CENTRAL UNIVERSITY OF VENEZUELA
Academic Vice-Rectorate
Central Curriculum Commission
Central Coordination of Undergraduate Studies

VICERRECTORADO ACADEMICO

Date:	**REGISTRATION OF COURSES**	RESPONSIBLE OF REGISTRATION:

AREA OF KNOWLEDGE	**SUB-AREA**	**UNDERGRADUATE**	**POSTGRADUATE**
BASIC SCIENCES			
ECONOMICS AND SOCIAL SCIENCES			
HEALTH SCIENCES			
ENGINEERING, ARCHITECTURE AND TECHNOLOGY		**X**	
EDUCATION SCIENCES			
HUMANITIES AND ARTS			
AGRICULTURAL AND SEA SCIENCES			
MILITARY ARTS AND SCIENCES			
SAFETY AND CIVIL PROTECTION			
INTERDISCIPLINARY			
OTHERS			

ADSCRIPTION OR BRANCH (ES):

FACULTY	Architecture and Urbanism Faculty
SCHOOL	Architecture School “CARLOS RAÚL VILLANUEVA”
INSTITUTE	
DEPARTMENT	Knowledge Sector Methods
OTHERS	Laboratory of Advanced Technics in Design

COURSE:

NAME	COMPUTER ASSISTED DESIGN I 98
CODE	5362
EXECUTIVE UNIT	
CLASSIFICATION	Elective
APPROVAL DATE	
UPDATE DATE	
APPROVAL AUTHORITY	Faculty Council
CREDIT UNITS	Three (3)
HOURS/WEEK	Four (4)
REGIMEN	Semi-Annual
ACADEMIC PERIODS	Regular
REQUIREMENTS	5053
PROFESSOR	Various from the Laboratory of Advanced Technics in Design

PURPOSES

1. To present to the student the computer as a powerful modelling, visualization and communication assistant in the architectural design process.

2. To facilitate to the student the use of design, drawing, photorealism resources and image treatment during the architectural projection, regardless of the available software or platform.

3. Encourage the integration of efficient and productive work teams, with values of collaboration and exchange that uses the computer as an assistant of their creative processes.

LEARNING OBJECTIVES

At the end of the course the student will be in capacity to:

1. Know the general aspects and differences between CAD and CAAD.

2. Build tridimensional objects using a CAAD application.

3. Manipulate tridimensional architectural objects in the digital space.

4. Properly utilize the representation and visualization tools for architecture

CONTENTS

1. Basic modelling of 3D objects

1.1. Construction of tridimensional objects through basic extrusion, multiple extrusion.
1.2. Edition and manipulation of tridimensional objects
1.3. Visualization: generation and manipulation of views, projections, perspective sections.
1.4. Construction of architectural objects: walls, floors, slabs and roofs.

2. Advanced modelling of 3D objects

1.1. Extrusion in base of vectors, sweep.
1.2. Generation of complex solids. Manipulation and transformation of 3D objects though Boolean operations: union, subtraction and intersection.
1.3. Management and creation of libraries.
1.4. Parametric architectural objects: windows, doors, furniture, stairs, etc.

3. Representation and visualization

1.1. Management and edition of materials, texturing. Usage of material libraries.
1.2. Natural and artificial lighting.
1.3. Rendering, transparency, surfaces mapping.
1.4. Project representation: views, sections, perspective floor plans, perspectives, etc.

INSTRUCTIONAL MEDIA

- Software:
  - Vectorworks by Nemetschek, Inc.
  - DesignWorkshop by Artifice, Inc.
  - Apple OS X

- Hardware:
  - Macintosh computers with a minimum configuration of G3 processor, working to 333 MHz.
  - A3 printer
  - Scanner
  - Zip 100 Mb unit
  - Video beam

- Printed means
- Online instructions
- Tutorials and workshops available from the LTAD web site
- Blackboard and markers
- Computer dynamic presentations
- CD multimedia

EVALUATION

Final evaluation in each stage, through the presentation of realized works on the computers laboratory.

TEXTBOOKS (If possible, according to contents)

- ÁLVARES, Dario José (2003) De los mapas de Planiandia a los caminos de Ciberia. Reflexiones sobre la eperiencia docente en pregrado (2000-2002) En: Tecnología y Constrcción N° 19 I-2003, Caracas, Venezuela. Páginas 21 a 28 inclusive.
- LLAVANERAS SÁNCHEZ, Gustavo José (2001) Titulación como Arquitecto en el Marco del Diseño de Ambientes Virtuales. Ponencia, (Páginas 159-161), v. Congreso SIGraDi, Concepción, Chile.
- NEMETSHEK M.A. Inc, "VectorWorsks User Guide", Columbia USA, 2004.
- Various articles from the following books of seminars:
- VII Seminario Iberoamericano de Gráfica Digital SIGRADI, Rosario, Argentina, 2003.
- VI Seminario Iberoamericano de Gráfica Digital SIGRADI, Caracas, Venezuela 2002.
- V Seminario Iberoamericano de Gráfica Digital SIGRADO, Concepción, Chile, 2001.
- 1era Conferencia sobre aplicación de computadoras en arquitectura, Caracas, 1999.
- 2da Conferencia sobre aplicación de computadoras en arquitectura, Maracaibo, 2001.
- MONEDERO, I. Javier, "Aplicaciones Informáticas en Arqutectura", Barcelona España. 2000.
- PELLEGRINO Pierre, CORAY Daniel, "Arquitectura e Informática", Editorial Gustavo Gili, S.A. Barcelona España. 1999.
- SANDERS, Ken. "El arquitecto digital: guía para utilizar con sentido común la tecnología informática en el ejercicio de la arquitectura", Navarra, España. 1998.
- RODRIGUEZ DE PARTERROYO, Francisco, "El dibujo de arqutiectura y el ordenador", Madrid, 1998.