수업계획서

교과목명	디지털 디자인			학수번호	10786001	이수	전필	학점	3
강의시간	금1 ,금2 ,금3 ,금4	강의실	공과대학1-507						
선수과목				공학인증 이수구분					

교수소속	공과대학 건축학과	교수성명	황정현	연락처	
e-mail		연구실	공학관 513A호	지도상담시간	1 hour after class
홈 페 이지 / 카				조교	

강의 개요

This class is designed for students to understand architectural geometry & parametric design and achieve fundamental skills using Rhinoceros v5 and Grasshopper. The intent for this course is to introduce the students to 3-d digital modelling tools in order to improve their skills, applying them to better their design works. To assure good understanding of the contents presented for lecture, 4 assignments and 1 large project will be developed during lab sessions.

강의 목표

Students can acquire the following abilities after taking this class.
1. To create, edit, analyze, and translate curves, surfaces, and solids with NURBS modeling by Rhino 5.0
2. To build form generators from the simple to the awe inspiring with graphical algorithms by Grasshopper
3. 1 large project will give an opportunity to synthesize all the relevant digital tools.

강의 진행방법

1. Introduction to Parametric Design
2. Rhinoceros: for advanced 3d modeling, basic data collection and diagramming.
3. Grasshopper: for generative algorithm modeling
4. Comprehensive use and integrated approach by using multiple platforms, allowing for easy transfer of files between applications.

평가요소	성적 평가방법	비율
출석	Absences exceed four times : F	20
중간고사	3D modeling with Grasshopper (written and practical tests)	30
기말고사	Panel and 3D Model (Rhino and Grasshopper files + A3 Panel with Process and Details)	30
레포트	See the Assignments details	20
그룹 프로젝트		0
기타		0
합 계		100

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과제명 및 과제작성 방법안내	제출일	제출물 유형 및 제출방법
Modeling Process of Furniture(IKEA) by Rhino - 3D Mass Rhino Model file	3-week	PPT
Research of Projects based on Parametric Design - PPT file within 20 pages	6-week	PPT
Building Skin Variation of Parametric Modeling - made by Rhino 3d file and Grasshopper digital file	11-week	PPT
Mass Variation of Parametric Tower Modeling - made by Rhino 3d file and Grasshopper digital file	14-week	PPT

* 과제지연시 패널티 기준 : Late assignment submission is not allowed. Assignment should be submitted in E-CLASS

구분	교재명	저자	출판사	출판년도
주교재	The Grasshopper Primer Third Edition	Foundations	Mode Lab	Grasshopper3D	2014
부교재	Rhinoceros Level 1 Training Manual v4.0	Rhinoceros	Rhinoceros	2014
참고자료				

강의 규정 (학습자 유의사항)

1. Late Submission Paper : Late Submission is not allowed (E-Class Closed)
2. Mid-Term Exam : To make 3D Modeling with Grasshopper
3. Final Presentation : Final Project is to develop students own idea and design concept to tower curtainwall and details.
4. University official regulation

장애학생 지원내용

Please ask your requirements to the lecturer or department office if you need additional support for taking this class.

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주차	기 간	수 업 내 용 및 학 습 활 동
1	03/02 ~ 03/08	ㅇ Subject : Introduction to Rhino5 and Drafting ㅇ Contents : NURBS modeling and 2D commands ㅇ Methods : Lecture and Student Tutorials
2	03/09 ~ 03/15	ㅇ Subject : Rhino5 3D Modeling and Editing ㅇ Contents : 3D Geometry and 3D Commands ㅇ Methods : Lecture and Student Tutorials
3	03/16 ~ 03/22	ㅇ Subject : Introduction to Grasshopper and Parametric Design ㅇ Contents : Grasshopper GUI and Non-Euclidean Geometry ㅇ Methods : Lecture and Student Tutorials
4	03/23 ~ 03/29	ㅇ Subject : Introduction to Grasshopper and Parametric Design ㅇ Contents : Grasshopper GUI and Non-Euclidean Geometry ㅇ Methods : Lecture and Watching Video clips
5	03/30 ~ 04/05	ㅇ Subject : Introduction to Grasshopper and Parametric Design ㅇ Contents : Grasshopper GUI and Non-Euclidean Geometry ㅇ Methods : Lecture and Student Tutorials
6	04/06 ~ 04/12	ㅇ Subject : Grasshopper Basic tutorial - 1 ㅇ Contents : Math Details and Data management ㅇ Methods : Lecture and Student Tutorials
7	04/13 ~ 04/19	ㅇ Subject : Grasshopper Basic tutorial - 2 ㅇ Contents : Euclidean Transform and Attractors ㅇ Methods : Lecture and Student Tutorials
8	04/20 ~ 04/26	ㅇ Subject : mid-term exam ㅇ Contents : 3D modeling with Grasshopper (written and practical tests)
9	04/27 ~ 05/03	ㅇ Subject : Grasshopper Tower Modeling - 1 ㅇ Contents : Rhino and Grasshopper ㅇ Methods : Lecture and Student Tutorials
10	05/04 ~ 05/10	ㅇ Subject : Grasshopper Tower Modeling - 2 ㅇ Contents : List Management ㅇ Methods : Lecture and Student Tutorials
11	05/11 ~ 05/17	ㅇ Subject : Grasshopper Tower Modeling - 3 ㅇ Contents : Louvers and Twisted Louvers ㅇ Methods : Lecture and Student Tutorials
12	05/18 ~ 05/24	ㅇ Subject : Grasshopper Tower Modeling - 4 ㅇ Contents : Framing and Tiling ㅇ Methods : Lecture and Student Tutorials
13	05/25 ~ 05/31	ㅇ Subject : Grasshopper Tower Modeling - 5 ㅇ Contents : Surface Geometry with U, V and 2D Domain ㅇ Methods : Lecture and Student Tutorials
14	06/01 ~ 06/06	ㅇ Subject : final exam ㅇ Contents : 3D modeling with Grasshopper (written and practical tests)