

Training, Education and Program of IH in Korea

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Training & Educating Systems in Korea

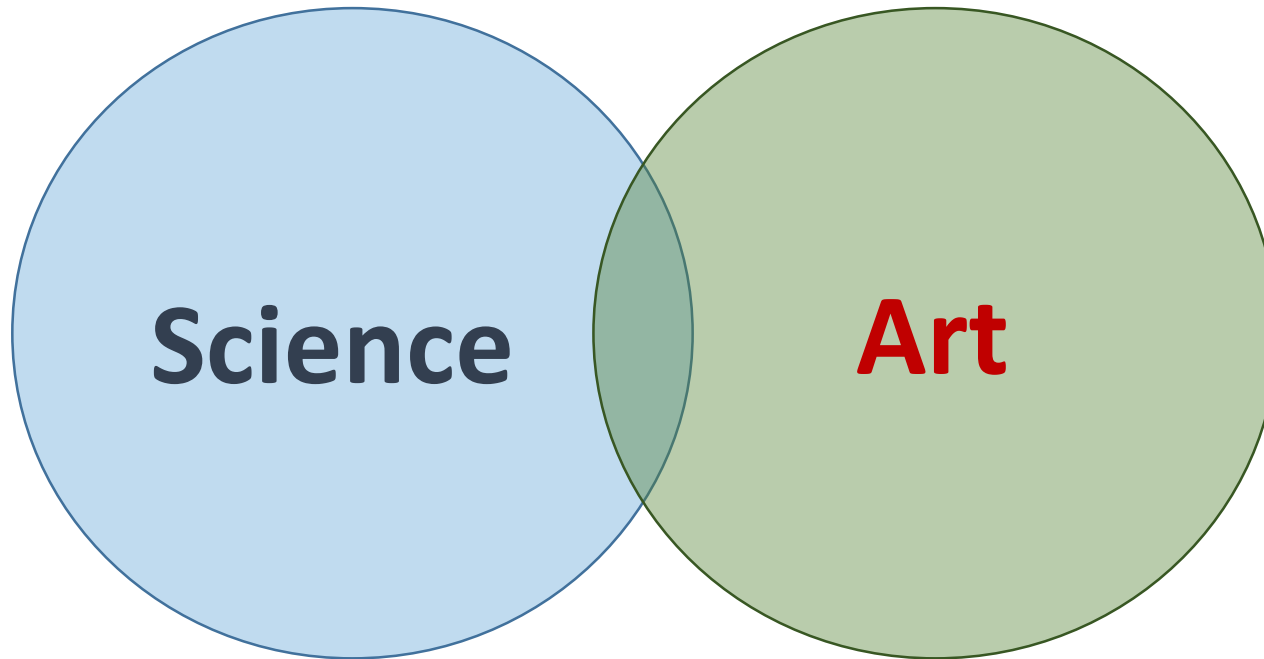


Undergraduate IH Program

Department	College of	# of student / year *	# of faculty *	Established in
Occupational Health	Bio-Medical	42	5	1999
	Applied Science	35	4	1988
Environmental Health	Health Science	120	13	2009
	Natural Science	49	8	1987
I & Env. Health	Environmental Science	35	4	< 2004
Occu. & Safety Engineering	Medical & Bio Engineering	46	6	1992
	Health and Welfare	97	9	1997
Public Health	Natural Sciences	53	7	1984
Bio & Health Sci.	Natural Science	41	5	1998
Env. & Bio Sci.	(n/a)	40	3	1997

* not all of them major in IH

“Industrial Hygiene”



- Academic Knowledge
- Principle/Theory
- Logic/Methodology

- Professional Judgment
- Experience
- Techniques/Skills

Undergrad Curriculum: Example

Year	Class	Year	Class
1	Introduction to Occupational Health Biochemistry Biophysics Biostatistics	2	Industrial Hygiene Risk Assessment & E. Occupational Physiology Industrial Ventilation Environmental Health Work System Management
3	Indoor Air Quality & E. Ergonomics & E. Introduction to Toxicology Work Env. Assessment & E. 1 LEV Design Occupational Safety Management MSD Risk Assessment Occupational Toxicology & E. Analytical Chemistry & E.	4	Occupational Epidemiology & E. Occupational Psychology Occupational Safety Business Work Env. Assessment & E. 2 Occupational Health Business Molecular Toxicology & E. Health Administration Air Pollution Control Occupational Health Internship OSH Management System

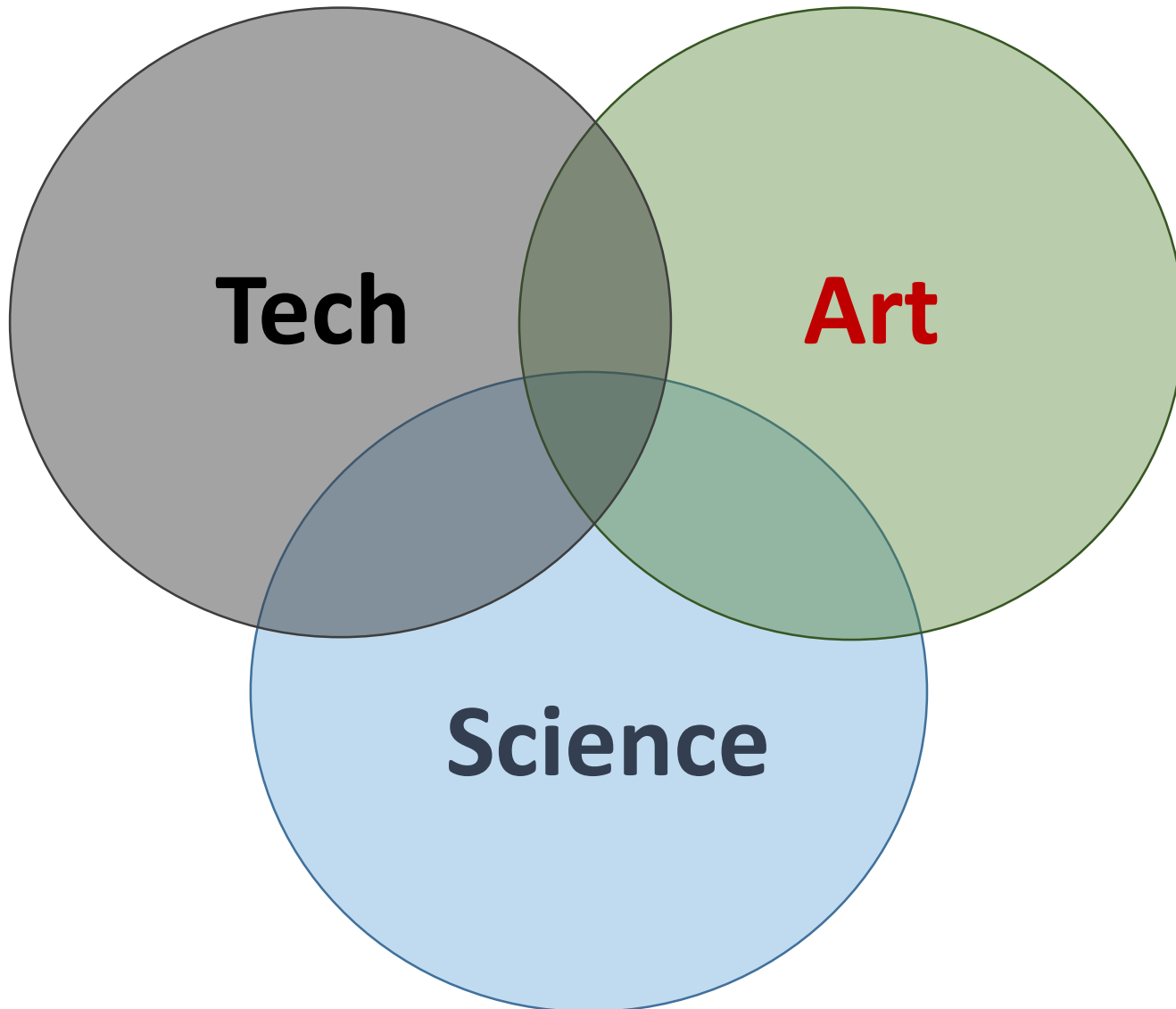
Undergrad Curriculum: My U

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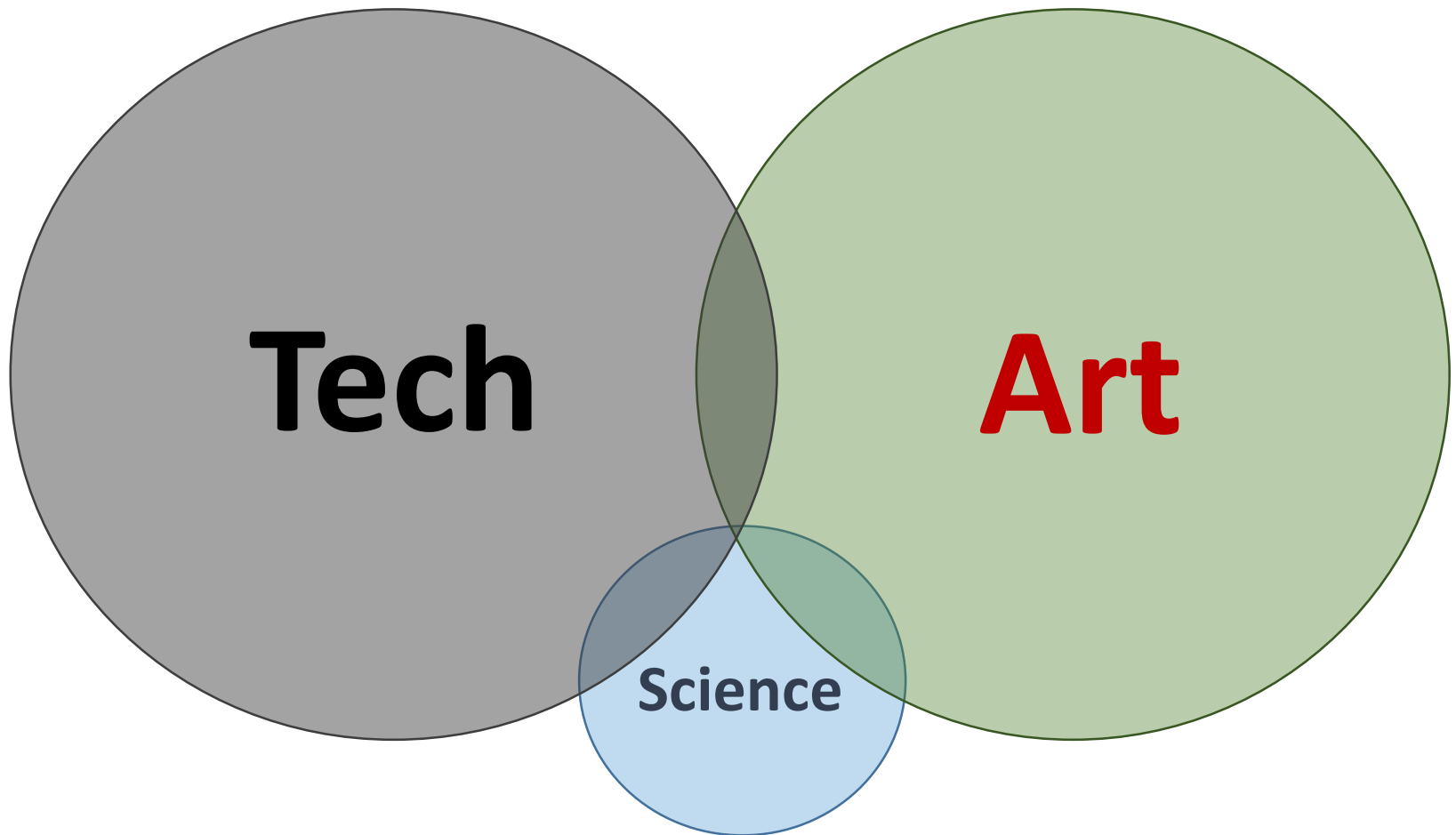
Graduate IH Program

- School of Public Health
 - Environmental Health
 - IH major
- Graduate School
 - Public Health major

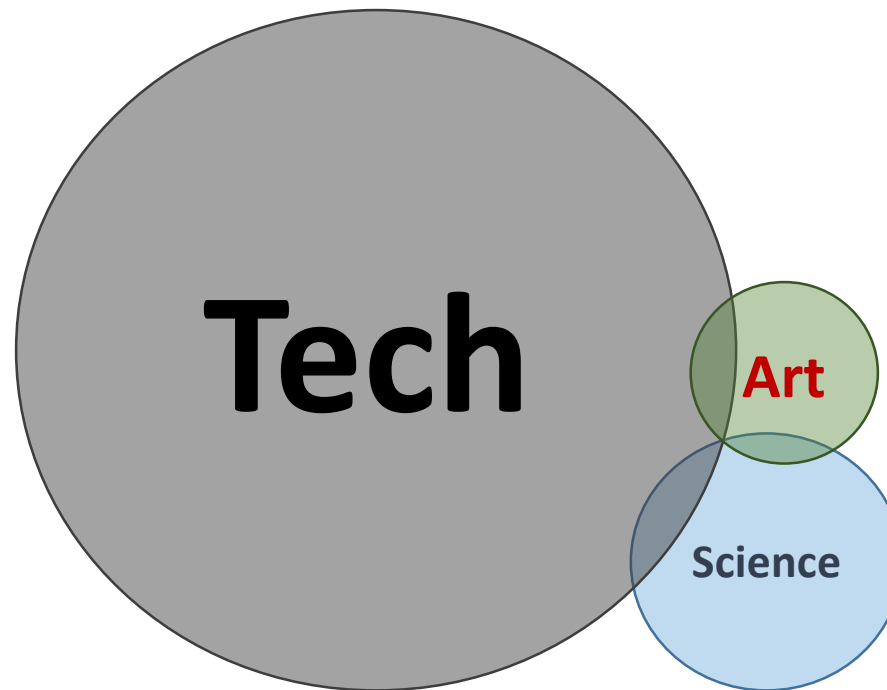
“Industrial Hygiene”



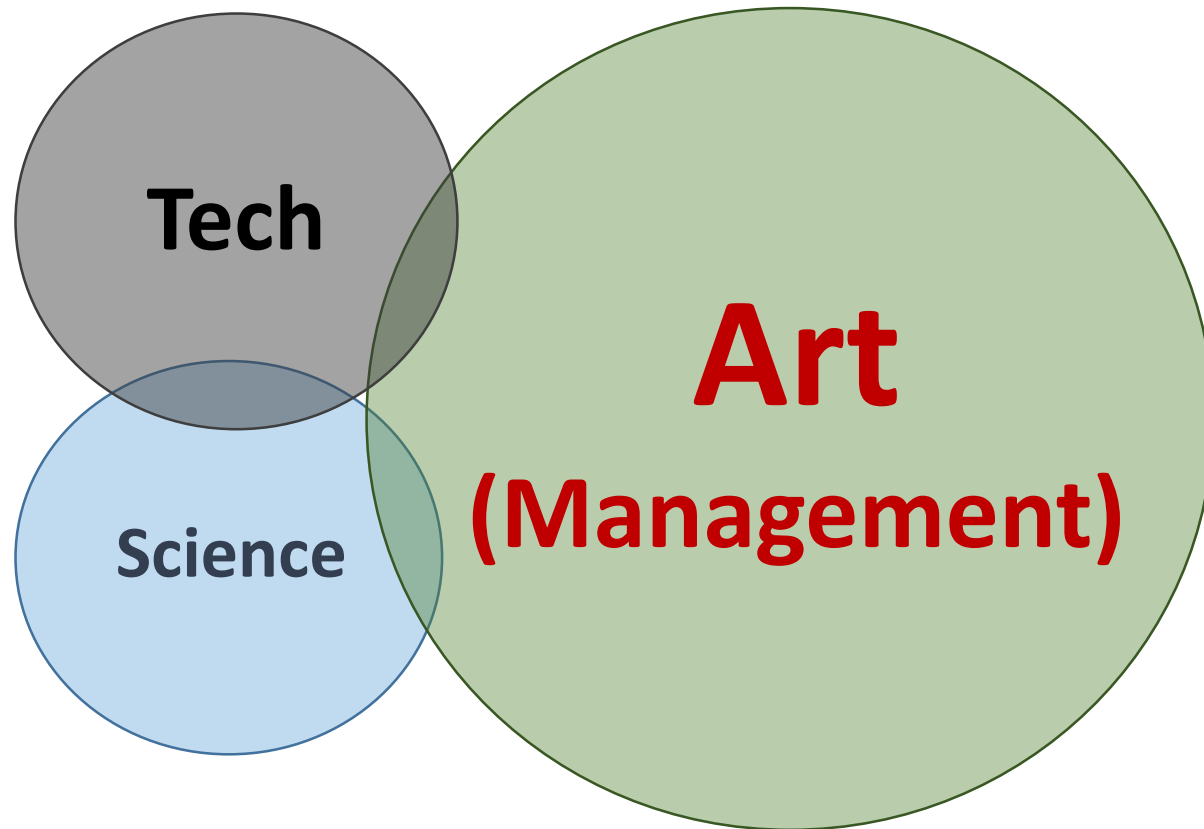
Recently, IH is...



In most Asian countries,

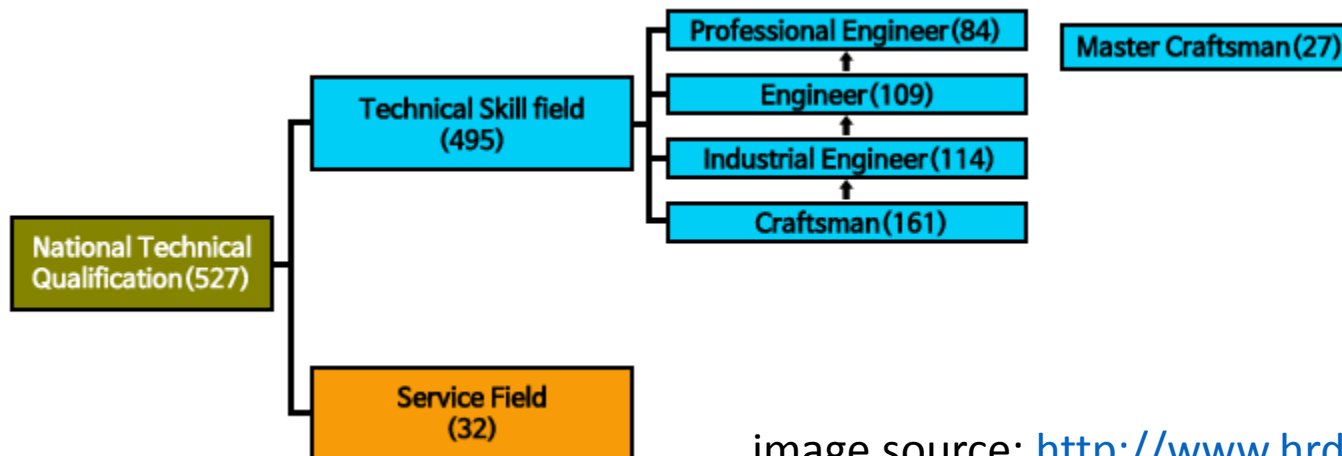


In most Western countries,



IH Certificates (Qualification)

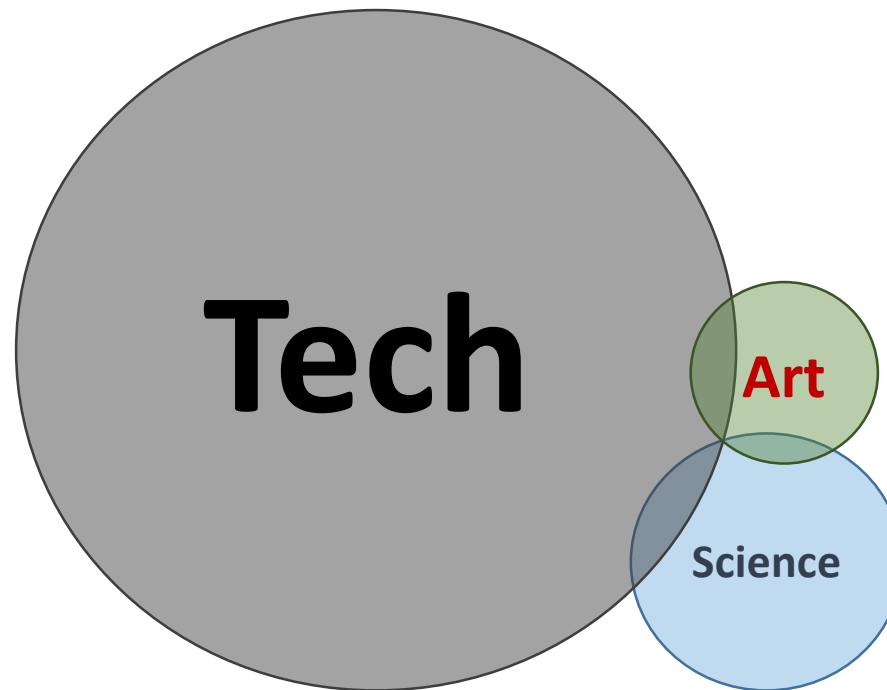
- Managed by Human Resources Development Service of Korea, which is under the control of Ministry of Employment and Labor from 1983
 - N.T.Q (National Technical Qualifications)
- Certificate level: 3
 - professional engineer, engineer, industrial engineer



Types of Qualification in Korea

Classification of qualifications	Test numbers	Related laws	Related Ministries	Qualifications (examples)
National qualification	Skills	National Technical Qualifications Act (MOEL)	Ministry of Employment and Labor(19 government agencies)	professional engineer, master craftsman, engineer, industrial engineer, craftsman, word processor, etc.
	Professional	Individual laws	24 government agencies	Lawyer (Attorney-at-Law Act), Doctor (Medical Service Act), etc.
Private qualification	Certified private	Framework Act on Qualifications (MEST)	12 government agencies	Internet Information Search, TEPS, etc.
	Non-certified private	Framework Act on Qualifications (MEST)	Ministry of Education, Ministry of Employment and Labor	Marriage counselor, stocks analyst, etc.
	in business	Employment Insurance Act (MOEL)	Ministry of Employment and Labor	Digital master, customer service, etc.

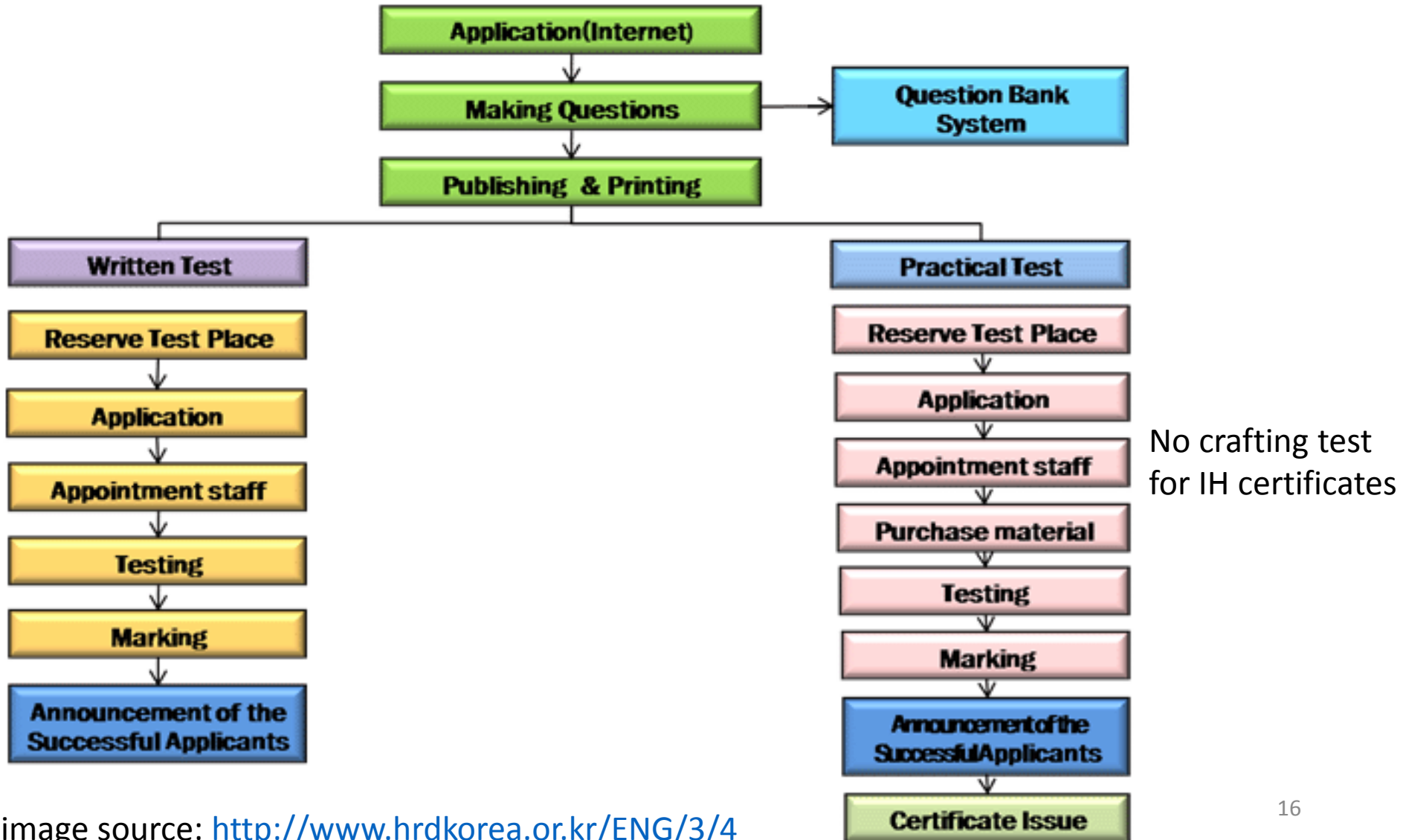
In most Asian countries,



Test Subjects in IH N.T.Q Program

- **Engineer** Industrial Hygiene Management
 - Industrial hygiene
 - Workplace hazard measurement and evaluation
 - Workplace hazard controls
 - Physical hazard
 - Occupational toxicology
- **Industrial Engineer** Industrial Hygiene Management
 - Industrial hygiene
 - Workplace hazard measurement and evaluation
 - Workplace hazard controls
 - Physical hazard

Procedure of N.T.Q



No crafting test for IH certificates

Certificate	Year	Written			Practical		
		Applicant	Pass	(%)	Applicant	Pass	(%)
Engineer Industrial Hygiene Management	2015	3,163	1,299	41.1%	2,374	1,191	50.2%
	2014	2,976	1,346	45.2%	1,944	490	25.2%
	2013	2,190	967	44.2%	1,500	615	41%
	2012	1,443	627	43.5%	1,149	587	51.1%
	2011	1,421	638	44.9%	1,297	292	22.5%
	2010	1,483	580	39.1%	866	332	38.3%
	2009	1,311	562	42.9%	911	522	57.3%
	2008	1,159	483	41.7%	894	340	38%
	2007	1,251	507	40.5%	795	238	29.9%
	2006	1,285	321	25%	468	152	32.5%
	2005	950	259	27.3%	522	253	48.5%
	2004	920	267	29%	529	178	33.6%
	2003	1,044	233	22.3%	520	97	18.7%
	2002	950	194	20.4%	423	106	25.1%
	2001	796	100	12.6%	305	44	14.4%
	1984 ~2000	10,881	4,746	43.6%	7,973	2,162	27.1%
Total		33,223	13,129	39.5%	22,470	7,599	33.8%

Occupational Health Consultant

- New certification started in 2011
- Managed by Human Resources Development Service of Korea, which is under the control of Ministry of Employment and Labor
 - N.T.Q (National Technical Qualifications)
- Test Subjects
 - Step 1: Related regulations, occupational health, workplace investigation and consultation
 - Step 2: Occupational and environmental medicine or industrial hygiene engineering
 - Step 3: Interview

Statistics

round		2011	2012	2013	2014
1	applicant	-	409	188	144
	show-up	-	3431	156	115
	(%)	-	83.9%	83.0%	79.9%
	pass	-	31	2	24
	(%)	-	9.0%	1.3%	20.9%
2	applicant	-	-	1	6
	show-up	-	-	1	6
	(%)	-	-	100%	100%
	pass	-	-	1	1
	(%)	-	-	100%	16.7%
3	applicant	23	31	2	18
	show-up	23	30	2	18
	(%)	100%	96.8%	100%	100%
	pass	23	25	2	11
	(%)	100%	83.3%	100%	61.11%

Required OSH training by laws

- General manager
 - > 6 hr. every year
- OSH manager
 - > 34 hr. in the 1st year
 - >24 hr. every year
- Worker
 - Regular worker
 - Office worker
 - > 1 hr. every month
 - > 3 hr. every quarter
- Worker (continued)
 - Non-office worker
 - > 2 hr. every month
 - Daily worker
 - > 1 hr.
 - Worker dealing hazard
 - Additional > 16 hr.
- Training Institute
 - Korean Occupational Safety & Health Agency
 - OSH NGO

“Training” vs. “Education”

Training

- *Know How*
- Learning
 - during doing Job/Task
 - from senior
 - at work, training center
- Repetition
- Self-training

Education

- *Know Why*
- Learning
 - by curriculum
 - by tenure
 - at academic school
- Understanding
- Thinking



Who wants IHs
in Korea?

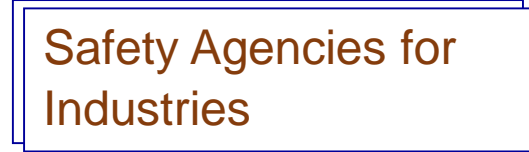
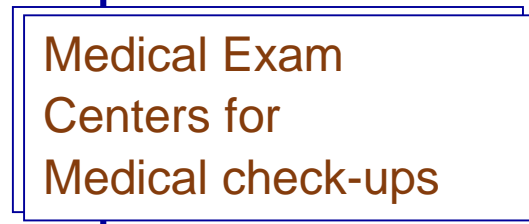
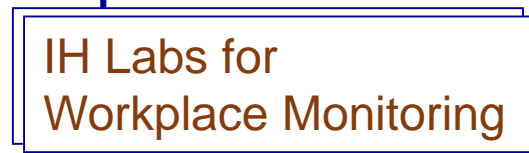
Government

Public sector

Private sector



1,300 staffs



Future trends in Korea

- IH certificates
 - National Competency Standards(NCS) development and utilization in 2014-2015
 - Completed development of NCS for 847 trades among total 887 trades by the end of 2015
 - NCS affects the guidelines for N.T.Q programs
 - New guideline was announced for IH certificates in 2015
 - Guidelines have been updated every 5 year
- Industrial safety certificates
 - New guideline was announced for IH certificates in 2016
 - A video test was newly added in practical test