2025

PSHA 이론과 실습

PSHA: Theory and Practice

1. 교육일정 : 2025.11.17(월) ~ 2025.11.19.(수)
2. 교육장소 : 대덕테크비즈센터 407호
3. 교육시간 : 3일 20시간

PNSC ㈜피앤에스컨설팅

교육 소개

교육기간	2025.11.17.(월) ~ 2025.11.19.(수)
교육시간	3일, 20시간
교육장소	대덕테크비즈센터 407호
교 육 비 (부가가치세 포함)	일반: 150만원 학생: 50만원

교육 신청

☑ 교육 시작 2주 전까지 **참가신청서**를 작성하여 메일로 통지
- pnsol2023@gamil.com
- 학생(학부생, 대학원생)의 경우 재학증명서 첨부

☑ 교육 참가자 이름으로 교육비를 아래 계좌로 입금
- 우리은행 1005-604-735789 (주식회사 피앤에스컨설팅)

참고 사항

☑ 모든 수강생에게 실습용 SeisHaz_GUI 프로그램 제공
- SeisHazCal, SeisHazPPr

☑ SeisHaz_GUI를 구매한 경우 3인까지 무료

준비물

☑ SeisHaz_GUI 실습을 위해 노트북 지참

교육 내용

일 차	내 용
1일 차(6시간) 11:00~18:00	**Part I: Theory** **Chapter 1. Introduction** ■ About the Course **Chapter 2. PSHA Theory** ■ Basic Concepts • Hazard vs. Risk • Deterministic vs. Probabilistic ■ Probability Theory • Probability Expression • MECE Principle, Total Probability, Conditional Probability, • Poisson Process ■ PSHA Input • Ground Motion Models, Seismic Source Models, and Site Conditions ■ Uncertainties • Aleatory vs. Epistemic, and Examples ■ Hazard Calculation • Calculation for Aleatory and Epistemic Uncertainties ■ Output of PSHA • Hazard Curves, Uniform-Hazard, etc. **Chapter 3. V&V of PSHA Code** ■ Validation and Verification **Chapter 4. Guidance on PSHA Implementation** ■ Lessons Learned ■ SSHAC Process • Five Key Features • CBR of TDI • Evaluation, Integration, and Documentation • Interaction & Learning, and Feedback • Expert Judgement & Cognitive Bias • SSHAC Study Levels • Key Roles, Responsibilities, and Attributes

2일 차(7시간) 10:00~18:00	**Part II: Practice** **Supplement I** ■ Guidance on the Use of SeisHazCal **Chapter 5. Practice with Verification Problems** ■ Test Set I • General Instructions • Set I Test Instructions • Practice with Tests 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, and 1.11 ■ Test Set II • Practice with Tests 2.1, 2.2, 2.3, and 2.4
3일 차(7시간) 10:00~18:00	**Supplement II** ■ Guidance on the Use of SeisHazPPr **Chapter 6. Practice with Realistic Input** ■ Single Site • Input of ground motion levels • Input of area source parameters, including those of hollowed area source • Input of segmented listric fault parameters • Editing a ground motion model set • Editing a magnitude-rupture relation set • Construction of seismic hazard curves • Analysis of seismic source contribution • Analysis of ground motion model contribution **Chapter 7. Practice for Hazard Mapping** ■ Gridded Sites • Selection and setting of gridded site locations • Construction of seismic hazard curves at gridded sites • Calculation of PGAs at gridded sites for given exceeding probability (PE) and observation period **Chapter 8. Application Practice** ■ Hazard Curves • Input of bins for deaggregation: epsilon, distance, magnitude • Hazard calculation for multiple ground motion types • Construction of multiple seismic hazard curves

	■ UHRS • Preparation of output by SeisHazCal • Preparation of output by Single site analysis I of SeisHazPPr • Construction of UHRS for a couple of PEs ■ Hazard Deaggregation • Preparation of output by SeisHazCal for SA at 1.0, 2.5, 5.0, 10.0 Hz • 1st stage analysis: interpolation of hazard curves to get ground motion value corresponding PE=1.0E-4/yr • 2nd stage analysis: hazard deaggregation for for SAs ■ Controlling Earthquakes • Calculation of controlling earthquakes using hazard deaggregation results ■ Performance-Based GMRS • Calculation of performance-based GMRS using UHRS anchored at PE of 1.0E-4/yr and 1.0E-5/yr

알림: 상기 교육 내용은 교육 참가자의 배경지식 및 수요에 따라 현장에서 조정될 수 있습니다.

<위치 안내>
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B: 도룡동공영주차장(상)
C: 도룡동공영주차장(하)
D: 무료주차장
E: 무료주차장

<주차안내>
1. 강의실 건물 지하주차장이 있으나, 주차공간이 부족하다고 합니다.
2. 가급적 주차장 B~E를 이용하시기 바랍니다.
3. 주차비는 정산해 드립니다.