Course guide
310009 - 310009 - Graphic Expression II

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Unit in charge: Barcelona School of Building Construction
Teaching unit: 752 - RA - Departamento de Representación Arquitectónica.

Degree: **Academic year:** 2020 **ECTS Credits:** 6.0
Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: FRANCISCO JAVIER GARCIA RODRIGUEZ

Others: Primer quadrimestre:
FRANCISCO JAVIER GARCIA RODRIGUEZ - 1M
PEDRO SARRO GARCIA - 4T
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DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. FE-1 Ability to understand and make the graphical documentation of a project, to do data gathering, surveying of plans and geometric control of construction units.

Transversal:
3. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.

TEACHING METHODOLOGY

Learning method Based on Projects (ABP).

It is a strategy on which the students carry out projects.
ABP is based on the student, who is the center of the learning and the professor help him/her and makes this process easier. But it is the student who find out his/her learning needs when he/she confronts the project.
The student could fulfill these learning needs searching the avaible resources in Atenea, library, www, etc.

The ABP objectives are:
Integrate knowledge and abilities of different fields.
Develop mental abilities with a high level on Bloom's taxonomy: application, analysis, synthesis and evaluation.
Promote the autonomous self-learning and independent work.
Promote the teamwork both in class as outside.
Promote the self-assessment.

A ABP session includes all these stages:
Project presentation.
Important item list.
Search of the avaible resources by the students.
Development of the first proposals.
Discussion of the first proposals by the students and the professor.
Election of the developed solution.
Project resolution.
Correction with professor during the fulfilment of the project.
Delivery of the finished practice.
Correctio of the practice with the professor.
Delivery to the student of the corrected practice.

LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course, students should be able to:

Introduce the student to the fundamental concepts of the basic project.
Achieve that the student familiarizes with the graphic representation of the plans that conform the basic project.
Identify, differentiate and interpret the graphic representation of the elements that take part in an architectural project.
Choose and apply the most suitable representation system to use in each case.
Enumerate and apply the regulations in a basic project.
Apply the design criteria in the different spaces of a residential building.
Choose and apply the most suitable dimensional control system in the plans of the project.
Use with ability the graphic expression as a tool to communicate with both student and work environment.

STUDY LOAD

Type	Hours	Percentage
Hours small group	15,0	10.00
Hours large group	30,0	20.00
Self study	90,0	60.00
Hours medium group	15,0	10.00

Total learning time: 150 h

CONTENTS

C1 Basic project and town-planning rules.

Description:
1.1 Introduction to architectural project
1.1.1. Project definition.
1.1.2. Kind of projects: Residential, industrial, equipement, etc.
1.2. Basic project and executive project.
1.2.1. Parts of a basic project.
1.3. Urban regulations.
1.3.0. Urban certificate.
1.3.1. Minimum plot
1.3.2. Maximum occupancy
1.3.3. Building coefficient.
1.3.4. Regulatory maximum height.
1.3.5. Distance to the limits of the plot.
1.4. Introducing the basic project to develop along the course.
1.4.1. Urban regulations.
1.4.2. Blueprint of the plot.
1.4.3. Graphic representation.
1.4.4. Delivery of the draft.
1.5. The blueprint of architecture and building.
1.5.1. Definition.
1.5.2. Elements that forms it.
1.5.3. Composition.

Related activities:
Activities 5, 6, 8 and 9.
The activities 5 and 9 will be the midterm exam and final exam.

Full-or-part-time: 3h
Theory classes: 1h
Self study : 2h

C2 Study of spaces in the night zone. Bedrooms.

Description:
2.1. A person as a measurement.
2.2. Spaces of a dwelling.
2.2.1. Zone definition.
2.2.2. Kind of zones: day zone, night zone, passage area, service area, etc.
2.2.3. Relation between zones.
2.3. Night zone.
2.3.1. Relation between the night zone spaces.
2.4. Bedroom.
2.4.1. Definiton.
2.4.2. Types: principal, double, individual, suite.
2.4.3. Spaces inside a bedroom.
Analysis of the conditions and necessities.
Distribution and uses.
Furniture. Types. Measures. Representation.
2.5. Ordinances.
2.5.1. Concept.
2.5.2. Usable space.
2.5.3. Minimum side.
2.5.4. Minimum height.
2.5.5. Illumination spaces. Windows, balconies.
2.5.6. Passage openings. Doors.
2.6. Design criteria: spaces, circulation, furniture, use spaces.
2.7. Electric facilities representation. Facilities legend.
2.8. Representation of the furniture in the detail drawings.
2.9. Text.
2.10. Dimension.
2.11. Process phases: from the sketch to the detailed drawing.
2.11.1. Conceptual phase.
2.11.2. Reflection phase.
2.11.3. Definition phase of the proposal
2.11.4. Graphic expression of each phase.
2.12. Interior perspective: axonometric and conical.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C3 Study of spaces in the night zone. Bathrooms.

Description:
3.1 Spaces of a dwelling. Relation between spaces.
3.2. Service spaces. Bathroom.
3.2.1. Definition.
3.2.2. Situation in the dwelling. Orientation. Relation with other spaces.
3.2.3. Types: complete bathroom, small bathroom.
3.2.4. Analysis of the conditions and needs.
3.3. Ordinances and regulations.
3.3.1. Minimum side.
3.3.2. Minimum height.
3.3.3. Illumination spaces.
3.3.4. Ventilació de l'habitatge. CTE. Air circulation of the dwelling. CTE.
3.3.5. Passage openings. Doors.
3.4. Design criteria: spaces, circulation, openings, use spaces.
3.5. Types of bathrooms.
3.6. Facilities representation:
3.6.1. Water facilities.
3.6.2. Electric facilities.
3.6.3. Drainage facilities.
3.6.4. Ventilation facilities. CTE:
3.6.5. Facilities legend.
3.7. Walls representation.
3.7.1. Interior walls
3.7.2. Facade walls.
3.8. Text.
3.9. Dimension. Walls, bathrooms and openings situation.
3.10. Interior perspective: axonometric of the facilities and conical perspective with two vanishing points.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C4 Elements of vertical communication. Stairs. Ramps.

Description:
4.1. Concepts and definitions.
4.1.1. Elements of a stairs.
4.1.2. Slope line.
4.1.3. Minimum passage.
4.1.4. Stairwell
4.2. Typologies according to the forms. Straight. Curves. Mixed.
4.3. Regulations and ordinances.
4.3.1. Minimum area.
4.3.2. Measures of the step. Minimal footprint. Maximum riser.
4.3.3. Formula of the ideal step.
4.3.4. Flight of stairs. Minimum number of steps.
4.3.5. Landing. Landings between floors.
4.3.6. Maximum height to save.
4.3.7. Stairwell.
4.3.8. Handrail.
4.3.9. Stair lighting.
4.4. Recommendations for the design of the stairs.
4.5. Graphic representation of the scale. Graphic agreements.
4.6. Introduction to the vertical section of the stairs.
4.6.1. Section types.
4.6.2. Election of the section drawing.
4.7. Texts.
4.8. Dimensions.

Related activities:
Activities 3, 4, 5, 6, 7, 8 and 9.
Activities 6 and 8 correspond to project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C5 Study of the night zone of a -house-

Description:

5.1. Definition of the night zone.
5.2. Relation between spaces of the night zone. Position.
5.3. Circulation spaces: corridor and hall.
5.4. Regulations and ordinances.
5.5. Distribution drawing. Scale 1/50.
5.5.1. Furniture
5.5.2. Bathrooms
5.5.3. Joinery
5.6. Joinery drawing. References.
5.6.1 Exterior joinery: fixed, frame, oscillating, tilt and turn, sliding, rotary, guillotine.
5.6.2. Interior joinery: blind, stained glass, a sheet glass, two glass sheets, frame, sliding.
5.7. Study of the vertical structure.
5.7.1. Traditional structure.
5.7.2. Structure drawing.
5.8. Dimension drawing.
5.8.1. Acotació de plànols de distribució. Dimensioning distribution drawing.
5.8.2. Dimensioning structure drawings. Horizontal structure. Holes. Vertical structure.
5.9. Texts. Box.
5.10. Calculations of the usable spaces and total floor areas. Surface boxes.
5.11. Different scales of representation. Detailed drawing. General drawing.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C6 Study of the day zone spaces. Kitchen.

Description:

6.1. Home areas. Day zone. Relation between spaces. Kitchen, dining room, home entrances, laundromat.
6.2. Kitchen.
6.2.1. Concepts and definitions: kitchen space. Dining room space.
6.2.2. Definiton of workplace.
6.2.3. Typologies of kitchens according to the floor form.
6.3. Ordinances and regulations.
6.3.1. Minimum usable space.
6.3.2. Minimum height.
6.3.3. Lighting area.
6.3.4. Fume extractor.
6.3.5. Ventilation CTE.
6.3.6. Entrance door.
6.4. Criteria for distribuiting spaces: kitchen zone and dining room zone.
6.4.1. Movement between zones.
6.4.2. Workplace arrangement
6.4.3. Workplace dimensions.
6.5. Modular furniture.
6.5.1. Under bedplate. Typologies. High. Column.
6.5.2. Shelves. Drawers. Cooking hob. Oven. Refrigerator. Dishwasher.
6.5.3. Measures. Height. Width. Depth. Bedplate height.
6.5.4. Special elements. Skirting board. Cornice. Circuit board.
6.5.5. Modul references. Reference box of the modules.
6.6. Representation of Kitchen furniture. Detailed drawing. General Drawing.
6.6.1. Furniture under bedplate.
6.6.2. High furniture and column.
6.6.3. Electrical appliance.
6.7. Facilities representation.
6.7.1. Water facilities.
6.7.2. Electric facilities.
6.7.3. Drainage facilities.
6.7.4. Ventilation facilities.
6.7.5. Extract facilities.
6.7.6. Facilities legend.
6.8. Texts.
6.9. Dimensions.
6.10. Interior perspective: axonometric and conical.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C7 Study of the day zone spaces. Common areas. Living room.

Description:

7.1. Living room definitions.
7.2. Relation with the other spaces of the day zone.
7.3. Distribution criteria.
7.3.1. Distribution spaces.
7.3.2. Circulation.
7.3.3. Orientation.
7.4. Ordinances and regulations relating to living room.
7.4.1. Minimum usable space.
7.4.2. Minimum height.
7.4.3. Costat mínim.
7.4.4. Lighting área.
7.4.5. Accesses. Minimum height of the door.
7.5. Furniture.
7.5.1. Typologies and measures.
7.5.2. Useful spaces.
7.5.3. Furniture representation.
7.6. Facilities representation
7.6.1. Electric facilities.
7.6.2. Telephony facilities.
7.6.3. Communications facilities.
7.6.4. Facilities legend.
7.7. Texts.
7.8. Dimensions.
7.9. Usable spaces and lighting area.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 1h
Self study : 1h

C8 Study of the day zone of a housing.

Description:
8.1. Day zone definition.
8.2. Relation between spaces of the day zone. Orientation.
8.3. Circulation spaces: hall, lobby and corridor.
8.4. Regulations and ordinances.
8.5. Distribution drawing. Scale 1/50.
8.5.1. Furniture
8.5.2. Bathrooms
8.5.3. Joinery
8.5.4. Kitchen furniture.
8.6. Joinery drawing. References
8.6.1. Exterior joinery: fixed, frame, oscillating, tilt and turn, sliding, rotary, guillotine.
8.6.2.. Interior joinery: blind, stained glass, a sheet glass, two glass sheets, frame, sliding.
8.7. Study of the vertical structure.
8.7.1. Traditional structure.
8.7.2. Structure drawing.
8.8. Dimension drawing.
8.8.1. Dimensioning distribution drawing.
8.8.2. Dimensioning structure drawings. Horizontal structure. Holes. Vertical structure.
8.9. Texts. Box.
8.10. Calculations of the usable spaces and total floor areas. Surface boxes.
8.11. Different scales of representation. Detailed drawing. General drawing.

Related activities:
Activities 2, 5, 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 2h
Self study : 2h

C9 Roofs. Roof plan

Description:
9.1. Roof concept.
9.2. Definitions and nomenclature.
9.3. Types of roofs.
9.4. Ordinances and regulations relative to roofs.
9.4.1. Maximum slope.
9.4.2. Maximum stretch of eaves
9.4.3. Roofs material.
9.4.4. Colour.
9.5. Study of the roof. Dimensions.
9.6. Graphic representation of the roof solution.
9.6.1. Coattails. Ridge. Valleys. Slopes.
9.6.2. Eaves.
9.6.3. Roof materials. Wefts and textures.
9.6.4. Line facade representation.
9.7. Text in the roof plan.
9.8. Dimensions in the roof plan.

Related activities:
Activities 6, 8 and 9.
Activities 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 1h
Self study : 1h

C10 Vertical section of a building.

Description:
10.1. Concept and purpose of the section plan.
10.2. Definitions. Elements of the section plan. Section plan. Displacement plan.
10.3. Type of vertical sections. Longitudinal. Transversal.
10.4. Criteria for the correct election of the section plan.
10.5. Ordinances and regulations to reflect on the vertical section plan.
10.5.1. Maximum regulation height.
10.5.2. Span between roofs and roof thickness.
10.5.3. Heights of sills, railings, windows, balconies, etc.
10.5.4. Stretch of balconies, eaves, etc.
10.5.5. Slope of the roof.
10.6. Graphics of the section plan.
10.6.1. Sectioned elements.
10.6.2. Terrain representation.
10.6.3. Wefts.
10.7. Text in the section plan. Box.
10.8. Dimensions in the vertical section plan.
10.9. Height dimensions.

Related activities:
Activities 3, 4, 5, 6, 7, 8 and 9.
Activities 2, 6 and 8 correspond to project 1, project 2 and project 3 in the continuous evaluation.
Activities 5 and 9 will be midterm exam and final exam.

Full-or-part-time: 1h
Self study : 1h

C11 The graphic design in the facade plans

Description:
11.1. Facade plan concept.
11.2. Definitions.
11.3. Facade composition.
11.4. Regulations and ordinances relative to facades and roofs of a house. Environment esthetics, composition, materials, colours and textures.
11.5. Graphic representation of the facade. Line values.
11.5.1. Edges: outline, openings, joinery.
11.5.2. Materials: Scrap, textures.
11.5.3. Weft: Textures, shadows.
11.5.4. Colours.
11.6. Shadows study.
11.6.1. Own shadows. Crosswise plan.
11.6.2. Projected shadows.
11.7. Text in facades plan. Box.

Related activities:
Activities 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 2 and project 3 in the continuous evaluation.
Activity 9 will be final exam.

Full-or-part-time: 1h
Self study : 1h

C12 Site distribution

Description:
12.1. Concept and purpose of the plot distribution.
12.2. Determinants for the building situation in the plot: Orientation, Access, views, predominant wind, plot topography, user necessities, urbanistic regulations, garden, etc.
12.3. Plot distribution plan.
12.3.1. Plan and vertical section.
12.3.2. Plot adaptation. Access. Stairs. Ramps. Garden.
12.3.3. Textures and wefts.
12.3.4. Representation scale.
12.3.5. Levels compared to the reference plan 0.00.
12.4. Urbanistic regulations.
12.4.1. Minimum plot.
12.4.2. Employment.
12.4.3. Building coefficient.
12.4.4. Separation at the limits of the plot.
12.4.5. Maximum regulation height.
12.4.6. Compliance of the urbanistic document.
12.5. Texts. Box.
12.6. Dimensions.

Related activities:
Activities 6, 8 and 9.
Activities 2, 6 and 8 correspond to project 2 and project 3 in the continuous evaluation.
Activity 9 will be final exam.

Full-or-part-time: 2h
Self study : 2h

ACTIVITIES

A1 SKETCH AND DWELLING PLAN.

Description:
To carry out a sketch and a plan of each student?s house.
The plan will be 1/50.
The activity will carry out individually.

Specific objectives:
At the end of the activity the student should be able to:
Do a sketch in the correct scale for the details, furniture and plan.
Achieve a good level of proportions and lines.
Know and apply the values and conventions of line graphs.
Knowing how to take measurements using measuring tools commonly used. Distancer and laser tape measure.
Know how to dimension a plan: How to draw the dimension and references lines, the most appropriate symbol at the point of its intersection and draw and situate correctly the numbers.

Material:
Activity and drawing tools.
Atenea PDF notes.

Delivery:
Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation.

Full-or-part-time: 6h
Practical classes: 2h
Self study: 4h

A2 HOUSING REFURBISHMENT

Description:
The plant and the vertical section of the dwelling will be studied in scale 1/50.
At the end a descriptive report of the project will be done.
Professor correction.

Specific objectives:
At the end of the activity the student should be able to:
Do a descriptive report of the project.
Know and apply the orientation concept.
Apply regulations and criteria for allocation spaces.
Allocate and distribute spaces in a dwelling.
Distribution by its use.
Draw walls, joinery, toilet, furniture, flooring, etc.
Represent ventilation facilities and fume extraction.
Dimension.
Calculate useful, illumination and building area.
Write extra information in the plan by notes and legends.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes.

Delivery:
Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represents a part of the continuous evaluation.

Full-or-part-time: 17h 30m
Theory classes: 1h
Laboratory classes: 8h
Guided activities: 0h 30m
Self study: 8h

A3 STAIRCASE OF A SINGLE FAMILY HOME.

Description:
The activity consist in solve the staircase of a single family house.
The students will solve the plants and vertical sections to define the staircase.
The activity will be individual.

Specific objectives:
At the end of the activity the student should be able to:
Know and apply the design criteria and the regulations of the staircase in a single family house.
Know how to draw the different projections that define a staircase.
Know and use the correct representation graphic of a staircase.
Know how to dimension the different projections of a staircase.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes.

Delivery:
Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation.

Full-or-part-time: 4h 50m
Theory classes: 0h 20m
Guided activities: 0h 30m
Self study: 4h

A4 PROJECTIONS DEDUCTION.

Description:
The activity consist in interior or exterior projections of a building, deducted by plants, scale 1/50.
The activity will be individual.

Specific objectives:
At the end of the activity the student should be able to:
Solve vertical sections and elevations.
Will has to know and apply the correct criteria that determine the vertical plan selection which generate the vertical section.
Represent the different constructive elements that appear in the projections, in elevation as in section, typical in basic projects in scale 1/50.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes.

Delivery:
Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation.

Full-or-part-time: 4h 50m
Theory classes: 0h 20m
Guided activities: 0h 30m
Self study: 4h

A5 MID-TERM EXAM.

Description:
Individual exam in class. Questions related with the contest done in class. (4:00h).
At the end of the test the professor will do the correction and in the next session he will explain the common errors and the important objectives of the contest.

Specific objectives:
At the end of the exam, the student have to achieve the specific objectives of the activities done until the exam.

Material:
Exam questions, drawing tools and calculator for doing the exam.

Delivery:
Exam resolution.
It represent 25% of the final mark of the course.

Full-or-part-time: 8h
Practical classes: 4h
Self study: 4h

A6 SINGLE FAMILY HOUSE.

Description:
Study of a project of a remote single family house.
This practice will be done by groups.
The building will be ground floor and various floors with an interior staircase.
The roof will be leaning.
Study of the plants, vertical section and a building elevation, scale 1/50.
Study of the kitchen, its plant and a vertical section, scale 1/20.
At the end the student will do a descriptive report of the project.
Professor correction.

Specific objectives:
At the end of the activity the student should be able to:
Do a descriptive report of the project.
Know and apply the urbanistic factors of the urban document.
Know and apply the orientation concept.

Apply regulations and criteria for allocation spaces.
Allocate and distribute spaces in a single family dwelling with different floors.
Distribution by its use.
Solve the staircase applying regulations and design criteria.
Draw walls, joinery, toilet, furniture, flooring, etc.
Represent ventilation facilities, fume extraction and evacuation.
Draw the plant and the vertical section of the staircase.
Represent in various scales. 1/50 and 1/20.
Dimension.
Calculate useful, illumination and building area.
Write extra information in the plan by notes and legends.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes.

Delivery:
Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation.

Full-or-part-time: 29h
Theory classes: 1h
Practical classes: 16h
Guided activities: 10h
Self study: 2h

A7 STAIRCASE OF A MULTI-FAMILY BUILDING.

Description:
The activity consist in solve the staircase of a multi-family building.
The students will solve the plants and vertical sections, necessary for the staircase solution.
The activity will be individual.

Specific objectives:
At the end of the activity the student should be able to:
Know and apply the design criteria and the regulations of the staircase in a multi-family building.
Know how to draw the different projections that define a staircase.
Know and use the correct representation graphic of a staircase.
Know how to dimension the different projections of a staircase.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes.

Delivery:

Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation.

Full-or-part-time: 4h 50m
Theory classes: 0h 20m
Guided activities: 0h 30m
Self study: 4h

A8 MULTI-FAMILY BUILDING.

Description:
Study of a multi-family building according to road order.
This practice will be done by groups.
The building will be ground floor and five more floors.
The roof will be plain.
Study of the plants, roof plant, vertical sections, facades and a ordered plan of the plot. Study of a bathroom and a kitchen.
Scale 1/50, 1/200 and 1/20.
At the end the student will do a descriptive report of the project.
Before the study of the project, the student must do a volumetric mockup of the project.
Professor correction.

Specific objectives:
At the end of the activity the student should be able to:
Do a descriptive report of the project.
Know and apply the orientation concept.
Apply regulations and criteria for allocation spaces.
Allocate and distribute spaces in a dwelling and in the common spaces.
Distribution by its use.
Solve the staircase applying regulations and design criteria.
Draw walls, joinery, toilet, furniture, flooring, etc.
Know and apply the regulations of the ventilation facilities, fume extraction and evacuation.
Represent ventilation facilities, fume extraction and evacuation.
Solve and draw the roof.
Represent the facades applying materials texture and shadows.
Measure the projections.
Calculate useful, illumination and building area.
Write extra information in the plan by notes and legends.
Apply urbanistic factors in the project and complete the urban document.

Material:
Activity, drawing tools and calculator for doing the practices.
Atenea PDF notes

Delivery:

Activity resolution done by the students, the professor will give them corrected the next week.
In class, we put in common all the errors and the important objectives of the activity.
It represent a part of the continuous evaluation. 24,61%.

Full-or-part-time: 46h
Theory classes: 1h
Practical classes: 22h
Guided activities: 21h
Self study: 2h

A9 FINAL EXAM.

Description:
Individual exam in class. Resolution of theoretical and practice questions related with learning objectives of all the contest of the subject. (04:00h)

Specific objectives:
At the end of the exam, the student has to achieve the specific objectives of the activities done until the exam.

Material:
Questions, drawing tools and calculator for doing the exam.

Delivery:
Exam resolution.
It represents 40% of the final qualification

Full-or-part-time: 8h
Practical classes: 4h
Self study: 4h

GRADING SYSTEM

The final mark is the addition of these partial marks:

Nfinal = 0.35 Nac + 0.25 Npp + 0.40 Npf

Nfinal: Final mark.
Nac: Continous evaluation mark.
Npp: Midterm exam mark.
Npf: Final exam mark.

The continous evaluation consist on delvering, during the scheduled terms, of the different practices done in class and out of it.

The midterm exam consist on solve various questions of the correspinding contents of the subject explained until now.
The questions will be theoretical and about practical cases.
The student has 4 hours to do it.

The final exam consist on solve various questions about all the subject content.
The questions will be theoretical and about practical cases.
The student has 4 hours to do it.

EXAMINATION RULES.

If some of the continous evaluation activities is not done, it will be considered as non-marked.
In any case it is allowed to bring any material to the activities 5, midterm exam, and 9, final exam.

The class attedance and the fulfilment of the practices is obligatory sice the evaluation is continous.

The groups will be divided in sections which will be assisted by the designated professor. The students won't be able to change their group or section.

The practices will begin in class and could be completed out the schedule. The possible doubts of the students must be solved with the designated professor. Only if these doubts go too far the professor responsibilities, then can be dealed with the subject academic coordinator.

In the course of the classes the professors could only solve doubts related with the daily practice. For solving doubts related to other practices, the students must visit the professors during the assistance hours which appear on the web and in the door of the Teaching Unit.

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- Neufert, Ernst. Arte de proyectar en arquitectura : fundamentos, normas, prescripciones sobre recintos, edificios ... : manual para arquitectos, ingenieros, arquitectos técnicos, profesionales y estudiantes. 15a ed. Barcelona: Ed. Gustavo Gili, 2006. ISBN 84-252-2051-3.
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- Canosa Reboredo, S. Grafismo y proyecto básico. Barcelona: EPSEB, 2007.
- Ching, F. D. K. ; Juroszek, S.P. Dibujo y proyecto. Barcelona: Ed. Gustavo Gili, 1999. ISBN 84-252-2081-5.

RESOURCES

Other resources:
Audiovisual material
Collection of three-dimensional models consisting of building volumetries for their study in dihedral and perspective.

Informatics material
Theoretical classes in PDF format on the virtual campus.
Solved practices on the virtual campus.
3D models on the virtual campus.

Web pages
Webpages related to each subject.

Visual dictionary of the construccion (e-source)
Diccionari visual de la construcció (Recurso electrónic'o). 3a ed. Barcelona: Generalitat de Catalunya. Departament de Política Territorial i Obres Públiques, 2001

Available in: http://www10.gencat.net/ptop/AppJava/cat/documentacio/llengua/terminologia/diccvisual p