Education of the Robotics/Remote Technology for Decommissioning

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Basic information of National Institute of Technology

Education System of KOSEN

- Regular Course: 5 years
- Advanced Course: 2 years
- KOSEN: 5 years
- University: 4 years
- Master Degree: 2 years
- Doctor: 3 years
- High School: 3 years
Basic information of National Institute of Technology

5 Departments of Regular Course

- Mechanical Engineering
- Electrical Engineering
- Chemistry and Biochemistry
- Civil Engineering
- Business Communication
2 Major Course of Advanced Course

Mechanical Engineering
Electrical Engineering
Chemistry and Biochemistry
Civil Engineering
System Engineering For Industrial Technology
Business Communication
Education Program on Decommissioning

Course of Decommissioning Technology

- **5th Year**
  - **Nuclear Accidents** / Graduation Research

- **4th Year**
  - **Reactor Decommissioning** / Internship

- **3rd Year**
  - **Decommissioning and the Society** / Robotics for Decommissioning

- **2nd Year**
  - **Radiation and Radioactivity**

- **1st Year**
  - **Nuclear Power Plants**
## Education Program on Decommissioning

### Participants of the Course in 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st} Year</td>
<td>Introduction to nuclear power generation</td>
<td>57</td>
</tr>
<tr>
<td>2\textsuperscript{nd} Year</td>
<td>Radiation and radioactivity</td>
<td>114</td>
</tr>
<tr>
<td>3\textsuperscript{rd} Year</td>
<td>Robotics for decommissioning</td>
<td>88</td>
</tr>
<tr>
<td>3\textsuperscript{rd} Year</td>
<td>Decommissioning and the Society</td>
<td>27</td>
</tr>
<tr>
<td>4\textsuperscript{th} Year</td>
<td>Reactor decommissioning</td>
<td>44</td>
</tr>
<tr>
<td>5\textsuperscript{th} Year</td>
<td>Nuclear accidents</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>395</td>
</tr>
</tbody>
</table>
Education Program on Decommissioning

Decommissioning-related Internships

Fukushima Daiichi Nuclear Power Station (6 students)
  Fukushima KOSEN (4 students)
  Ibaraki KOSEN (2 students)

KOSEN International Summer School
  (@USA, Richland/Hanford B reactor, UC Berkeley)

  Fukushima KOSEN (1 student)
  Hachinohe KOSEN (Aomori, 1 student)
  Ibaraki KOSEN (Ibaraki, 1 student)
  Kagawa KOSEN (Kagawa, 2 students)
  Toyama KOSEN (Toyama, 1 student)
  Kitakyushu KOSEN (Fukuoka, 1 student)

JAEA (4 students)
Creative Robot Contest for Decommissioning

The Field of the Previous Contest

Length 4000mm
Inner diameter 240mm

Pedestal mockup
Creative Robot Contest for Decommissioning

The Field of the Previous Contest
Creative Robot Contest for Decommissioning

Pictures of the Contest
Current Situation in Fukushima

Status of Environmental Restoration

Radiation monitoring being continued
Current Situation in Fukushima

Dose Rate Distribution as a Function of Time

- April, 2011
- June, 2012
- Sep., 2013
- Sep., 2014
- Oct., 2016
- 30 yrs. Later

March 15 Fukushima-Minpo (Newspaper)
Current Situation in Fukushima

Young Generation’s Contribution

Fukushima KOSEN

Concerning Interim Storage Facility Project : Activities of Public Relations for
Reuse of the Very-Low-Level Decontaminated Soil

Decontaminated Soil (14 million ㎥)
Current Situation in Fukushima

Education for Nuclear Regulatory

- Decommissioning Technology Program
- Education Project for Decommissioning Human Resource Development
- Internships + Field Trips
- Courses for Nuclear Regulatory
- PBL Typed Studying by COOP Education

Environmental Safety Education Program
Reflection of my own experience

ONKALO Final Disposal Facility

Fuel pellet
Fuel rot and bundle
Inner capsule
Outer capsule
Buffer bentonite and separator tunnel filler
400-500 meters of bedrock
Reflection of my own experience

Why Education is Important?

- EDUCATION
- UNDERSTANDING
- CHANGE