

컴퓨터공학  
학과

(GPU PROGRAMMING과 응용)

4541.779

# Today's Lecture

- Course Information
  - ▣ 강좌목표 및 내용 소개
  - ▣ 교재소개
  - ▣ 강의 진행 계획 및 관련규칙

# 강좌의 목표

- Introduction to GPU
- GPU programming
- GPU applications in volume visualization and image post-processing

# Course Information

- 담당교수
  - 김보형 (컴퓨터공학부)
  - 연구실: 138동 204호
  - 전화: 880-7082
  - Email: bhkim@cse.snu.ac.kr
- Office hour
  - 화요일 2:00 ~ 4:00 or by appointment
  - 138동 204호

# Course Information

- 담당조교
  - 윤지혜(컴퓨터공학부, CgIp 연구실)
  - 연구실: 302동 314-2호
  - 전화: 880-1860
  - Email: [jhyun@cglab.snu.ac.kr](mailto:jhyun@cglab.snu.ac.kr)

# Course Information

- 수강대상
  - Volume visualization과 Image post-processing 사전지식이 있는 대학원생.
- 교재
  - ▣ 강의노트 및 reading materials(research papers)
- All information on the course will be available at
  - ▣ [http://vplab.snu.ac.kr/lectures/11-1/comp\\_appl/index.html](http://vplab.snu.ac.kr/lectures/11-1/comp_appl/index.html)

# 강의내용

- Code로 설명
- 자료구조 포함
- Step-by-step explanation

Week 0	Course Information
Week 1	Why GPU?
Week 2	DirectX 11 Programming : Direct3D Pipeline
Week 3	DirectX 11 Programming : Basic Direct3D Programming
Week 4	Volume Visualization : Theory
Week 5	Volume Visualization : Texture-based Volume Rendering
Week 6	Volume Visualization : Ray-casting Volume Rendering
Week 7	Volume Visualization : Transfer Function
Week 8	Volume Visualization : Pre-integrated Volume Rendering
Week 9	Image Post-Processing : Simple Spatial Filters
Week 10	Image Post-Processing : Other Topics
Week 11	CT Reconstruction
Week 12	Paper Presentation
Week 13	Paper Presentation
Week 14	Paper Presentation
Week 15	<b>Term Project Demonstration</b>

# Course Information

- 평가
  - 과제물: 75%
  - 논문발표: 20%
  - 출석 및 강의 참여도: 5%



# Course Information

- 과제물
  - ▣ 3 Assignments
    - ▣ Direct3D Programming: Mesh Rendering
    - ▣ Volume Rendering
    - ▣ Image Processing
  - ▣ Term Project
    - ▣ CT Reconstruction

# Course Information

- 과제물 제출 기한 초과시 점수계산
  - ▣  $\leq 12$  hours: -10% of 해당과제총점
  - ▣  $\leq 24$  hours: -20%
  - ▣  $\leq 36$  hours: -30%
  - ▣  $\leq 48$  hours: -40%
  - ▣  $\leq 60$  hours: -50%
  - ▣  $\leq 72$  hours: -60%
  - ▣  $> 72$  hours: -100%
- 과제물 부정 행위
  - ▣ 부정행위자 및 협조자 모두 전 과제물이 0점 처리

Any Questions??