Department of Environmental Science
Faculty of Science
Chulalongkorn University

TOP 200 QS WORLD UNIVERSITY RANKINGS by subject

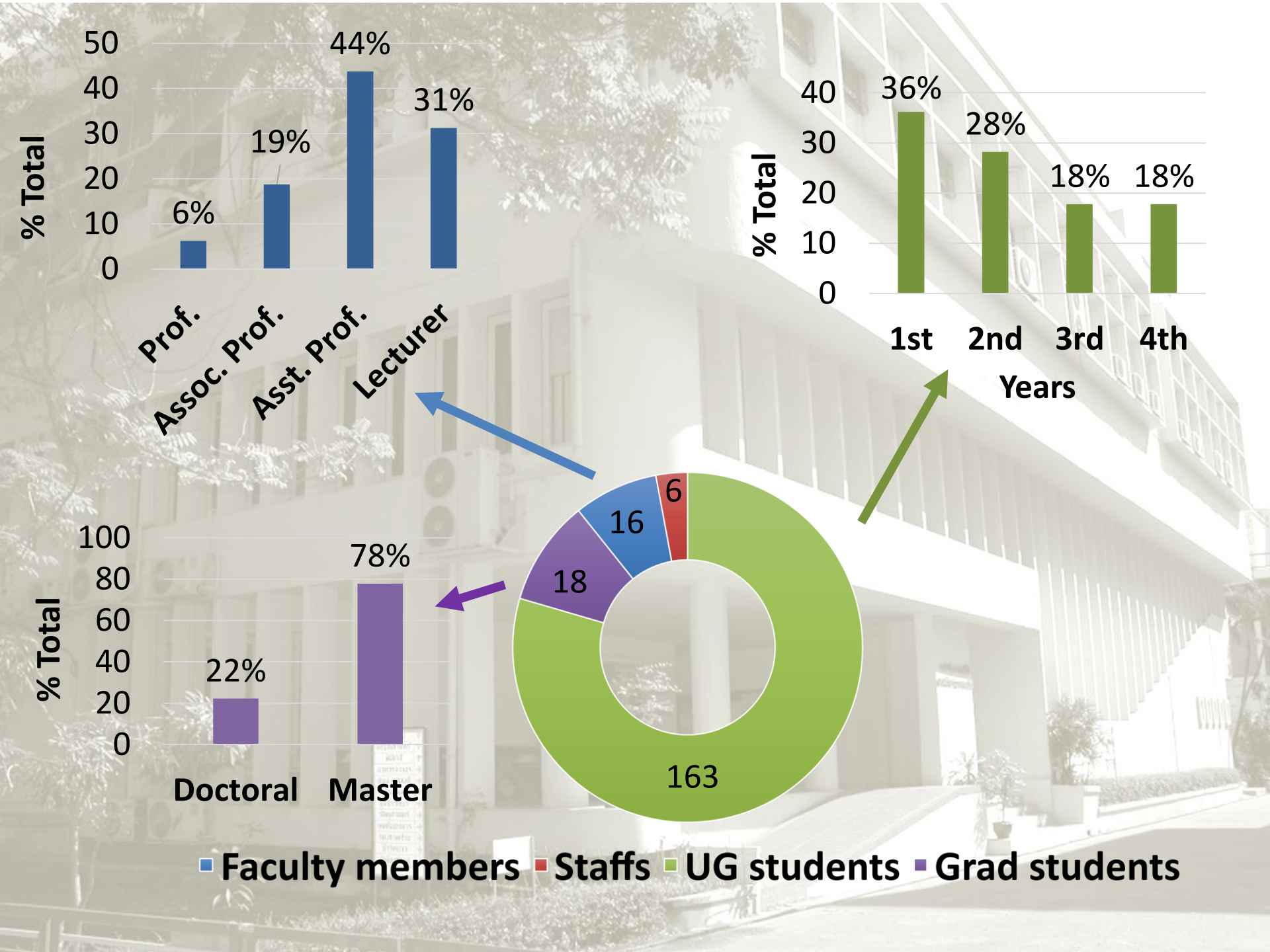
for **9 years** in a row, the **BEST** & only **TOP** one in the **Nation**

ENVIRONMENTAL SCIENCE

About Us...

- **Previously, the Department of General Science**
- **Environmental Science Program first offered in 2005**
- **In 2011, changed to the Department of Environmental Science (B.Sc.)**
- **In 2017, Graduate program in Industrial Toxicology and Risk assessment (Ph.D. and M.Sc.)**

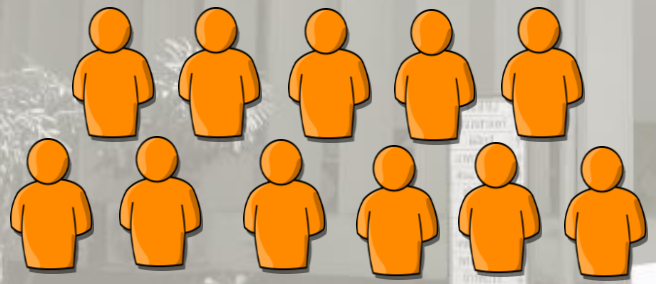
(the FIRST program that grants an EHIA specialist by law in Thailand)


50
40
30
20
10
0
% Total
6%
19%
44%
31%
Prof.
Assoc. Prof.
Asst. Prof.
Lecturer
40
30
20
10
0
% Total
36%
28%
18%
18%
1st
2nd
3rd
4th
Years
100
80
60
40
20
0
% Total
22%
78%
Doctoral
Master
6
16
18
163
Faculty members
Staffs
UG students
Grad students

Student-Faculty Ratio

Department head

per



(10 undergrad students)

Research highlights 2019

WANIDA JINSART

Professor

+66 2 218 5188
Wanida.J@chula.ac.th

Ph.D. La Trobe University	1993
M.Sc. Chulalongkorn University	1986
B.Sc. Kasetsart University	1981

Areas of Research Interest
Air Pollution, Environmental Health, Environmental Epidemiology and Industrial toxicology

Professional Experiences
Chulalongkorn University staff since 1982
Scientist, 1982-1994
Lecturer, 1994-1996
Assistant Professor, 1996-2001
Associate Professor, 2001-2012
Head department, 2002-2005
Professor, 2012- present
President of Thai Society of Higher Education Institutes on the Environment, 2017-2019
Chair Industrial toxicology impact assessment Post Graduate Program, 2018-present
Editor in chief Environment Asia (Scopus Journal), 2017-present

Research Emphasis
My research focuses on Air pollution and health effect, for more detailed research outcomes see selected publications. Currently, my work is in the application of Air modeling and climate change including the weather and the impact modeling.

Measure of Esteem
Professor award, Chulalongkorn University, 2017

Selected Publications
1. Thaminsaraj, P. and Jinsart, W. "Roadside PM2.5, PM10 and Heavy Metal Composition Related to Overcrowded Traffic and Roadside Construction Activities in Bangkok" EnvironmentAsia. 12(Special Issue 2019). In Press Article.

NAIYANAN ARIYAKANON

Associate Professor

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Ph.D. The University of Tokyo	2000
M.Sc. Chulalongkorn University	1995
B.Sc. (2nd Honor) Chulalongkorn University	1993

Areas of Research Interest
Phytoremediation, Remediation technology and Soil pollution

Professional Experiences
Associate Professor, Chulalongkorn University, 2017 – present
Assistant Professor, Chulalongkorn University, 2006 – 2016
Lecturer, Chulalongkorn University, 1995 – 2006

Research Emphasis
My research focuses on the removal of pollutants (pesticides, heavy metals and nutrients) from water using aquatic plants including water hyacinth, water lettuce and duckweed. Application of phytoremediation to treat contaminated soil is also my recent study. In wastewater treatment system, applying biochar from agricultural wastes to improve the water quality is another aspect of my research.

Selected Publications
1. Ariyakanon N. 2018. Water hyacinth for wastewater treatment. Environmental Journal.
2. Wattanapanich, C., Ariyakanon, N., 2018. The efficiency of rice straw to treat FOG and TSS in surimi wastewater. The National Environmental Conference.
3. Duirongpongtorn, N., Ariyakanon, N., 2018. Fat, oil and grease in domestic wastewater treatment by rice straw. The National Environmental Conference.
4. Bookrue, L., Ariyakanon, N., 2017. Effects of ZnO nanoparticle on plant growth, plant stress, Zn bioaccumulation in water hyacinth (Eichhornia crassipes). The 4th EnvironmentAsia International Conference, 601-614.
5. Wanthanaporn, U., Ariyakanon, N., 2017. Removal of ZnO nanoparticle by duck weed (Lemna minor) and water lettuce (Pistia stratiotes). The 4th EnvironmentAsia International

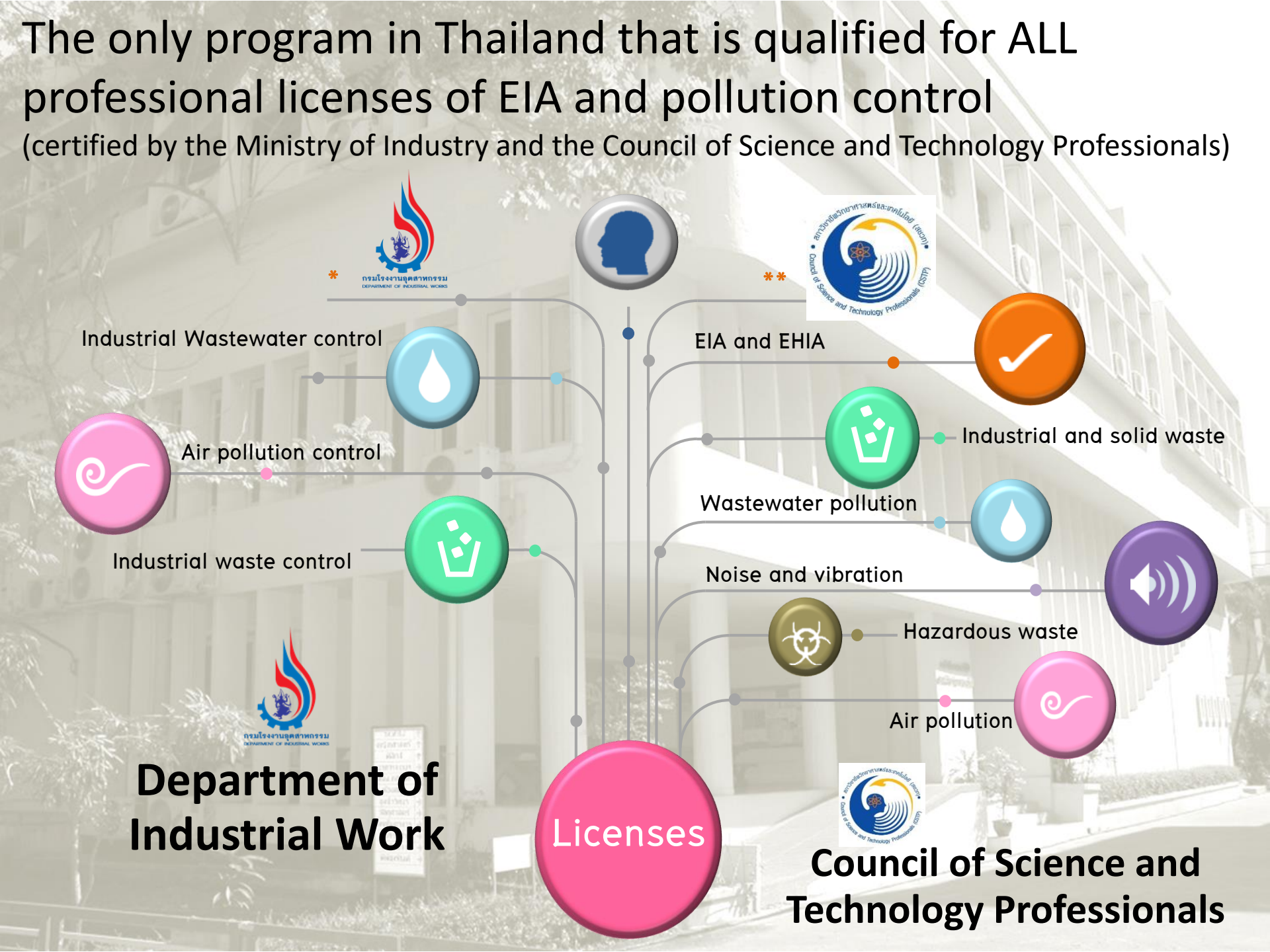
http://www.envisci.sc.chula.ac.th/wp-content/uploads/2019/08/research-highlights-2019_RF_300dpi.pdf

Research Areas in Department of Environmental Science

- Occupational health
- Air pollution modeling and monitoring
- Risk assessment
- Climate change and health effects
- Wetland studies
- Soil pollution
- Phyto-chemical-bio remediation
- Ecotoxicology
- Coastal ecosystem
- Solid waste management
- Environmental management and modeling
- Wastewater treatment technology
- Urban forestry and ecosystems

The only program in Thailand that is qualified for ALL professional licenses of EIA and pollution control

(certified by the Ministry of Industry and the Council of Science and Technology Professionals)



B.Sc. in Environmental Science

1st Year

1st Semester		*19 credits*
2301113	Calculus 1	4
2302111	General Chemistry 1	3
2302115	General Chemistry Lab 1	1
2303101	General Biology 1	3
2303102	General Biology Lab 1	1
2304101	General Physics 1	3
2304183	General Physics Lab 1	1
5500111	Experiential English 1	3

2nd Semester		*21 credits*
2301114	Calculus 2	3
2301170	Computer and Programming	3
2302112	General Chemistry 2	3
2302116	General Chemistry Lab 2	1
2305101	General Biology 2	3
2305102	General Biology Lab 2	1
2304102	General Physics 2	3
2304184	General Physics Lab 2	1

2nd Year

1st Semester		*20 credits*
2302236	Physical Chemistry	2
2302271	Organic Chemistry 1	3
2302273	Organic Chemistry Lab 1	1
2303221	Ecology	3
2303222	Ecology Lab	1
2308351	Environmental Science 1	3
2308359	Environmental Science Lab	1
5500204	English for Academic Purpose 1 (For Science)	3
xxxxxxxx	General Education (Social Science)	3

2nd Semester		*19 credits*
2301286	Probability and Statistics	3
2302272	Organic Chemistry 2	3
2308317	Aquatic Environmental Science	3
2308352	Environmental Toxicology	3
2308456	Aquatic Environmental Science Lab	1
xxxxxxxx	General Education (Humanities)	3
xxxxxxxx	General Education (Science and Mathematics)	3

B.Sc. in Environmental Science

3rd Year

1st Semester		*20 credits*
2302241	Analytical Chemistry 1	3
2302242	Analytical Chemistry Lab 1	2
2308366	Fundamental of Solid Waste Management	3
2308421	Environmental Management System	3
2308498	Science Research Methods	2
2310310	General Biochemistry	3
2310360	General Biochemistry Lab	1
5500496	Communication in Science and Technology	3

2nd Semester		*21 credits*
2308309	Fundamental Air Pollution	3
2308310	Air and Noise Pollution Lab	1
2308320	Introduction to Hazardous Waste	3
2308357	Environmental Noise	3
2308399	Project Proposal	1
2308401	Fundamental Natural Resources and Environmental Management	3
2308418	Environmental Remediation Technology	3
2308451	Environmental Soil Science	3
2308453	Environmental Soil Science Lab	1

4th Year

1st Semester		*19 credits*
2308390	Training	0
2308419	Principles of Biodegradation and Bioremediation	3
2308468	Scientific Approach in Environmental Impact Assessment	3
2308490	Seminar	1
xxxxxxxx	General Education (Special)	3
xxxxxxxx	Major Elective	3
xxxxxxxx	Free Elective	3
xxxxxxxx	General Education (Multidisciplinary)	3

2nd Semester		*6 credits*
2308408	Environmental Science Field Studies	1
2308499	Senior Project	2
xxxxxxxx	Free Elective	3

Master of Science Program

M.Sc. (Industrial Toxicology and Risk Assessment)

Doctor of Philosophy Program

Ph.D. (Industrial Toxicology and Risk Assessment)

About the program

- The program focuses on learning and training through practical field experience and also enhancing teamwork skill in order to provide comprehensive understanding of environmental issues and integration of all knowledge to solve those problems effectively.

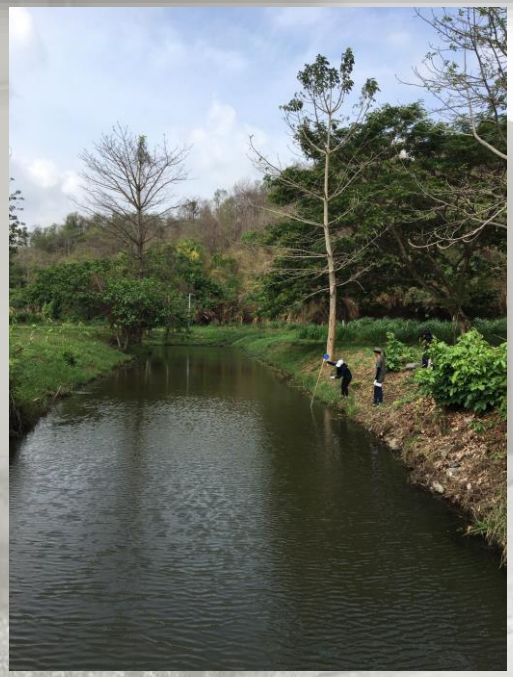
Coursework

- Applied Toxicology for Industrial Environment
- Environmental and Community Impact Assessment
- Environmental Sanitation
- Toxicological Hazard in Industrial Environment
- Essential Epidemiology for Environmental Scientists
- etc.

Grad students

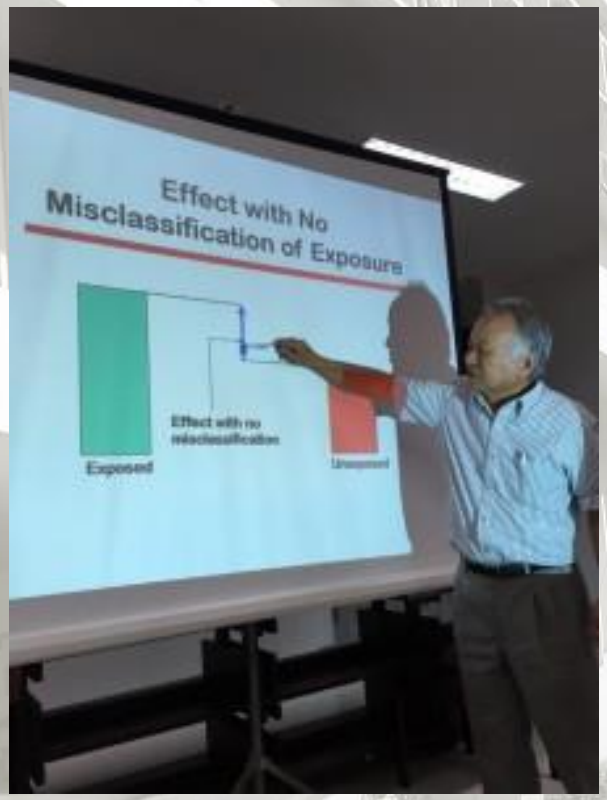
https://www.facebook.com/chulaindusttox/
http://www.envisci.sc.chula.ac.th/graduate-students/

Environmental Science Field Study



Senior Project

Special lecture and seminar



Seminar


METHODOLOGY
Experimental Conditions


SEMINAR
2016
Department of Environmental Science
Faculty of Science
Chulalongkorn University


SEMINAR
2016
Department of Environmental Science
Faculty of Science
Chulalongkorn University
Congratulations

Community service and trip

Graduation ceremony

Welcoming visitors

International conference and symposium

Incoming Programs

- New undergraduate and graduate programs proposed and being processed by the University
  - B.Sc.-M.S.-Ph.D. in Occupational Health and Safety
    (This is on high demand for industrial expansion)

Our goals

- Armed with knowledge, working, and research skills in environmental science, students who graduate from our programs are qualified for positions in most industrial and governmental sectors.
- Overall, we aim at producing graduates that are not only employable and academically successful but they should also become motivated to lead the society to sustainability.

Further Information

Department of Environmental Science

Faculty of Science, Chulalongkorn University

0-2218-5181-2

0-2218-5180

http://www.envisci.sc.chula.ac.th