 2013 by consultation between students and faculty.

■ Related URL
http://www.tuat.ac.jp/~folens/curriculum/practice_e.html
http://www.tuat.ac.jp/~folens/documents/index_e.html
http://www.tuat.ac.jp/~folens/report/nov_2010_charcoal_e.html
http://tokyo-ame.jwa.or.jp/en/index.html