

# Status of Nuclear Safety Regulation Education at Universities in Korea

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## Introduction

### 'Nuclear safety pre-training Education Reinforcement' program

✓ The Nuclear Safety and Security Commission (NSSC) and the Korea Foundation of Nuclear Safety (KoFONS) have initiated the 'Nuclear safety pre-training training Reinforcement' program.



- ✓ Establishing a foundation for professional.
  - ✓ Raising awareness of safety culture.
  - ✓ Expanding knowledge on safety regulations.
- Cultivating safety awareness and spreading safety culture.

### Necessity of Investigating the Regulation Education Status

✓ To improve the awareness of nuclear safety and safety regulation, it is necessary to analyze the status of nuclear safety regulation education at universities.

### Research purpose

**To analyze the current state of education related to nuclear safety regulation in universities with nuclear energy-related courses in Korea**

- ✓ To analyze the status of nuclear safety regulation courses at universities
- ✓ To analyze Nuclear safety regulation courses were analyzed

## Status of nuclear safety regulation lectures

### Status of nuclear energy-related universities in Korea

✓ There are a total of 19 universities with nuclear power-related departments in Korea.

| Division                               | Number of University   |
|--|------------------------|
| Nuclear major colleges                 | 7 Universities         |
| Nuclear-related major colleges         | 10 Universities        |
| Only graduate school of nuclear energy | 2 Universities         |
| <b>Total</b>                           | <b>19 Universities</b> |

### Definition of nuclear safety regulation lectures

✓ In this study, nuclear safety regulation-related lectures were defined as including keywords such as safety regulation, law, regulation, policy, authorization/permission, nuclear non-proliferation, nuclear security, and safety culture in the lecture name or content.

| Division   | Definition of nuclear safety regulation   |
|------------|---|
| Korean law | safety review and R&D activities related to approval/permission and designation for construction permit, standard design approval, etc.   |
| NSSC       | Nuclear safety regulation as the enforcement of administrative regulations in accordance with laws to protect people and nature from risk factors that may occur when using nuclear energy.   |
| U.S. NRC   | (1) Development of regulations and guidelines;<br>(2) Licensing for nuclear facilities;<br>(3) Oversight of facilities to verify compliance with safety requirements;<br>(4) Operational experience assessment<br>(5) To support regulatory decision-making |

## The proportion of lectures related in regulation

✓ As of 2020, the proportion of lectures related to nuclear safety regulation among the lectures offered by 19 domestic universities operating nuclear energy-related undergraduate or graduate universities was investigated.

✓ The average number of lectures related to safety regulations was 3.8. On average, the ratio of safety regulation lectures out of all 788 lectures (n=788) was found to be  $9.7 \pm 6.3\%$ .

✓ The number of lectures being taught was 12 as the highest and 1 as the lowest. About 8 (42%) of 19 universities have two or less nuclear safety regulation-related lectures.

✓ It is shown that universities that have a high number of nuclear safety regulation lectures offer safety regulation content in current, existing lectures.

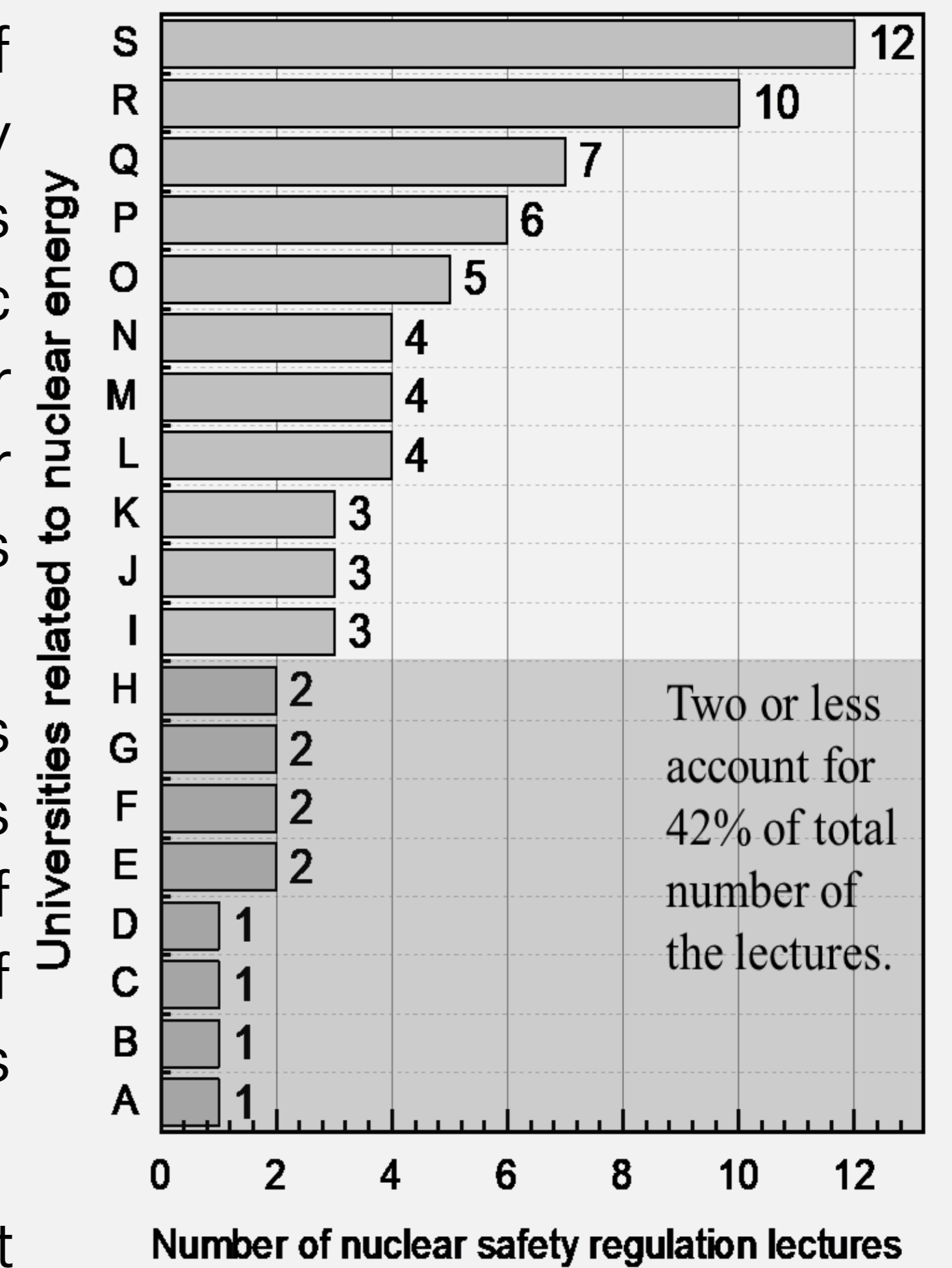


Fig. 1. Number of nuclear safety regulation lectures in university related to nuclear power in Korea

## Analysis of nuclear safety regulation courses

✓ It is judged that the lectures centered on promotion of nuclear technology occupy a large part of the nuclear energy-related universities in Korea, and there are relatively few lectures and practice programs pertinent to the nuclear safety regulation.

✓ To lay the foundation of knowledge on the nuclear safety regulation and nurture a safety culture,

✓ It is necessary to deal with nuclear safety regulation in the existing curriculum.

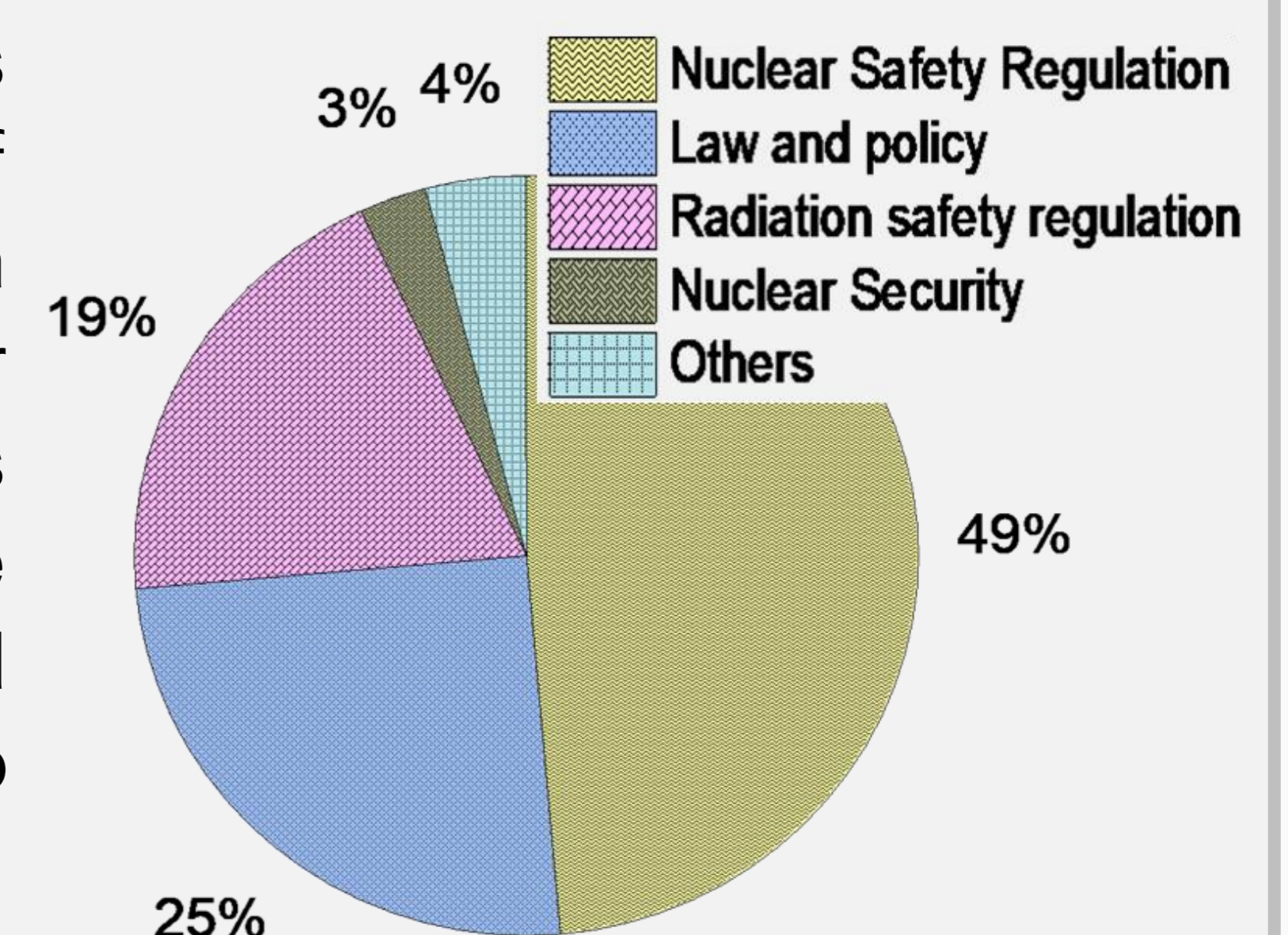


Fig. 2. The Proportion of lectures on nuclear safety regulation at nuclear-related universities in Korea

## Conclusions

- ✓ In this study, the status of nuclear safety regulation education at universities in Korea were investigated and the characteristics of nuclear safety regulation lectures were analyzed.
- ✓ It shows that the number of courses related to nuclear safety regulation is 3.8, which is  $9.7 \pm 6.3\%$  of the total number of lectures.
- ✓ The proportion of nuclear safety regulation lectures was 49% as the highest, 3% as the lowest
- ✓ It is judged that this study can be used for research on improvement of nuclear safety regulation education in the future.

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