Biskra University
Department of Architecture

PEDAGOGICAL HANDBOOK / STUDIO WORKBOOK

Design Studio 5 and Design Studio 6

Third-Year Architecture Degree LMD

Theme: Neighborhood Facility Project in Biskra

A Methodological and Practical Guide for Architectural Project Development

This pedagogical handbook / studio workbook supports third-year architecture students in the progressive development of a neighborhood facility project in Biskra. It connects program analysis, site diagnosis, project formulation, functional analysis, precedent study, architectural programming, and preliminary architectural design within one coherent studio process. The document follows a seven-assignment sequence. Design Studio 5 builds the analytical and conceptual foundation through program analysis, site analysis, project statement, guiding idea, and first esquisse. Design Studio 6 develops the project through functional analysis, precedent analysis, architectural programming, and architectural conception / avant-projet.

Academic Level	Third-Year Architecture Degree
Module	Design Studio 5 and Design Studio 6
Project Type	Neighborhood Public Facility
Project Context	Biskra, Algeria
Prepared for	Architecture Students and Studio Instructors
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PREFACE

Preface

The design studio is the central pedagogical space in architectural education. It is where students learn to transform observation, analysis, program requirements, design intentions, and spatial decisions into a coherent architectural proposal. In the third year of architectural training, the studio represents an important transition between introductory design exercises and more advanced architectural project development.

This Pedagogical Handbook / Studio Workbook has been prepared for students enrolled in Design Studio 5 and Design Studio 6. It supports the progressive development of a neighborhood facility project in Biskra, with particular attention to the relationship between program, site, users, functions, environmental conditions, and architectural conception.

The document is structured as both a methodological guide and a practical studio workbook. It does not present architectural design as a single final act, but as a gradual process composed of clear stages, tasks, deliverables, and design decisions. For this reason, the handbook follows a sequence of seven assignments distributed across two semesters. Table 1 shows Studio Workbook Logic outlines the main pedagogical focus and expected progression for Design Studio 5 and Design Studio 6, emphasizing analytical, conceptual, functional, and preliminary design development.

Table 1: Studio Workbook Logic

Semester	Main Pedagogical Focus	Expected Progression
Design Studio 5	Analytical and conceptual foundation	Program analysis, site diagnosis, project statement, guiding idea, and first esquisse
Design Studio 6	Functional development and preliminary design	Functional analysis, precedent learning, architectural programming, and avant-projet

In Design Studio 5, students build the analytical and conceptual foundation of the project. They begin by analyzing the selected facility, identifying users and activities, defining preliminary spatial needs, and selecting a suitable site in Biskra. They then analyze the urban, physical, environmental, and social conditions of the site. This work leads to the formulation of a project statement, guiding idea, architectural intentions, and first esquisse alternatives.

In Design Studio 6, students develop the project in a more operational and architectural manner. They study the functional logic of the facility, analyze relevant precedents, prepare a complete architectural program, and transform this program into a preliminary architectural design or avant-projet. This second semester allows students to move from analytical reasoning toward spatial organization, site insertion, massing, plans, sections, elevations, environmental response, and architectural expression.

The purpose of this handbook is to help students understand not only what they must produce, but also why each step is necessary in the design process. Each chapter is connected to a specific assignment and explains the required tasks, expected outputs, and methodological logic. In this way, the document supports continuity between assignments and prevents the project from becoming a collection of disconnected drawings.

This handbook does not replace studio supervision, critiques, desk reviews, or jury discussions. Instead, it is intended to accompany them. It provides students with a clear reference that can guide their independent

work, improve their methodological rigor, and help them organize their ideas, diagrams, drawings, and written syntheses in a coherent way.

Through this workbook, students are encouraged to develop a project that is not only formally interesting, but also contextually grounded, functionally clear, environmentally responsive, and socially meaningful for the neighborhood in which it is located. The final objective is to guide students toward a coherent architectural proposal that responds to the selected site in Biskra, the needs of users, the role of the facility, and the pedagogical objectives of third-year architectural education.

Dr. Tall Abdel Karim Bouzir

GENERAL INTRODUCTION

General Introduction

General Presentation of the Handbook

This pedagogical handbook is designed as a methodological and practical support document for third-year architecture students enrolled in Design Studio 5 and Design Studio 6. It accompanies students in the progressive development of a neighborhood facility project in Biskra, from the first reading of the project brief to the preparation of a coherent preliminary architectural proposal.

The handbook is based on the idea that architectural design is not produced in a single step. It develops through a progressive process that links analysis, interpretation, synthesis, programming, spatial organization, and design representation. For this reason, the document follows the complete studio sequence from Assignment 1 to Assignment 7.

The seven assignments form a continuous pedagogical path. In the first semester, students analyze the selected facility, identify its users, activities, functions, and preliminary spatial needs, then study the chosen site in Biskra through its urban, physical, environmental, and social conditions. This work leads to the formulation of a project statement, a guiding idea, design intentions, and first esquisse alternatives.

In the second semester, the project is developed through functional analysis, precedent analysis, architectural programming, and preliminary architectural conception. The final objective is to transform the accumulated analytical and programmatic work into a coherent avant-projet, including site insertion, massing, plans, sections, elevations, environmental response, 3D views, and model.

The handbook therefore functions both as a guide and as a workbook. As a guide, it explains the logic of each stage of the design process. As a workbook, it clarifies the tasks, expected outputs, and deliverables required for each assignment. It does not replace studio supervision, desk critiques, or jury discussions. Instead, it supports them by providing a clear reference that students can use during independent work.

Pedagogical Logic of Design Studio 5 and Design Studio 6

Design Studio 5 and Design Studio 6 are organized as two complementary semesters within one continuous design process. Design Studio 5 builds the analytical and conceptual foundation of the project, while Design Studio 6 develops this foundation into a more complete architectural proposal. The neighborhood facility is used as the main project theme because it allows students to work on a building type that is directly connected to users, public life, accessibility, urban context, and environmental conditions. It is therefore suitable for third-year architecture students, as it helps them connect architectural thinking with real urban and social needs. Table 2 presents the seven assignments and their pedagogical roles in the design studio sequence.

Table 2: Assignments and Their Pedagogical Roles in Design Studio 5 and 6

Semester	Assignment	Title	Pedagogical Role
Design Studio 5	Assignment 1	Program Analysis and Preliminary Site Choice	Understanding the facility, users, activities, preliminary spatial needs, and preliminary site choice in Biskra.
	Assignment 2	Context Analysis and Site Diagnosis	Analyzing the selected site through location, access, flows, urban context, climate, constraints, and potentials.
	Assignment 3	Project Statement, Guiding Idea, and First Esquisse	Transforming program and site analysis into a project statement, guiding idea, design intentions, and first design direction.
Design Studio 6	Assignment 4	Functional Analysis of the Neighborhood Facility	Studying the facility as a system of users, activities, functions, access levels, relationships, use sequences, and zoning.
	Assignment 5	Precedent / Example Analysis	Learning from similar projects and extracting practical lessons for program, organization, circulation, composition, and environmental response.
	Assignment 6	Architectural Programming	Preparing the final architectural program, including spaces, areas, relationships, access levels, environmental needs, and site response.
	Assignment 7	Architectural Conception and Preliminary Design	Transforming the final program into a coherent avant-projet with site insertion, massing, plans, sections, elevations, environmental strategy, 3D views, and model.

Design Studio 5: Analytical and Conceptual Foundation

Design Studio 5 focuses on the first stages of architectural project development. At this level, the aim is not to immediately produce a final building design, but to understand the project, the users, the program, the site, and the main design issues.

- Assignment 1 introduces the project through program analysis and preliminary site choice. Students select a neighborhood facility type, identify users and activities, define preliminary spatial needs, study relationships between spaces, and justify a preliminary site choice in Biskra.
- Assignment 2 develops the contextual reading of the selected site. Students study location, plot boundaries, accessibility, pedestrian and vehicular flows, urban context, orientation, sunlight, wind, microclimate, noise, views, visual constraints, photographic survey, constraints, and potentials.
- Assignment 3 transforms the analytical work into a first architectural direction. Students synthesize program and site analysis, define the main project problem, write the project statement, formulate a guiding idea, establish design intentions, prepare conceptual diagrams, and develop first esquisse alternatives.

Through these three assignments, students learn how to move from observation and analysis toward the first architectural direction. The expected outcome of Design Studio 5 is a clear and justified design basis.

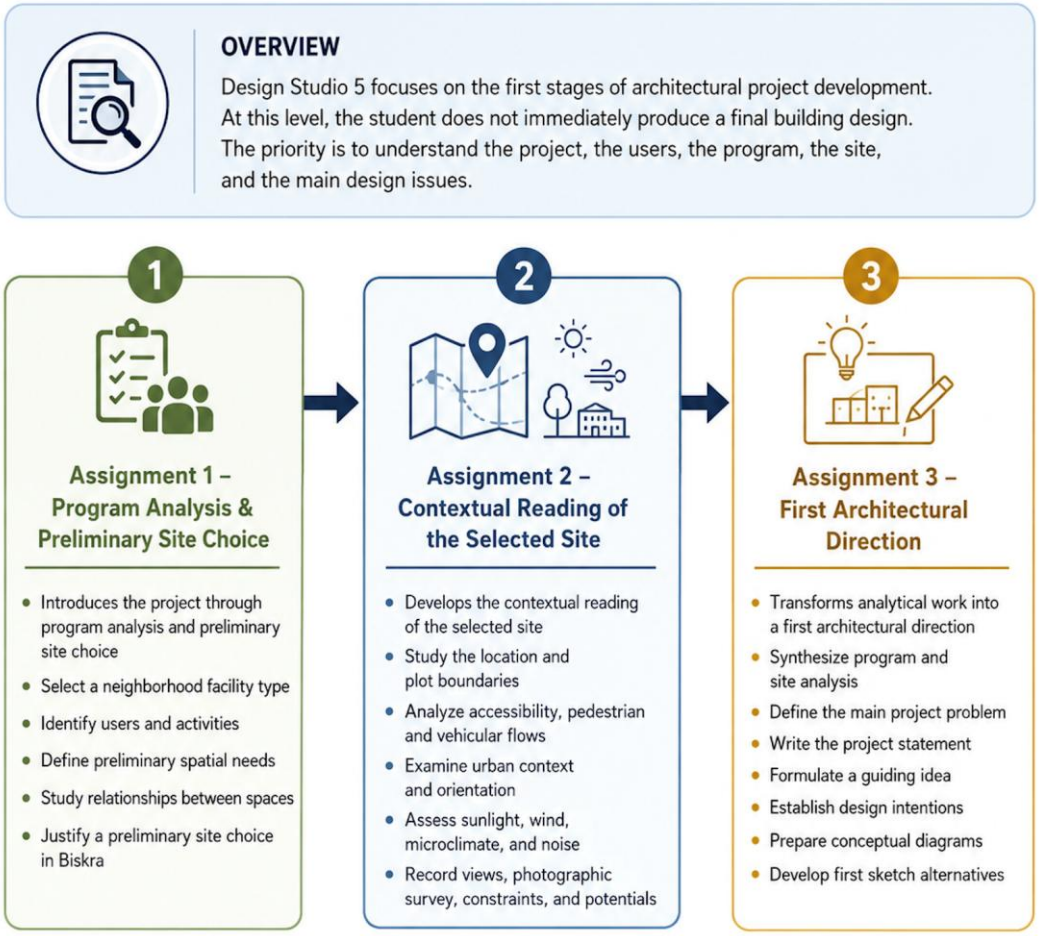

Figure 1: The Analytical and Conceptual Framework as Depicted in Design Studio 5

Design Studio 6: Functional Development, Programming, and Preliminary Design

Design Studio 6 continues the work developed in the previous semester and transforms it into a more operational architectural proposal. The focus shifts from analysis and first design intention to functional organization, precedent learning, architectural programming, and preliminary design.

- Assignment 4 studies the facility as a functional system. Students analyze users, activities, access levels, functional categories, relationships, compatibilities, incompatibilities, user flows, zoning, and indoor-outdoor connections.
- Assignment 5 uses precedent analysis as a practical design-learning tool. Students analyze relevant projects and extract lessons related to program, spatial organization, circulation, zoning, composition, environmental strategies, and adaptation to the Biskra context.
- Assignment 6 prepares the final architectural program. Students define functional entities, space lists, area calculations, access and privacy levels, adjacency matrices, bubble diagrams, zoning diagrams, program-site relationships, and environmental requirements.
- Assignment 7 transforms the final architectural program into a coherent preliminary design or avant-projet. Students develop site insertion, massing strategy, functional zoning, circulation, site

plan, floor plans, sections, elevations, indoor-outdoor relationships, environmental strategy, architectural expression, 3D views, and model.

Through these four assignments, Design Studio 6 guides students from functional reasoning to architectural production. The expected outcome is a coherent preliminary architectural proposal that responds to the program, the site, the users, the environmental conditions, and the neighborhood role of the facility.

Figure 2: Functional Development, Programming, and Preliminary Design as Depicted in Design

General Objectives of the Handbook

The main objective of this handbook is to provide a clear methodological and practical framework for the development of a neighborhood facility project in Biskra. It helps students understand the design process as a structured sequence of tasks, decisions, and representations.

More specifically, the handbook aims to:

- Guide students through the complete studio sequence from Assignment 1 to Assignment 7;
- Clarify the relationship between program analysis, site diagnosis, functional study, architectural programming, and preliminary design;
- Help students understand the selected neighborhood facility in terms of users, activities, functions, spatial needs, and public role;

- Support students in selecting and justifying a suitable site in Biskra according to clear architectural and urban criteria;
- Develop the student's ability to analyze the site through location, accessibility, urban context, environmental conditions, constraints, and potentials;
- Help students transform program and site analysis into a project statement, guiding idea, architectural objectives, and design intentions;
- Strengthen the student's capacity to study the operational logic of a facility through users, access levels, functional relationships, user flows, and zoning;
- Introduce precedent analysis as a practical design-learning tool, not as a purely descriptive or historical exercise;
- Support the preparation of a complete architectural program, including spaces, areas, relationships, access levels, environmental needs, and site response;
- Guide students in transforming the final program into a coherent preliminary architectural proposal;
- Improve the student's ability to produce analytical diagrams, programmatic tables, conceptual diagrams, plans, sections, elevations, 3D views, and models;
- Encourage methodological rigor, continuity, and coherence between all assignments;
- Support student autonomy by providing a clear reference for independent studio work;
- Prepare students for studio critiques, jury presentations, and architectural communication.

These objectives are directly connected to the assignment sequence. Each part of the handbook corresponds to a specific stage of the studio process and supports the production of specific deliverables.

1.1. Target Audience

This handbook is intended primarily for third-year undergraduate architecture students enrolled in Design Studio 5 and Design Studio 6.

It is addressed to students who are moving from introductory design exercises toward a more structured and methodical architectural design process. At this stage, students are expected to strengthen their ability to analyze, interpret, synthesize, justify, and represent architectural decisions.

More specifically, the handbook is intended for:

- Students developing a neighborhood facility project;
- Students learning how to connect program, site, users, functions, and design intentions;
- Students who need methodological guidance in program analysis, context analysis, functional analysis, precedent study, architectural programming, and preliminary design;
- Students who need to organize their work through clear tasks, deliverables, diagrams, tables, drawings, and written syntheses;
- Students preparing for studio critiques, pin-ups, and jury presentations;
- Studio instructors who need a clear pedagogical structure for guiding and evaluating student work.

The handbook uses professional architectural terminology while maintaining clear and accessible language. It is intended to help students develop a more rigorous design process without making the content unnecessarily complex.

1.2. General Organization of the Document

The organization of this handbook follows the assignment-based structure of Design Studio 5 and Design Studio 6. The document is not organized as a general theoretical course, but as a progressive studio workbook that accompanies the student from the first understanding of the project to the preparation of the preliminary architectural design.

The handbook is organized into six main parts.

Preliminary Pages: The preliminary pages include the title page, preface, and general introduction. They present the academic context of the handbook, its purpose, its target audience, and its organization.

- Part I - Academic and Pedagogical Framework: This part explains the role of the design studio in third-year architectural education. It presents the relationship between Design Studio 5 and Design Studio 6, the pedagogical value of the neighborhood facility project, and the importance of Biskra as the project context.
- Part II - Design Studio 5: From Program and Site to First Design Direction: This part includes the first three assignments. It focuses on the analytical and conceptual foundation of the project: Chapter 3, Assignment 1 - Program Analysis and Preliminary Site Choice; Chapter 4, Assignment 2 - Context Analysis and Site Diagnosis; and Chapter 5, Assignment 3 - Project Statement, Guiding Idea, and First Esquisse. At the end of this part, the student should have a clear understanding of the selected facility, the selected site, the main project problem, the guiding idea, and the first design direction.
- Part III - Design Studio 6: From Functional Logic to Architectural Programming: This part includes the next three assignments. It focuses on the operational, functional, and programmatic development of the project: Chapter 6, Assignment 4 - Functional Analysis of the Neighborhood Facility; Chapter 7, Assignment 5 - Precedent / Example Analysis; and Chapter 8, Assignment 6 - Architectural Programming. At the end of this part, the student should have a complete architectural program that defines spaces, areas, access levels, functional relationships, zoning, environmental requirements, and program-site connections.
- Part IV - Design Studio 6: Architectural Conception and Preliminary Design: This part includes the final assignment: Chapter 9, Assignment 7 - Architectural Conception and Preliminary Design. It guides students in transforming the final architectural program into a coherent preliminary design or avant-projet, including site insertion, massing, zoning, circulation, plans, sections, elevations, environmental strategy, architectural expression, 3D views, and model.

PART I

Academic and Pedagogical Framework

PART I: Academic and Pedagogical Framework

This part presents the academic and pedagogical foundation of the studio workbook for Design Studio 5 and Design Studio 6. It explains the role of the design studio in third-year architectural training and clarifies the logic behind the neighborhood facility project in Biskra.

The design studio is the main space where architectural learning becomes active and project-based. It helps students connect observation, analysis, program requirements, design intentions, and spatial decisions in order to develop a coherent architectural proposal. At the third-year level, the studio represents an intermediate stage between introductory design exercises and more advanced architectural projects. Students are therefore expected to develop stronger methodological discipline, clearer design reasoning, and greater autonomy in organizing and representing their work.

Design Studio 5 and Design Studio 6 are organized as two connected semesters within one continuous design process. Design Studio 5 focuses on program analysis, site analysis, project statement, guiding idea, and first esquisse. Design Studio 6 develops this foundation through functional analysis, precedent analysis, architectural programming, and preliminary architectural conception.

The neighborhood facility project is suitable for third-year students because it combines public use, contextual insertion, functional organization, environmental response, and social responsibility. It is complex enough to introduce students to real architectural issues, while remaining manageable within the pedagogical objectives of the third year. In the Biskra context, it also allows students to address climate, accessibility, public space, and the relationship between architecture and local urban life.

This part prepares students to understand the logic of the seven-assignment sequence. Each assignment contributes to the progressive construction of the architectural project, from program and site analysis to architectural programming and preliminary design. The purpose is not to provide a theoretical course, but to establish the methodological basis needed before starting the practical assignments.

Table 3: Position in the Studio Workbook

Part	Role in the Workbook	Connection to the Assignments
Part I	Establishes the academic and pedagogical framework of the studio.	Prepares students to understand the logic of the seven-assignment sequence.
Design Studio 5	Builds the analytical and conceptual foundation.	Supports Assignments 1, 2, and 3.
Design Studio 6	Develops functional logic, programming, and preliminary design.	Supports Assignments 4, 5, 6, and 7.

CHAPTER 1.

Position of the Design Studio in Third-Year Architecture Education

CHAPTER 1: Position of the Design Studio in Third-Year Architecture Education

This chapter presents the role of the design studio in third-year architecture education and explains the relationship between Design Studio 5 and Design Studio 6. It clarifies how the studio guides students from analysis and project formulation toward functional development, architectural programming, and preliminary design.

1.1. Role of the Design Studio

The design studio occupies a central position in architectural education because it is the place where students learn by producing, testing, representing, and justifying architectural decisions. Unlike theoretical courses, the studio is based on active work. Students use observation, analysis, program requirements, contextual conditions, and design intentions to develop a coherent architectural proposal.

The studio also brings together different areas of architectural training, such as representation, construction awareness, environmental design, urban reading, functional organization, and design theory. These elements are not studied separately in the project. They are combined within one design problem that requires analysis, synthesis, decision-making, and representation [1–3].

At the third-year level, students move beyond introductory exercises. They begin to work on projects of medium complexity, where the relationship between program, site, users, activities, circulation, environmental conditions, and architectural form must be clearly understood. The objective is not only to produce final drawings, but to learn how to organize the design process [2, 4].

The design studio therefore develops both design thinking and design discipline. Design thinking helps students question, interpret, imagine, test, and propose. Design discipline helps them organize their work methodologically, produce coherent documents, and justify their decisions through analysis and representation.

The studio is also a space for dialogue. Through desk critiques, pin-ups, discussions, and jury presentations, students learn how to explain their ideas, respond to feedback, compare alternatives, and improve their work progressively. For this reason, the architectural project is understood as a process of continuous refinement, not as a fixed result.

1.2. Position of Design Studio 5

Design Studio 5 represents the first semester of the third-year neighborhood facility project. Its main role is to build the analytical and conceptual foundation of the design process. At this stage, students are not expected to produce a fully developed architectural project. They are expected to understand the project, analyze its context, define its problem, and establish a justified design direction.

Design Studio 5 focuses on three main assignments :

- **Assignment 1: Program Analysis and Preliminary Site Choice :** Students select a neighborhood facility type, identify users and activities, define preliminary spatial needs, study relationships between spaces, and justify a preliminary site choice in Biskra. This assignment helps students understand what the project is, who uses it, what activities it contains, and what spaces are needed.
- **Assignment 2: Context Analysis and Site Diagnosis :** Students analyze the selected site through its location, boundaries, dimensions, accessibility, pedestrian and vehicular flows, urban context, orientation, sunlight, wind, microclimate, noise, views, constraints, and potentials. This assignment helps students understand what the site requires architecturally.
- **Assignment 3: Project Statement, Guiding Idea, and First Esquisse :** Students synthesize program and site analysis, formulate the main project problem, write the project statement, define a guiding idea, establish design intentions, prepare conceptual diagrams, and test first esquisse alternatives. This assignment helps students move from analysis to the first architectural direction.

The pedagogical value of Design Studio 5 lies in the transition from understanding to formulation. Program analysis must inform functional logic. Site analysis must inform implantation, access, orientation, and environmental response. The project statement must synthesize the main design problem, while the guiding idea must provide a clear direction for the architectural proposal.

By the end of Design Studio 5, students should have a strong project basis, including a clear understanding of the selected facility, a justified site choice in Biskra, a structured site diagnosis, a project statement, a guiding idea, design intentions, conceptual diagrams, and first esquisse alternatives.

1.3. Position of Design Studio 6

Design Studio 6 represents the second semester of the third-year neighborhood facility project. It continues the work developed in Design Studio 5 and transforms the analytical and conceptual foundation into a more complete architectural proposal. It is dedicated to functional analysis, precedent study, architectural programming, and preliminary conception. The objective is to clarify how the building works, how its spaces relate to one another, and how the design intention becomes an architectural organization.

Design Studio 6 focuses on four main assignments :

- **Assignment 4: Functional Analysis of the Neighborhood Facility :** Students study the facility as a system of users, activities, functions, access levels, relationships, compatibilities, incompatibilities, circulation, user flows, and indoor-outdoor connections. This assignment helps students understand how the building should function in real use.
- **Assignment 5: Precedent / Example Analysis :** Students analyze similar projects and extract useful design lessons. They study program, spatial organization, circulation, zoning, functional relationships, composition principles, environmental strategies, and possible adaptations to the

Biskra context. The objective is not to copy examples, but to learn how comparable projects solve comparable problems.

- **Assignment 6: Architectural Programming :** Students prepare the final architectural program. This includes functional entities, complete space lists, area calculations, access and privacy levels, adjacency matrices, relationship diagrams, bubble diagrams, zoning diagrams, program-site relationships, environmental requirements, and the final architectural program sheet. This stage converts previous findings into a precise design brief.
- **Assignment 7: Architectural Conception and Preliminary Design :** Students transform the final program into a coherent avant-projet. They develop site insertion, massing strategy, functional zoning, circulation and access logic, site plan, floor plans, sections, elevations, indoor-outdoor relationships, environmental strategy, architectural expression, 3D views, and model.

Design Studio 6 does not restart the project from zero. It builds directly on the work produced in Design Studio 5. The project statement, guiding idea, site diagnosis, and first esquisse become the basis for functional organization, architectural programming, and architectural conception.

By the end of Design Studio 6, students should be able to demonstrate that their project is coherent at several levels: programmatic, functional, spatial, environmental, urban, and representational.

Table 4: Progression in the Studio Workbook

Semester	Main Role	Assignments	Main Outcome
Design Studio 5	Analytical and conceptual foundation	Assignments 1, 2, and 3	Program understanding, site diagnosis, project statement, guiding idea, first esquisse
Design Studio 6	Functional development, programming, and preliminary design	Assignments 4, 5, 6, and 7	Functional logic, precedent lessons, final architectural program, avant-projet

1.4. Expected Progression from Analysis to Avant-Projet

The expected progression from analysis to avant-projet is the central pedagogical logic of the handbook. The student begins with information and ends with architectural synthesis. This progression does not happen automatically. It requires a clear sequence of tasks, deliverables, diagrams, written syntheses, critiques, and design decisions.

The first stage is understanding the project. Through Assignment 1, students analyze the selected neighborhood facility, identify its users, understand activities, define functions, prepare preliminary spatial needs, and justify a preliminary site choice in Biskra. This stage answers the basic questions: What is the project? Who uses it? What activities does it contain? What spaces are required? Why is the site appropriate?

The second stage is understanding the place. Through Assignment 2, students study the selected site in Biskra. They analyze location, plot boundaries, accessibility, flows, urban context, orientation, sunlight, wind, microclimate, noise, views, visual constraints, and site potentials. This stage answers the question: What does the site require architecturally?

The third stage is building the design direction. Through Assignment 3, students synthesize program and site findings, formulate the project problem, write the project statement, define a guiding idea, establish

design intentions, and test first esquisse alternatives. This stage answers the question: What architectural direction should the project take, and why?

The fourth stage is understanding operation. Through Assignment 4, students study the facility as a functioning system. They examine user categories, access levels, activities, requirements, functional relationships, compatibilities, incompatibilities, user flows, and indoor-outdoor relationships. This stage answers the question: How must the facility function in real use?

The fifth stage is learning from examples. Through Assignment 5, students analyze relevant precedents and extract lessons related to program, organization, circulation, zoning, composition, environmental strategies, and adaptation. This stage answers the question: What can be learned from similar projects?

The sixth stage is defining the design brief. Through Assignment 6, students produce the final architectural program, including spaces, areas, access levels, privacy levels, adjacency relationships, zoning, environmental requirements, and program-site connections. This stage answers the question: What is the final architectural program that will guide the design?

The seventh stage is developing the architectural proposal. Through Assignment 7, students transform the final program into a coherent preliminary design or avant-projet. This includes site insertion, massing, functional zoning, circulation, site plan, floor plans, sections, elevations, environmental strategy, architectural expression, 3D views, and model. This stage answers the question: How can the program, site, concept, and functional logic become a coherent architectural project?

Table 5: Summary of the pedagogical progression

Stage	Assignment	Pedagogical Focus
1	Assignment 1	Understanding the project: program, users, activities, spatial needs, preliminary site choice
2	Assignment 2	Understanding the place: site, context, access, climate, constraints, potentials
3	Assignment 3	Building the design direction: project statement, guiding idea, design intentions, esquisse
4	Assignment 4	Understanding operation: functions, access levels, use sequences, user flows
5	Assignment 5	Learning from examples: precedents, spatial organization, composition, design lessons
6	Assignment 6	Defining the design brief: final program, areas, relationships, zoning, environmental needs
7	Assignment 7	Developing the architectural proposal: site insertion, plans, sections, elevations, massing, model, avant-projet

By the end of this progression, students should be able to show that their design decisions are not arbitrary. The entrance should respond to access and urban context. The zoning should respond to functional requirements and access levels. The massing should respond to the site, climate, and guiding idea. The environmental strategy should respond to Biskra's hot climate. The architectural expression should communicate the public role and identity of the neighborhood facility.

This progression gives the studio its educational value. It helps students understand architecture as a structured process of inquiry, interpretation, decision-making, and representation, while preparing them for more advanced design studios.

CHAPTER 2.

The Neighborhood Facility Project in Biskra

Chapter 2: The Neighborhood Facility Project in Biskra

This chapter clarifies the meaning, role, and pedagogical value of the neighborhood facility project as the central theme of Design Studio 5 and Design Studio 6. It explains why this project type is suitable for third-year architecture students and why Biskra is used as the project context. The neighborhood facility project helps students connect program, site, users, public use, climate response, and architectural design. It prepares them to understand the facility not only as a building, but also as a public element that participates in neighborhood life.

2.1. Definition of the Neighborhood Facility

A neighborhood facility is a public or collective-use building designed to serve the regular needs of a local population. It may support community services, learning, care, recreation, cultural activities, social interaction, or administrative support.

In this studio, the neighborhood facility is understood as a project located at the scale of the neighborhood. It is smaller than a large city-level institution, but more complex than a private or domestic project. It requires students to work with public access, different users, multiple activities, functional relationships, circulation, environmental conditions, and the relationship between the building and its urban surroundings [5–7].

A neighborhood facility may take different forms, such as a library, cultural center, youth center, health center, nursery, multipurpose hall, social center, neighborhood house, or another local service facility. What connects these examples is their role in serving a defined local community.

The neighborhood facility is defined by three main characteristics.

- **Public or collective role:** the facility is not designed for one private user. It welcomes different users, such as children, young people, adults, elderly people, staff, visitors, families, associations, or service users.
- **Local urban role:** the facility must relate to its neighborhood through access, visibility, pedestrian movement, streets, open spaces, and public presence. It should not be treated as an isolated object on the site.
- **Programmatic and functional role:** the facility contains activities that must be translated into spaces, areas, access levels, adjacency relationships, and circulation sequences. Students must understand the project as a functioning architectural system, not only as a form.

In Biskra, the neighborhood facility must also respond to the local site, the hot climate, the urban fabric, patterns of use, shade needs, indoor-outdoor relationships, and the public life of the chosen neighborhood.

This definition prepares students for Assignment 1, where they select the facility type, define users and activities, identify preliminary spatial needs, and justify a preliminary site choice in Biskra.

2.2. Urban Role of the Neighborhood Facility

The neighborhood facility has an important urban role because it can support the organization, readability, and activity of the surrounding area. It is not only a service point; it can also become a local reference, a meeting place, a visible public element, and a spatial connector within the neighborhood.

At the urban scale, the facility can strengthen the relationship between buildings, streets, public spaces, pedestrian paths, and local services. A well-designed facility improves accessibility, reinforces neighborhood identity, and supports daily public life [3, 6].

2.2.1. The Facility as a Local Point of Reference

A neighborhood facility can become a local point of reference through its accessibility, public function, entrance clarity, and recognizable architectural expression. It does not need to be monumental. At the neighborhood scale, identity can be created through proportion, entrance design, public forecourt, façade rhythm, shaded transition, or relation to a street corner [5, 8].

The objective is to make the facility visible and readable while keeping it connected to the scale of the surrounding urban fabric.

2.2.2. The Facility as a Support for Public Space

A neighborhood facility should strengthen the relationship between architecture and public space. Its entrance, forecourt, shaded waiting area, courtyard, garden, or outdoor activity space can create a transition between the street and the interior of the building. [9, 10]

This transition is especially important in Biskra, where outdoor spaces must respond to heat, sun exposure, shade, and comfort. A shaded entrance, protected forecourt, or courtyard can improve both social use and environmental quality.

2.2.3. The Facility and Pedestrian Movement

Because neighborhood facilities are intended for regular local use, pedestrian access is essential. The project should connect clearly to sidewalks, local paths, crossings, residential areas, public spaces, and nearby services [5, 11].

Students must study where users are likely to arrive from, which edges of the site are most active, and where the main entrance should be placed. The entrance must be justified according to accessibility, visibility, safety, pedestrian flow, and its relationship with the street or public space [12].

2.2.4. The Facility and Urban Edges

The way the building addresses the street is a major design issue. A neighborhood facility can activate an urban edge by placing public or semi-public functions near the street. It can also protect sensitive spaces by locating them away from noisy or exposed edges [6, 13, 14].

For example, a cultural center may place a reception hall or exhibition area toward the public edge, while workshops or quieter spaces may be organized deeper inside the building. A health facility may need a clear public entrance but also controlled circulation for consultation rooms and staff areas. A nursery may require secure access and protected outdoor play areas.

Therefore, the urban role of the facility is directly connected to functional organization. The project must balance openness, control, visibility, privacy, and environmental protection.

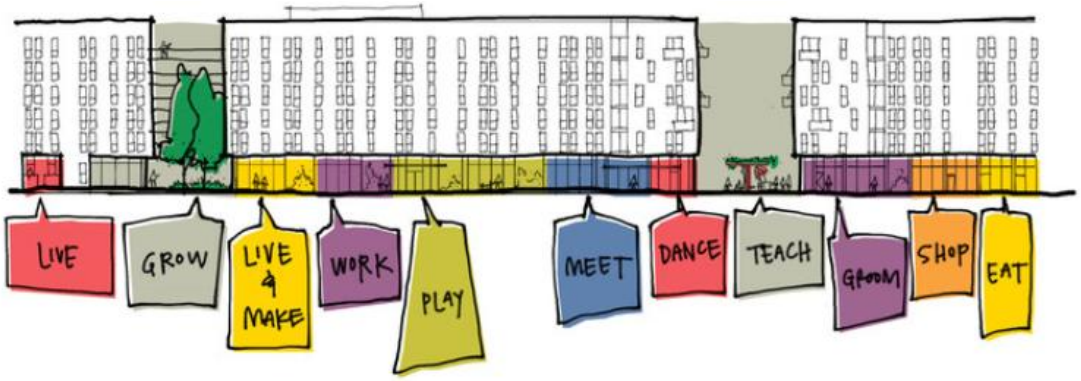

Figure 3 : Image Courtesy of 9 Ways to Make Housing for Peo [15]

2.2.5. The Facility and Neighborhood Activity

A neighborhood facility can contribute to the daily activity of the area. It may create moments of gathering, waiting, meeting, learning, recreation, or support. Depending on its function, it may be used at different times of the day or week. Students should ask: who will use the facility, when will it be active, how will users arrive, which spaces should be visible, and which spaces should be protected? These questions help avoid conflict, congestion, or disturbance [6, 12–14].

The urban role of the facility must be considered from the earliest stages of the project, especially during site selection, context analysis, and site diagnosis. It will later influence the project statement, guiding idea, site insertion, access logic, zoning, and architectural expression.

2.3. Social Role of the Neighborhood Facility

The neighborhood facility has an important social role because it supports collective life at the local scale. It provides spaces where people can meet, learn, receive services, participate in activities, access care, practice recreation, or interact with other members of the community.

This role depends on the selected program. A library may support reading, learning, and cultural access. A youth center may support recreation, informal education, and supervised activities. A health center may provide consultation, prevention, and care. A social center may serve families, elderly people, associations, and local initiatives [8, 13, 16].

In all cases, the facility is not only a container of rooms. It is a place that shapes social relations and can encourage inclusion, accessibility, comfort, dignity, safety, and participation.

Figure 4: Create Lively, Active Streets (designed by Aidlin Darling Design). Image © Bruce Damonte[15]

2.3.1. Supporting Everyday Collective Life

A neighborhood facility serves daily or regular uses. It is not designed only for exceptional events, and its value depends on its ability to support ordinary practices of the neighborhood [6, 7, 9].

The design process can be guided by simple but essential questions: Where is the entrance? Where does waiting happen? How is orientation made clear? Which spaces are open to everyone? Which spaces require control? Where can informal meeting take place? How can children, elderly people, staff, visitors, and service users feel comfortable and safe?

These questions help transform the facility from a simple functional program into a meaningful public place.

2.3.2. Inclusion and Accessibility

Because the facility serves different categories of users, accessibility needs to be understood in a broad sense. It includes physical access, visual clarity, orientation, safety, comfort, social openness, and ease of use [8, 10, 16, 17].

A well-organized neighborhood facility avoids confusion. The entrance, reception, main spaces, waiting areas, circulation paths, and service zones need to be easy to identify. This legibility is especially important for children, elderly users, occasional visitors, and people using the facility for the first time.

2.3.3. Balancing Openness and Control

Many neighborhood facilities require a balance between open public use and controlled access. A community center may include flexible public spaces, staff offices, and storage. A health facility may combine public waiting areas with private consultation rooms. A nursery may need welcoming access for parents while protecting children's spaces.

This balance affects zoning, circulation, transparency, entrances, indoor-outdoor relations, and privacy. The project requires a clear distinction between public, semi-public, controlled, private or staff, service, and technical zones.

2.3.4. Social Identity and Local Belonging

A neighborhood facility can also contribute to local identity. It can express that the neighborhood has a place for culture, learning, youth, care, services, or community gathering. This identity does not need to be decorative. It can appear through the clarity of the entrance, the quality of shaded public space, the

relationship with local materials or urban scale, the organization of gathering areas, and the way the building welcomes users.

In Biskra, this social role should also be connected to climatic and cultural patterns of use. Outdoor shaded spaces, transitional areas, courtyards, and protected waiting zones can become important social spaces if they are designed with comfort and usability in mind.

2.4. Pedagogical Interest of the Neighborhood Facility Project

The neighborhood facility project is appropriate for third-year architecture education because it offers a balanced level of complexity. It is more demanding than introductory spatial exercises, but remains manageable within the pedagogical limits of the year.

This project type introduces several fundamental architectural questions: program, users, activities, access, circulation, zoning, public and private relationships, environmental response, site insertion, indoor-outdoor relationships, and architectural expression [2, 17].

2.4.1. Intermediate Project Scale

A neighborhood facility has an intermediate scale. It is not as small as a house and not as complex as a hospital, university campus, or large cultural institution. This scale allows the project to remain controllable while introducing the logic of public architecture.

At this level, the relationship between the whole building and its parts becomes easier to understand. Spaces can be grouped, entrances organized, user flows studied, and environmental strategies translated into form and layout.

2.4.2. Clear Relationship Between Program and Design

The project requires the translation of users, activities, and needs into architectural spaces. A design program is not only a list of rooms. It is a structured interpretation of spatial needs, relationships, access levels, areas, and priorities.

For example, a workshop room is not defined only by its name. Its design depends on the number of users, daylight, ventilation, storage needs, noise level, relation to outdoor space, visibility, and access control. This type of questioning develops functional and architectural reasoning.

For example, identifying a “workshop room” is not enough. We must ask: Who uses it? How many people use it? Does it need daylight? Does it need ventilation? Should it be near storage? Should it be near an outdoor space? Should it be visible or controlled? Does it produce noise? Does it need direct access from the public zone?

This kind of questioning develops functional and architectural reasoning.

2.4.3. Strong Contextual Dimension

A neighborhood facility must be inserted into a real urban situation. It responds to streets, adjacent buildings, public spaces, access, views, noise, orientation, sun exposure, shade, and local needs.

In Biskra, the site becomes a source of architectural reasoning. Climate and urban context influence entrance placement, massing, outdoor spaces, environmental protection, shaded transitions, and the relationship between the building and the neighborhood.

2.4.4. Introduction to Public Architecture

The neighborhood facility introduces the principles of public architecture. Unlike a private dwelling, it serves multiple users and includes collective spaces. It needs to be legible, accessible, safe, and socially meaningful.

At the same time, public architecture requires control. Some spaces are open and visible, while others are protected, supervised, private, or technical. This tension between openness and control is one of the main learning values of the project. This tension between openness and control is one of the main pedagogical values of the project.

2.4.5. Methodological Learning

The project supports a progressive design method. It moves from analysis to concept, from concept to function, from function to program, and from program to architectural proposal. Each stage produces material that supports the next one, which helps maintain continuity between the different assignments.

The project also develops representation and communication skills. It requires maps, diagrams, tables, site analysis drawings, functional diagrams, bubble diagrams, zoning diagrams, plans, sections, elevations, 3D views, and models. These outputs show that architectural communication is not limited to visual quality, but also includes analytical clarity, diagrammatic thinking, written synthesis, and the ability to explain design decisions.

2.5. Possible Types of Facilities

Within this studio, the selected neighborhood facility should be compatible with third-year pedagogical objectives, the project scale, and the selected site in Biskra. Possible types include a neighborhood library, health center, youth center, cultural center, nursery, multipurpose hall, social center, neighborhood house, or another local service facility. The choice needs to be justified according to neighborhood needs, user categories, site conditions, accessibility, program complexity, public role, environmental response, and architectural potential.

Table 6: Summary of Possible Facility Types

Facility Type	Main Role	Key Design Issues
Cultural facility	Supports cultural, educational, artistic, and community-oriented activities.	Flexible spaces; public/semi-public articulation; gathering; identity; daylight and shade.
Educational facility	Supports learning, teaching, supervision, training, or childcare.	Supervision; security; classrooms; outdoor learning/play; daylight; ventilation.
Sports facility	Supports physical activity, recreation, training, and collective use.	Large volumes; user flows; changing spaces; structure; ventilation; indoor/outdoor activity.
Social and community facility	Supports social interaction, local initiatives, associations, and shared activities.	Flexibility; accessibility; informal gathering; controlled staff/service areas; outdoor activity.

Local health facility	Provides basic healthcare, consultation, prevention, and community health support.	Privacy; waiting; consultation sequence; staff/public separation; calm and comfort.
Administrative or service facility	Provides local public services, information, administrative support, or citizen assistance.	Public interface; waiting; service counters; staff workflow; controlled access; clarity.

2.5.1. Cultural Facility

A cultural facility is a neighborhood public building intended to support cultural, educational, artistic, or community-oriented activities. It may include spaces for reading, exhibitions, workshops, meetings, small events, training sessions, and collective cultural practices.

Architecturally, the cultural facility introduces students to flexibility, public access, gathering spaces, and the relationship between open and controlled functions. It usually requires a clear entrance, reception area, multipurpose rooms, activity spaces, exhibition or display areas, staff areas, storage, and outdoor extensions.

Important design issues include articulation between public and semi-public spaces, relationship between circulation and gathering, flexibility of activity rooms, visual openness and identity, environmental comfort for collective use, and integration of shaded outdoor or transitional spaces.

In Biskra, a cultural facility should also respond to heat and sun exposure. Courtyards, shaded entrances, thickened façades, protected outdoor spaces, and controlled daylight can become important architectural strategies.

2.5.2. Educational Facility

An educational facility supports learning, teaching, supervision, and educational development. At the neighborhood scale, it may take the form of a small learning center, training center, study facility, reading center, or nursery.

This type of facility requires clear organization because different users may include children, students, teachers, parents, staff, visitors, or trainees. Some spaces must be open and welcoming, while others must be supervised, calm, or protected.

Typical spaces may include entrance and reception, classrooms or training rooms, reading or study spaces, multipurpose room, administration and staff rooms, sanitary facilities, storage, circulation areas, and outdoor learning, play, or gathering spaces.

Important design issues include supervision, acoustic comfort, daylight, natural ventilation, secure outdoor spaces, and easy orientation. For a nursery or children's facility, access control and safety become especially important.

2.5.3. Sports Facility

A sports facility supports physical activity, recreation, training, and collective use. At the neighborhood scale, it may be a multipurpose sports hall, training center, small indoor sports facility, or a facility combining indoor and outdoor activity areas.

This type of project introduces students to larger interior volumes, movement, structural logic, changing spaces, and user flows. It may serve children, teenagers, adults, local associations, trainers, staff, and spectators.

Typical spaces may include entrance and reception, main activity hall, secondary training rooms, changing rooms, sanitary facilities, equipment storage, staff or supervision room, waiting areas, possible spectator area, and outdoor sports or activity space.

Important design issues include circulation, separation between clean and active zones, ventilation, acoustic control, structural span, and connection between indoor and outdoor activities.

2.5.4. Social and Community Facility

A social or community facility supports social interaction, local initiatives, community services, association activities, and shared events. It may take the form of a community center, neighborhood house, youth center, social support center, or multipurpose local center.

This type of facility is particularly relevant because it connects directly to neighborhood life. It can serve children, teenagers, adults, elderly people, families, local associations, community groups, and staff.

Typical spaces may include entrance and reception, multipurpose hall, meeting rooms, workshops or activity rooms, informal gathering spaces, administrative offices, sanitary facilities, storage, circulation and waiting areas, and outdoor gathering or activity spaces.

Important design issues include flexibility, accessibility, informal social use, indoor-outdoor connection, and the balance between open community spaces and controlled management spaces.

2.5.5. Local Health Facility

A local health facility provides basic healthcare, consultation, prevention, health education, and community health support. At the neighborhood scale, it may be a small clinic, community health center, maternal and child health facility, or primary-care support building.

This type of facility requires careful functional organization because it includes users with different needs and access levels: patients, medical staff, administrative staff, visitors, and accompanying family members.

Typical spaces may include entrance and reception, waiting area, consultation rooms, treatment or examination rooms, administration, sanitary facilities, staff areas, storage and service rooms, circulation zones, and a health education or multipurpose room.

Important design issues include privacy, clarity, hygiene logic, calm waiting areas, separation between public and staff areas, daylight, ventilation, and user comfort. The design must support dignity, reassurance, and functional efficiency.

2.5.6. Administrative or Service Facility

An administrative or local service facility provides public services, information, administrative support, or citizen assistance at the neighborhood scale. It may be a local service office, municipal annex, citizens' service center, or neighborhood administration point.

This type of project teaches students how to organize the relationship between public interface and internal workspaces. It must be accessible, clear, and efficient.

Typical spaces may include entrance and reception, waiting area, service counters, consultation or meeting rooms, staff offices, management office, archive or storage, sanitary facilities, technical rooms, and exterior waiting or shaded reception area.

Important design issues include orientation, public waiting, privacy during consultation, administrative workflow, controlled access to staff areas, and institutional clarity.

2.6. Why Biskra as a Project Context

The objective is not simply to place a generic neighborhood facility in any location. The project must be developed in relation to Biskra's urban conditions, climatic constraints, patterns of movement, neighborhood needs, and environmental challenges. This makes the design exercise more realistic and more educational.

2.6.1. Biskra as a Real Urban Context

Working in Biskra allows students to select real sites and study their location, surroundings, accessibility, urban edges, land uses, pedestrian movement, vehicular movement, noise, views, and public-space conditions. The site is not theoretical. It becomes a real design condition that must influence the project.

Students must therefore move from general assumptions to specific analysis. They must ask: Where is the site located in Biskra? What is around it? Who may use the facility? How is the site accessed? Is it visible? Is it connected to local services? Does it need a public facility? What are its constraints and opportunities?

2.6.2. Biskra as a Climatic Learning Context

Biskra also provides a strong context for learning climate-responsive design. The hot climate requires students to think about orientation, sun exposure, shading, ventilation, indoor-outdoor transition, thermal protection, façade treatment, and outdoor comfort.

In this context, environmental response cannot be treated as an optional addition at the end of the project. It must be integrated from the beginning, especially in site analysis, guiding idea, zoning, massing, façade design, and outdoor-space design.

2.6.3. Biskra as a Context for Indoor-Outdoor Relationships

In hot climates, the relationship between indoor and outdoor spaces is a critical architectural issue. Outdoor spaces can be valuable if they are shaded, protected, ventilated, and connected to the program. Courtyards, patios, shaded forecourts, covered passages, transitional galleries, and protected gardens can support both environmental comfort and social use.

For this reason, students must not treat outdoor spaces as leftover areas. They must be programmed, designed, and connected to the functional logic of the building.

2.6.4. Biskra as a Context for Local Public Life

The neighborhood facility must respond to the way local users may access, occupy, and experience public buildings in Biskra. Students should consider the daily needs of residents, proximity to housing, schools, services, public spaces, transport, and pedestrian paths.

The project must therefore be evaluated not only as an architectural object, but also as a contribution to local public life. It should provide useful services, clear access, comfortable waiting or gathering areas, and a meaningful relationship with the neighborhood.

2.7. Site Choice in Biskra: Criteria and Responsibility

Site choice is one of the first major decisions in the project. In this studio, the selected site may be located anywhere in Biskra, provided that the choice is based on clear and justified criteria. It should not depend only on personal preference, convenience, or the visual attractiveness of the plot. The preliminary site choice needs to be supported by criteria such as accessibility, neighborhood need, visibility, plot capacity, functional compatibility, safety, and the potential for outdoor spaces.

Table 7: Site-Choice Criteria for Students

Criterion	What to Check	Design Implication
Accessibility	Roads, pedestrian access, service access, direct/indirect arrival routes.	Main entrance, public access sequence, service access, safety.
Neighborhood need	Local lack or demand for the selected facility type.	Program relevance and social justification.
Visibility	Street frontage, corner condition, public-space relation, recognizable access.	Public presence, entrance placement, façade role.
Plot capacity	Area, dimensions, geometry, boundaries, outdoor-space potential.	Building footprint, zoning, expansion, outdoor areas.
Compatibility	Surrounding uses, noise, privacy, safety, activity conflicts.	Buffer zones, zoning, controlled access, façade treatment.
Safety and comfort	Pedestrian conflicts, traffic, shaded waiting, heat exposure.	Protected access, shaded thresholds, user comfort.
Outdoor-space potential	Forecourt, courtyard, garden, shaded gathering, service yard.	Indoor-outdoor relationships and climate response.

2.7.1. Accessibility

The selected site needs to be accessible to its intended users. Accessibility includes road access, pedestrian access, service access, public movement, and the relationship with surrounding streets. It should be studied at different scales: city scale, neighborhood scale, street scale, and plot scale. The analysis needs to explain not only where the site is located, but also how users can reach it.

2.7.2. Neighborhood Need

The site choice needs to respond to a real or plausible neighborhood need. The selected facility type should be relevant to its location. For example, a youth center may be appropriate near residential areas, a health center in an area lacking local health services, and a library or cultural center near schools, public spaces, or community activity. The objective is to connect the program to the neighborhood rather than selecting a function randomly.

2.7.3. Visibility and Public Presence

A neighborhood facility needs a certain level of visibility in order to support its public role. The site may offer visible street frontage, a corner position, a relation to public space, a recognizable access point, or the possibility of creating a public entrance or forecourt. However, visibility also needs to be balanced with privacy, safety, and environmental protection.

2.7.4. Plot Capacity

The site needs to have enough capacity to accommodate the selected facility. This includes plot area, dimensions, geometry, boundaries, possible building footprint, outdoor spaces, setbacks, access, and future flexibility. A plot may be attractive but too small, narrow, irregular, exposed, or constrained for the selected program.

2.7.5. Compatibility with Surroundings

The selected facility needs to be compatible with surrounding land uses. Compatibility concerns noise, privacy, safety, access, public activity, and the sensitivity of nearby functions. For example, a nursery requires secure and calm surroundings, while a cultural center may benefit from proximity to public space or local activity. Compatibility does not mean imitation of the surroundings, but a justified relationship with them.

2.7.6. Safety and Comfort

Safety is essential for a public facility. The site analysis needs to consider pedestrian safety, vehicular conflicts, entrance visibility, service access, and possible night use where relevant. In Biskra, comfort is also related to protection from sun and heat. The potential for shade, vegetation, outdoor protection, and environmental adaptation is therefore an important criterion.

2.7.7. Outdoor-Space Potential

The site should allow meaningful outdoor spaces that support arrival, waiting, gathering, learning, play, recreation, or environmental buffering. Possible outdoor elements include a shaded entrance space, forecourt, courtyard, garden, outdoor activity area, service yard, protected pedestrian path, or thermal buffer zone. These spaces need to be considered from the beginning as part of the project logic, not added as leftover areas.

2.8. Climate and Environmental Specificity of Biskra

The climate and environmental conditions of Biskra need to strongly influence the design process. Because of the hot climate, the project requires careful attention to orientation, sun exposure, shade, ventilation, daylight control, outdoor comfort, façade protection, and transitional spaces.

This environmental dimension is directly connected to the studio assignments. Site analysis includes orientation, sunlight, wind, microclimate, noise, views, visual constraints, and diagnosis. Later, the preliminary design needs to translate this analysis into environmental strategies such as shading, ventilation, thermal buffering, daylight control, and climate-responsive outdoor spaces.

2.8.1. Orientation

Orientation is one of the first environmental factors to study. It influences building placement, the position of main spaces, façade treatment, openings, shaded outdoor areas, daylight strategy, and thermal comfort.

In Biskra, façades exposed to strong sun, especially south and west orientations, require careful architectural treatment.

2.8.2. Sun Exposure and Shading

Sun exposure must be analyzed before massing and façade decisions. Students should identify the most exposed site edges, the shaded areas, the potential for self-shading, and the need for protective devices.

Possible architectural responses include shaded entrances, courtyards with controlled solar exposure, covered galleries, recessed openings, vertical or horizontal shading devices, shaded outdoor waiting areas, vegetation as environmental support, and compact massing where appropriate.

The objective is not to eliminate sunlight completely, but to control excessive solar gain and provide comfortable spaces.

2.8.3. Natural Ventilation and Microclimate

Students should study wind direction, open edges, blocked zones, and potential ventilation paths. Even when wind data is approximate at studio level, the student must understand how surrounding buildings, streets, open spaces, and courtyards may affect air movement.

Natural ventilation can influence building orientation, opening placement, courtyard design, shaded passages, cross-ventilation potential, and thermal comfort in transitional spaces.

2.8.4. Daylight Control

Daylight is important for visual comfort and spatial quality, but in a hot climate it must be controlled. Large unprotected openings may create heat gain and glare. Poorly lit spaces may become uncomfortable and unpleasant.

Students must therefore balance daylight and thermal protection. A good daylight strategy may include controlled openings, shaded windows, clerestories, patios, courtyards, screens, light wells, or indirect daylight.

2.8.5. Thermal Buffering

Thermal buffers are spaces or architectural elements that reduce the impact of heat on occupied interiors. In a neighborhood facility, thermal buffers may include shaded galleries, entrance halls, service zones placed on exposed façades, courtyards, vegetation, double façades, thick walls, or semi-open transitional spaces.

Students should think strategically about which spaces need the best comfort and which spaces can act as protective layers.

2.8.6. Noise, Views, and Visual Protection

Environmental specificity is not only climatic. It also includes acoustic and visual conditions. Students must identify noisy edges, calm zones, attractive views, undesirable views, and privacy issues.

These factors affect placement of quiet spaces, orientation of openings, location of outdoor areas, façade treatment, use of buffers, and zoning between active and calm functions. In Biskra, as in any real urban context, environmental design must combine climatic, visual, acoustic, and social considerations.

2.9. Neighborhood Scale and Public Use

The neighborhood scale is essential to the project. The facility must be designed for local public use, not as a large regional institution or a private building. This affects the size, access, program, circulation, urban presence, and architectural expression of the project.

2.9.1. Appropriate Scale

The project must remain compatible with third-year pedagogical objectives. It should be complex enough to include different users, functions, circulation systems, and environmental issues, but not so large that it becomes unmanageable.

Students must avoid selecting a program that is too broad or unrealistic. The project should remain a neighborhood facility with a clear local role.

2.9.2. Public, Semi-Public, and Controlled Spaces

Public use does not mean that all spaces are open to everyone. A successful neighborhood facility organizes different levels of access.

These may include public spaces such as entrance, reception, waiting area, public hall, or exhibition space; semi-public spaces such as activity rooms, classrooms, or multipurpose rooms; controlled spaces such as supervised areas, children's spaces, or consultation rooms; private/staff spaces such as offices and staff rooms; service/technical spaces such as storage and technical rooms; and outdoor spaces such as forecourt, courtyard, garden, activity area, or shaded waiting space.

This access hierarchy will become especially important in Assignments 4, 6, and 7.

2.9.3. Relationship Between Building and Neighborhood Life

The facility should contribute positively to the neighborhood. It should not create an inactive wall, confusing access, unsafe edges, or uncomfortable outdoor areas. Instead, it should support legibility, accessibility, public use, and environmental comfort.

Students should ask: How does the building address the street? Where is the main entrance? Is there a public or semi-public threshold? How does the project support pedestrian movement? Which functions should be visible? Which functions should be protected? How does the project respond to heat, sun, noise, and views? How does the building express its public role?

2.9.4. Public Use and Architectural Responsibility

Because the project serves a local population, students must approach it with architectural responsibility. The design should not focus only on form or image. It must respond to users, comfort, clarity, accessibility, social value, environmental adaptation, and neighborhood integration.

A neighborhood facility is successful when users can understand it, access it, feel comfortable in it, and recognize its value in daily life. For this reason, the project must be developed through the full studio sequence: program analysis, site diagnosis, project statement, functional analysis, precedent analysis, architectural programming, and preliminary design.

2.10. Conclusion

The neighborhood facility project in Biskra provides a relevant pedagogical framework for third-year architecture education. It allows the project to address public use, local context, functional organization, environmental response, and architectural expression within a manageable scale.

This chapter clarified the meaning of the neighborhood facility, its urban and social roles, its pedagogical value, possible facility types, and the importance of Biskra as an urban and climatic context. It also emphasized that site choice, environmental response, and public use need to guide the organization of the project from the beginning.

The next part of the handbook moves from this general framework to the practical assignment sequence, beginning with facility selection, user and activity analysis, preliminary spatial needs, and site justification in Biskra.

PART II.

Design Studio 5: From Program and Site to First Design Direction

PART II: Design Studio 5: From Program and Site to First Design Direction

Design Studio 5 represents the first semester of the neighborhood facility project in Biskra. Its main role is to establish the analytical and conceptual foundation of the project before its further development in Design Studio 6. At this stage, the focus is not on producing a final architectural proposal, but on understanding the selected facility, its users, activities, site conditions, and main design issues.

This part of the handbook is organized around the first three assignments of the studio sequence: **Assignment 1: Program Analysis and Preliminary Site Choice**, **Assignment 2: Context Analysis and Site Diagnosis**, and **Assignment 3: Project Statement, Guiding Idea, and First Esquisse**. Together, these assignments guide the process from the first understanding of the project to the formulation of a coherent architectural direction.

The pedagogical logic is progressive. The work begins with defining what the project is, continues with understanding where it is located, and ends with clarifying the first design direction. This movement from program to site, and from site to architectural intention, shows that design conception needs to be grounded in analysis, interpretation, and synthesis.

Table 8: Overview of Part II Assignments

Assignment	Focus	Main Question	Main Output
Assignment 1	Program analysis and preliminary site choice	What is the project, who uses it, what spaces are needed, and why is the selected site in Biskra suitable?	Program statement, user/activity tables, preliminary space schedule, adjacency matrix, bubble diagram, and site-choice criteria table.
Assignment 2	Context analysis and site diagnosis	Where is the project located, and what does the site require architecturally?	Location sequence, site maps, access and environmental diagrams, photographic survey, constraints/potentials table, and site diagnosis.
Assignment 3	Project statement, guiding idea, and first esquisse	What architectural direction should the project take, and why?	Project statement, guiding idea, design intentions, conceptual diagrams, preliminary parti, esquisse alternatives, and selected direction.

Purpose of Part II

The purpose of Part II is to clarify that architectural design needs to be grounded in analysis before it becomes form. The project should not begin with an arbitrary shape, façade, or image. It begins with a clear reading of the facility, its users, activities, site conditions, environmental constraints, and role within the neighborhood.

This part is essential because it prepares the foundation for Design Studio 6. The outputs of Assignments 1, 2, and 3 support the next stages of the project: functional analysis, precedent analysis, architectural programming, and preliminary architectural design. A weak analytical and conceptual basis can lead to weak project development. For this reason, Part II emphasizes clarity, continuity, and justification at every stage.

Each document produced in this part has a design purpose. The user table helps define access levels and functional needs. The activity table helps identify spaces and relationships. The site diagnosis guides implantation, access, zoning, environmental response, and outdoor-space design. The guiding idea should not remain a decorative phrase; it needs to organize the architectural logic of the project.

Expected Outcomes at the End of Part II

By the end of Part II, each student should have produced a strong and coherent project basis. This basis should include the following elements:

- A justified facility selection;
- A preliminary site choice in biskra;
- A clear understanding of users, activities, functions, and spatial needs;
- A structured site diagnosis;
- A synthesis of constraints and potentials;
- A clearly formulated project problem;
- A project statement;
- A guiding idea;
- Architectural objectives and design intentions;
- Conceptual diagrams;
- A preliminary parti;
- Esquisse alternatives and a selected design direction.

CHAPTER 3.

Assignment 1 - Program Analysis and Preliminary Site Choice

Chapter 3: Assignment 1 - Program Analysis and Preliminary Site Choice

This chapter presents Assignment 1 as the first practical step of Design Studio 5. It focuses on understanding the selected neighborhood facility through its users, activities, functions, preliminary spatial needs, and basic space relationships. It also introduces the first site decision by requiring a justified preliminary site choice in Biskra.

3.1. Purpose of Assignment 1

Assignment 1 is the first practical step in Design Studio 5. It introduces the architectural design process through the analysis of a selected neighborhood facility project in Biskra. At this stage, the focus is not on producing a final design proposal, but on building the basic programmatic and operational foundation of the project.

The assignment has two connected purposes. The first is programmatic: understanding the selected facility through its users, activities, functions, spaces, and relationships. The second is site-related: justifying a preliminary site choice in Biskra according to clear criteria such as neighborhood need, accessibility, public role, environmental conditions, and project feasibility.

By the end of this assignment, the selected facility and the selected site need to show a logical relationship. This foundation prepares the next stage, where the site will be analyzed in greater detail through context analysis and site diagnosis.

3.2. What Is the Project?

The project is a neighborhood facility located in Biskra. It is a public or collective-use building that responds to the needs of a local population. It may support education, culture, health, youth activities, social interaction, community services, recreation, or local public support.

The project should not be understood simply as a building with rooms. It is an architectural response to a local need. For this reason, the first step is to clarify the facility type, its users, its activities, its required functions, its spatial needs, and the suitability of the preliminary site.

We must begin by answering basic questions:

- What type of facility is selected?
- What local need does it respond to?
- Who are the main users?
- What activities will happen inside and outside the facility?
- What functions are required?
- What spaces are needed?

- What relationships must exist between spaces?
- Why is the selected site in Biskra suitable for this project?

These questions help to move from a general project theme to a more precise architectural program. The objective is to avoid starting with arbitrary forms or copied examples. Instead, the student must develop the project from a clear understanding of use, function, and spatial logic.

At this stage, the project should be understood through four main dimensions:

1. **Programmatic dimensions**: users, activities, functions, spaces, and relationships.
2. **Urban dimension**: the facility's role in the neighborhood and its connection to local public life.
3. **Social dimension**: the groups of users served by the facility and the needs it responds to.
4. **Environmental dimension**: the preliminary suitability of the site in relation to sun, shade, ventilation, comfort, and outdoor-space potential.

3.3. Selecting the Facility Type

The first task is to select one type of neighborhood facility. The selected type needs to be appropriate for Biskra, relevant to the chosen neighborhood situation, and compatible with the pedagogical level of Design Studio 5. The facility should offer enough complexity to work on users, activities, functions, access, circulation, and spatial relationships, while remaining manageable within the third-year studio level.

Possible facility types include:

Facility Type	Main Programmatic Focus
Neighborhood library	Reading, learning, study, community knowledge access
Healthcare center	Basic care, consultation, prevention, health support
Youth center	Youth activities, learning, recreation, social development
Local cultural center	Exhibitions, workshops, events, cultural participation
Nursery / daycare center	Early childhood care, learning, supervision, outdoor play
Multipurpose hall	Meetings, events, community gatherings, flexible activities
Social center	Community support, association activities, social services
Neighborhood house / community house	Local gathering, participation, informal and formal neighborhood activities

A strong facility selection should show:

- clear understanding of the selected facility type;
- relevance to neighborhood life in Biskra;
- clear target users;
- manageable project scale;
- potential for spatial organization and architectural development;
- compatibility with the selected site.

3.4. Explaining the Role of the Facility in Neighborhood Life

After selecting the facility type, its role in neighborhood life needs to be clarified. A neighborhood facility may provide a missing service, support a specific group of users, improve access to learning or care, create a place for gathering, or strengthen the public character of the neighborhood.

For example, a neighborhood library can support reading and community learning. A youth center can provide supervised spaces for young people. A healthcare center can offer basic consultation and prevention services. A nursery can respond to the needs of families and children. A social center can support community interaction, associations, and local services.

The role of the facility should answer:

- What problem or need does the facility respond to?
- Which user groups will benefit from it?
- How does it contribute to neighborhood life?
- What kind of public or social value does it provide?
- Why is this facility appropriate for the selected site?

This explanation will help students avoid treating the project as a generic building. It connects the program to a specific local purpose.

3.5. Selecting a Preliminary Site in Biskra

Each student must select a preliminary site in Biskra. The site may be located anywhere in the city, but it must be appropriate for the selected neighborhood facility and justified through clear criteria.

At this stage, the site study is preliminary. Students are not yet required to complete the full context analysis. That work will be developed in Assignment 2. However, the student must show that the selected site has enough potential to support the project.

The preliminary site choice should include:

- location of the site in Biskra;
- simple city-scale location map;
- neighborhood-scale map;
- photographs or clear visual documentation of the site;
- approximate plot dimensions and area;
- immediate surrounding uses;
- visible access points;
- preliminary observation of pedestrian and vehicular access;
- basic justification of the site's suitability.

The site must not be chosen only because it is empty or easy to draw. It must be selected because it can support the selected facility type. For example, a nursery needs safety, protection, and outdoor play potential. A library needs accessibility, quietness, and good environmental conditions. A youth center may need visibility, access, and outdoor activity potential. A health center needs clear access, privacy, and calm waiting areas.

The site choice is therefore the first architectural decision of the project.

3.6. Site-Choice Criteria

The selected site must be evaluated according to objective criteria. These criteria help students justify the choice and compare possible alternatives before selecting the final preliminary site.

The assignment brief proposes the following site-choice criteria: neighborhood need, accessibility, urban visibility, compatibility with surrounding uses, plot capacity, public character, safety and comfort, outdoor-space potential, environmental potential, and studio feasibility.

Criterion	Explanation
Neighborhood need	The site should respond to a real or reasonable local need in the surrounding area.
Accessibility	The site should be reachable by local users, especially pedestrians and daily neighborhood users.
Urban visibility	The site should have a visible and understandable relationship with the neighborhood.
Compatibility with surrounding uses	The proposed facility should be compatible with nearby housing, schools, commerce, public spaces, or services.
Plot capacity	The site should be large enough to contain the building, access areas, and possible outdoor spaces.
Public character	The site should allow the facility to serve the community and contribute to neighborhood life.
Safety and comfort	The site should allow safe access, especially for pedestrians, children, elderly users, or families.
Outdoor-space potential	The site should allow a forecourt, shaded waiting area, courtyard, garden, or other outdoor extension.
Environmental potential	The site should allow reasonable decisions related to sun, shade, ventilation, and orientation.
Studio feasibility	The site should be manageable for a third-year studio project and not excessively complex.

Students may compare two possible sites using this table. The selected site should be the one that shows the strongest relationship between facility type, user needs, neighborhood role, and design potential.

The site-choice table must include observation, suitability level, and short justification. Students can evaluate each criterion using High / Medium / Low suitability and provide a short justification for each one.

3.7. User Identification

User identification is a central part of program analysis. A neighborhood facility serves different groups of people, and each group has different needs, activities, spaces, and access levels.

Students must avoid listing users in a superficial way. It is not enough to write “children,” “staff,” or “visitors.” Each user category must be connected to what the users do, what they need, which spaces they use, and how they move through the facility.

The main user categories may include:

User Category	Possible Meaning
Main users	Children, youth, patients, readers, residents, or other primary users depending on the selected facility.
Secondary users	Accompanying persons, visitors, parents, community members, or occasional users.
Staff	Administration, teachers, librarians, medical staff, supervisors, or managers.
Service users	Maintenance staff, delivery staff, cleaning staff, technical support.
Occasional users	Event participants, invited groups, partners, or temporary users.

A strong user analysis should identify:

- who the users are;
- how often they use the facility;
- what activities they perform;
- what spaces they need;
- whether they need public, semi-public, controlled, staff, or service access;
- whether they need supervision, privacy, safety, comfort, or special environmental conditions.

The user analysis will later support functional zoning, circulation design, access control, and the final architectural program.

3.8. Activity Analysis

After identifying users, students must analyze the activities that will take place in the facility. Activities are the link between users and spaces. A space should not be included in the program unless it responds to a clear activity or operational need.

Activities must be classified according to their type and importance. The assignment brief identifies several activity categories: main activities, secondary activities, support activities, service activities, outdoor activities, and arrival/waiting/supervision/circulation activities.

For example:

- In a library, activities may include reading, studying, borrowing books, group work, administration, waiting, storage, and outdoor reading.
- In a health center, activities may include reception, waiting, consultation, examination, health education, staff work, storage, and service access.
- In a nursery, activities may include arrival, supervision, play, learning, eating, resting, staff management, parent waiting, and outdoor play.
- In a youth center, activities may include workshops, sports or recreation, informal gathering, training, administration, storage, and outdoor activities.

Each activity should be connected to a spatial need. For example, “waiting” may require a shaded waiting area, interior lobby, or reception space. “Outdoor play” may require a protected outdoor area with shade and controlled access. “Consultation” may require privacy, acoustic comfort, and proximity to waiting and reception.

A strong activity analysis should answer:

- What activity happens?
- Who performs it?
- How often does it happen?
- What space is needed?
- What spatial or environmental conditions are required?
- Which other activities must be near or separated from it?

3.9. From Activities to Functions

After identifying activities, students must translate them into functional categories. This step is important because it prepares the future zoning, circulation, and spatial organization of the project.

Functions are broader than individual activities. They group related activities into organized parts of the building. The assignment brief proposes the following functional categories: public/reception functions, main activity functions, secondary/support functions, service functions, and outdoor/transitional functions.

Table 1: From activities to functions

Functional Category	Examples
Public / reception functions	Entrance, lobby, reception, waiting area, information desk
Main activity functions	Reading room, consultation room, classroom, multipurpose hall, workshop, activity room
Secondary / support functions	Meeting room, administration, staff room, storage, supervision spaces
Service functions	Toilets, technical rooms, maintenance, cleaning, service access
Outdoor / transitional functions	Forecourt, courtyard, shaded waiting area, garden, outdoor activity area

The required output for this step is a functional hierarchy diagram. This diagram should show the relationship between main, secondary, support, service, and outdoor functions. It should make clear which functions are central, which ones support them, and which ones must be connected or separated.

The functional hierarchy diagram is not a design plan. It is a conceptual organization of the program. It helps students understand the project before translating it into architectural space.

3.10. Preliminary Spatial Needs

Spatial needs are the first translation of the program into architectural spaces. Students must prepare a preliminary space schedule that lists the required spaces, their functions, main users, approximate areas, privacy levels, relationships, and environmental needs.

Each proposed space must have a reason. Students should avoid copying programs from the internet without adaptation. The space list must be developed from the selected facility type, users, activities, functional categories, and site conditions.

A preliminary space schedule should include:

Tableau 2: Preliminary Spatial Needs

Space Example	Function	Users	Approx. Area	Privacy Level	Required Relationship	Environmental Need
Reception	Public interface and orientation	Visitors, staff	To be estimated	Public	Near entrance and waiting	Visibility, shade, comfort
Activity room	Main activity	Main users	To be estimated	Semi-public / controlled	Near storage and circulation	Daylight, ventilation
Staff office	Administration	Staff	To be estimated	Private / staff	Near reception but controlled	Quietness, privacy
Courtyard	Outdoor extension	Users / visitors	To be estimated	Public or controlled	Linked to main spaces	Shade, ventilation

Approximate areas do not need to be final at this stage, but they must be logical. Students must show that they understand the size and role of each space. A very small space for a large activity, or a large space with no functional justification, indicates weak program understanding.

Environmental needs should also be considered from the beginning. Some spaces may need daylight, shade, natural ventilation, quietness, privacy, visual control, or protection from heat. These notes will guide later design decisions.

3.11. Adjacency and First Bubble Diagram

Once the preliminary spaces are identified, students must study the relationships between them. This step is essential because it transforms the space list into an operational logic.

Students must identify:

- spaces that must be directly connected;
- spaces that should be close but not necessarily directly connected;
- spaces that must be separated;
- public, semi-public, private, and service zones;
- noisy and quiet areas;
- staff and visitor circulation;
- indoor and outdoor relationships.

The required outputs are:

1. Adjacency matrix
2. Bubble diagram
3. Public / semi-public / private / service zoning diagram

The adjacency matrix shows the required strength of relationships between spaces. For example, reception may need a strong relationship with the entrance and waiting area. Staff offices may need a moderate

relationship with reception but should remain controlled. Service spaces may need access but should be separated from public areas.

The bubble diagram translates the adjacency logic into a spatial relationship diagram. It should not be a random arrangement of circles. It must show functional proximity, separation, hierarchy, access, and zoning.

The zoning diagram organizes the project into public, semi-public, private/staff, service, and outdoor zones. This diagram will later help students develop the first parti, functional zoning, and architectural layout.

	Reception/security	Permit office	Break room	Main toilet	Production sup/office	Senior office	Field op area	Meeting room	Training room	Services area	Control room	CR toilet	Alertness recovery
Reception/security													
Permit office	0												
Break room	0	0											
Main toilet	1	0	1										
Production sup/office	1	0	0	0									
Senior office	0	1	0	0	0								
Field op area	0	1	0	0	0	1							
Meeting room	1	0	0	1	0	0	0						
Training room	0	0	0	0	0	0	0	0					
Services area	0	0	0	0	0	0	0	0	0				
Control room	0	2	2	0	2	2	2	2	1	0			
CR toilet	0	0	0	0	0	0	0	0	0	0	2		
Alertness recovery	0	0	0	0	0	0	0	0	0	0	2	0	

Adjacency required	
-1	Avoid adjacency
0	None
1	Preferred
2	Essential

Figure 5 Example of Adjacency matrix [18]

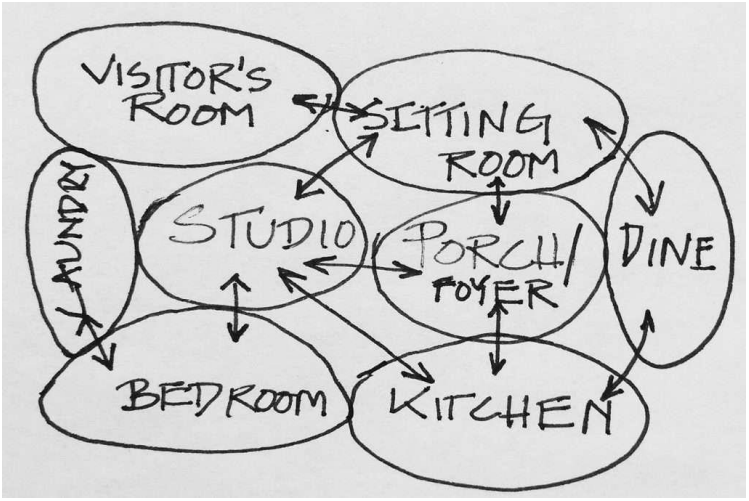

Figure 6: Example of Bubble diagram [19]

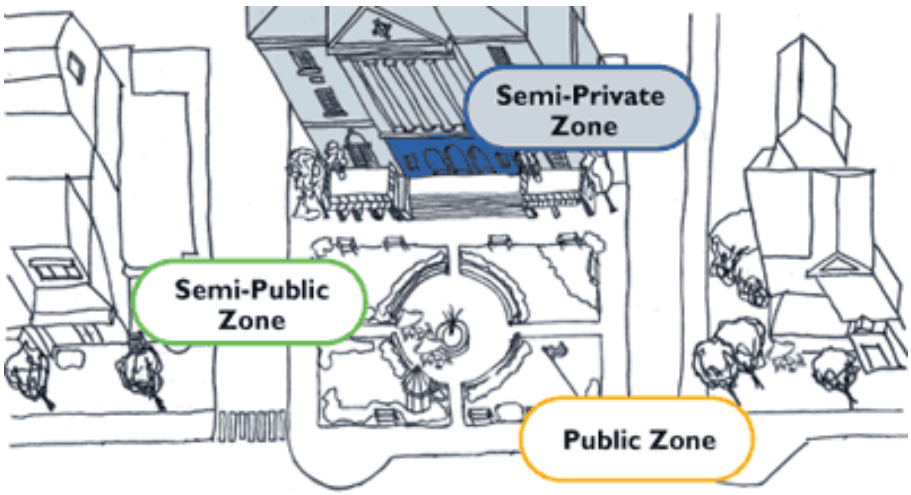

Figure 7: example of Public / semi-public / private zoning diagram [20]

3.12. Writing the Program Statement

At the end of Assignment 1, students must write a concise program statement of 150-250 words. This statement is not yet the design concept. It should summarize what the project must contain and how it should function.

The program statement should include:

- Selected facility type;
- Selected site in biskra;
- Target users;
- Main functions;
- Spatial needs;
- Important relationships between spaces;
- First architectural implications for the next stage.

A good program statement is clear, short, and architectural. It should not be a general description of the building type. It must explain the specific project that the student will develop.

For example, a strong program statement may explain that the selected facility is a neighborhood library located on a site with good pedestrian access, serving students, children, residents, and staff. It may identify the need for reading rooms, study spaces, reception, administration, storage, and shaded outdoor reading areas. It may also explain that quiet functions should be protected from noisy edges, while reception and public spaces should be placed near the main access.

The program statement prepares the transition to Assignment 2 and Assignment 3. It gives the student a clear programmatic basis for site diagnosis and design intention.

3.13. Required Deliverables

Assignment 1 requires printed, digital, and verbal outputs. The submission must be clear, readable, and professionally organized.

3.13.1. Printed / Pin-Up Submission

Students must submit:

- Two A1 boards, portrait or landscape;
- Clear title block with student name, studio, assignment title, facility type, and selected site;
- Readable maps, tables, diagrams, and short explanatory texts;
- Diagrams with titles, labels, and legends when needed.

The boards should communicate the logic of the work. They should not be filled with decorative images or unrelated text. Every drawing, table, and diagram must support the program analysis and preliminary site choice.

3.13.2. Digital Submission

Students must submit:

- One PDF file containing all required work;
- File name format: studentname_Assignment1_Studio5.pdf;
- Readable images, maps, diagrams, and tables.

3.13.3. Verbal Presentation

Students must present their work in 5-7 minutes. The presentation should explain:

- The selected facility;
- The selected site;
- Users;
- Activities;
- Spaces;
- Relationships between spaces;
- How assignment 1 will guide the next stage of the studio.

The verbal presentation is important because students must learn how to explain the logic behind their decisions.

3.13.4. Required Documents and Outputs

No.	Required Output	Expected Form
1	Facility selection justification	Short written explanation and diagrams if needed
2	Preliminary site choice in Biskra	Location map, site images, dimensions, and site-choice criteria table
3	User analysis	User profile table
4	Activity analysis	Activity table linked to spatial needs
5	Functional hierarchy	Diagram showing public, main, support, service, and outdoor functions
6	Preliminary space schedule	Table listing spaces, users, approximate areas, privacy level, and relationships
7	Adjacency matrix	Matrix showing strong, moderate, weak, or no required relationship

8	Bubble diagram	Spatial relationship diagram based on adjacency logic
9	Zoning diagram	Public / semi-public / private / service zoning
10	Program statement	150-250 words

3.14. Evaluation Criteria / Rubric Link

Assignment 1 is evaluated out of 100%. The evaluation focuses on the student's ability to understand the selected facility, justify the site choice, analyze users and activities, translate them into spaces, organize functions, and communicate the program clearly.

No.	Assessment Criterion	Weight
1	Understanding of the selected neighborhood facility and local need	10%
2	Preliminary site choice in Biskra and justification criteria	15%
3	User profile analysis	15%
4	Activity analysis and translation into spatial needs	15%
5	Functional classification and hierarchy	10%
6	Preliminary space schedule and area logic	15%
7	Space relationships: adjacency matrix, bubble diagram, and zoning	15%
8	Program statement, graphic communication, and verbal presentation	5%
Total		100%

Students should avoid:

- Long theoretical explanations unrelated to the selected project;
- General history of the facility type;
- Generic architectural theory;
- Detailed legal or planning frameworks not needed for the assignment;
- Generic swot analysis or unrelated research tools;
- Copying programs from the internet without adaptation;
- Choosing a site without clear criteria;
- Listing spaces without linking them to users and activities;
- Drawing bubble diagrams without functional logic;
- Starting the final design before completing the program analysis.

3.15. Conclusion

Assignment 1 establishes the first operational foundation of the project. A strong program analysis clarifies the selected facility before the design phase begins. It identifies users, activities, functions, spatial needs, relationships, and the preliminary suitability of the chosen site.

This work directly supports Assignment 2, where the site will be studied in greater detail through context analysis and site diagnosis. When the program analysis is weak, the project risks becoming confused because design decisions are made without a clear understanding of use and function. A strong Assignment 1 provides a clear basis for the project statement, design intentions, first esquisse, and later preliminary design development.

Student Working Templates for Assignment 1

The following templates may be copied by students into their boards or digital submission and adapted according to the selected facility type.

Site Choice Criteria Table

Criterion	Observation	Suitability	Justification
Neighborhood need	To be completed by the student	High / Medium / Low	Short justification
Accessibility	To be completed by the student	High / Medium / Low	Short justification
Urban visibility	To be completed by the student	High / Medium / Low	Short justification
Compatibility with surrounding uses	To be completed by the student	High / Medium / Low	Short justification
Plot capacity	To be completed by the student	High / Medium / Low	Short justification
Public character	To be completed by the student	High / Medium / Low	Short justification
Safety and comfort	To be completed by the student	High / Medium / Low	Short justification
Outdoor-space potential	To be completed by the student	High / Medium / Low	Short justification
Environmental potential	To be completed by the student	High / Medium / Low	Short justification
Studio feasibility	To be completed by the student	High / Medium / Low	Short justification

User Profile Table

User Category	Needs	Activities	Spaces Used	Access Level

Activity Analysis Table

Activity	User Group	Frequency	Space Needed	Spatial Requirement

Preliminary Space Schedule

Space	Function	Users	Approx. Area	Privacy Level	Required Relationship	Environmental Need

Minimum Submission Checklist

☐ Selected facility type is clearly stated.
☐ Site choice criteria table is completed.
☐ Activity analysis table is completed.
☐ Preliminary space schedule is provided.
☐ Bubble diagram is provided.
☐ Program statement of 150-250 words is included.
☐ Selected site in Biskra is clearly located.
☐ User profile table is completed.
☐ Functional hierarchy diagram is provided.
☐ Adjacency matrix is provided.
☐ Zoning diagram is provided.
☐ Boards are readable and professionally organized.

CHAPTER 4.

Assignment 2 - Context Analysis and Site Diagnosis

Chapter 4. Assignment 2 - Context Analysis and Site Diagnosis

4.1. Purpose of Assignment 2

Assignment 2 is the second practical step in Design Studio 5. It follows Assignment 1, where the selected neighborhood facility, users, activities, preliminary spatial needs, and preliminary site choice were defined. In this assignment, the focus shifts from understanding the program to understanding the site.

The purpose of Assignment 2 is to analyze the selected site as a real architectural and urban condition. The site is not treated as an empty surface for placing a building, but as a specific place with location, boundaries, dimensions, access conditions, surrounding uses, movement patterns, environmental forces, views, constraints, and potentials.

This assignment does not aim to produce a final design proposal. The priority is to read the site carefully and transform observations into architectural implications. These implications will later guide the project statement, design intentions, and first esquisse in Assignment 3.

By the end of Assignment 2, each student should be able to explain:

- where the site is located in Biskra;
- how the site is connected to its neighborhood;
- how users can reach the site;
- how pedestrians, vehicles, and service movement interact around it;
- what urban, physical, environmental, and visual conditions influence the site;
- what constraints must be solved;
- what potentials can become design opportunities;
- how the site should influence the future architectural project.

The main outcome of this assignment is a site diagnosis. This diagnosis is not only a description of the site. It is a design-support conclusion that explains how the site should guide the next stage of the project.

4.2. Relationship with Assignment 1

Assignment 2 is developed in continuity with Assignment 1. The selected facility and preliminary site normally remain the same. If the exact site boundary or plot limits need adjustment, the change requires clear justification and validation during studio supervision.

Assignment 1 answered the question: what is the project, who uses it, what spaces are needed, and why is the selected site suitable? Assignment 2 answers a complementary question: where is the project located, and what does the site require architecturally?

This continuity is essential because site analysis cannot be separated from the selected facility. A nursery site, for example, requires attention to safety, controlled access, outdoor play potential, and proximity to residential users. A library site requires attention to calmness, accessibility, daylight, quiet zones, and public visibility. A youth center requires attention to active edges, movement, public access, and outdoor activity potential.

Assignment 2 therefore does not repeat Assignment 1. It deepens it. The preliminary site choice becomes a detailed site reading, and the general site justification becomes a precise diagnosis. The work moves from site selection to site interpretation.

The outputs of Assignment 2 prepare Assignment 3. The identified constraints, potentials, access logic, environmental conditions, and site diagnosis will support the formulation of the project problem, guiding idea, design intentions, and first architectural direction.

4.3. Locating the Site in Biskra

The first task is to locate the selected site clearly and progressively. The site location needs to be presented at different scales, moving from the general territorial scale to the precise plot boundary.

The location analysis includes:

- A map of Algeria showing the position of Biskra;
- A city-scale map showing the site within Biskra;
- A neighborhood-scale map showing the surrounding urban context;
- The selected plot boundary;
- North arrow and scale;
- Main landmarks around the site.

The objective is not only to insert maps, but to make the site position understandable. A clear location sequence explains how the site is connected to the city, how it belongs to a specific neighborhood, and how it can be identified within the surrounding urban fabric.

The required output is a location sequence diagram. It moves from the Algeria and Biskra location, to the Biskra city map, then to the neighborhood map, and finally to the selected plot boundary.

Each map needs to be clean, labeled, and readable, with the site clearly highlighted. North arrow and scale are added when relevant. A weak submission only places a marker on a map. A strong submission explains the spatial logic of the site's position and prepares the reader to understand the following urban and environmental analyses.

4.4. Defining the Site Boundary, Dimensions, and Geometry

After locating the site, the next step is to define the physical form of the plot. This analysis is important because the shape, size, and limits of the site influence future architectural decisions.

The analysis includes:

- Plot limits and visible or assumed boundaries;
- Approximate dimensions;
- Total site area;

- Shape of the plot;
- Edges facing streets, neighboring buildings, open spaces, or vacant land;
- Possible entrance points;
- Possible service access points;
- Immediate neighboring conditions.

The plot can be described as regular or irregular, compact or elongated, corner-based or internal, deep or shallow, open or enclosed. These characteristics are not neutral. They influence building implantation, access, zoning, outdoor spaces, and massing.

For example, a corner site may offer strong visibility and several access possibilities, but it may also be exposed to traffic and noise. A deep site may allow a gradual sequence from public to private spaces, but it may require careful circulation. An irregular site may create constraints, but it can also generate specific spatial opportunities.

The required output is a plot analysis drawing. This drawing includes the plot boundary, dimensions, approximate area, north arrow, adjacent streets, and immediate neighboring conditions. It should also begin to show how the physical condition of the site may influence future architectural decisions.

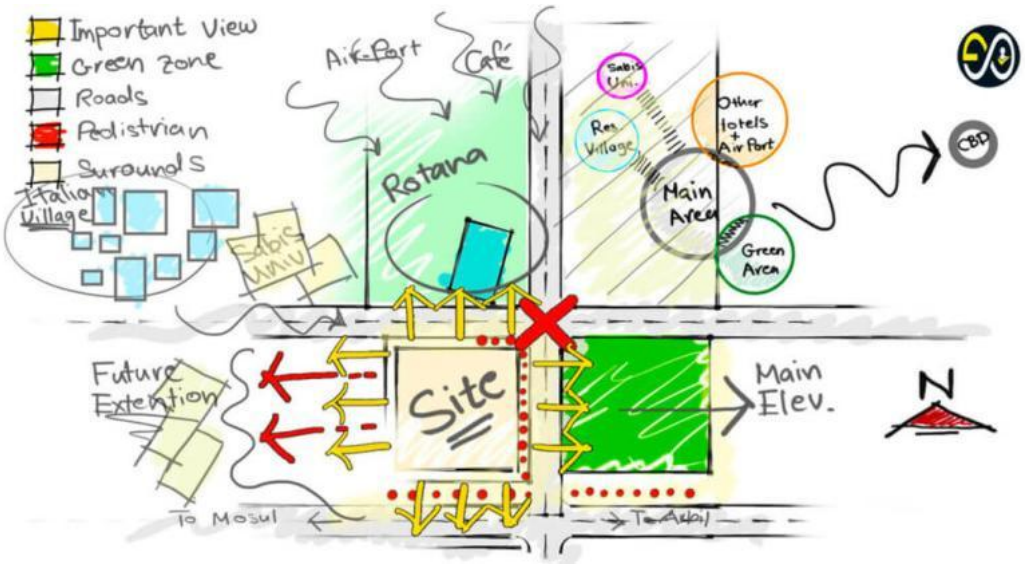

Figure 8: example of plot analysis drawing [21]

4.5. Analyzing the Urban Environment

The urban environment analysis studies the relationship between the selected site and its surrounding neighborhood. Its objective is to understand the role of the site within the urban life of Biskra and to identify how the surrounding context can influence the project.

The analysis includes:

- Surrounding land uses;
- Nearby public spaces and open spaces;
- Surrounding building heights;
- Approximate urban density;

- Active and inactive street edges;
- Important landmarks;
- Local centralities;
- Neighborhood functions that may support or conflict with the proposed facility.

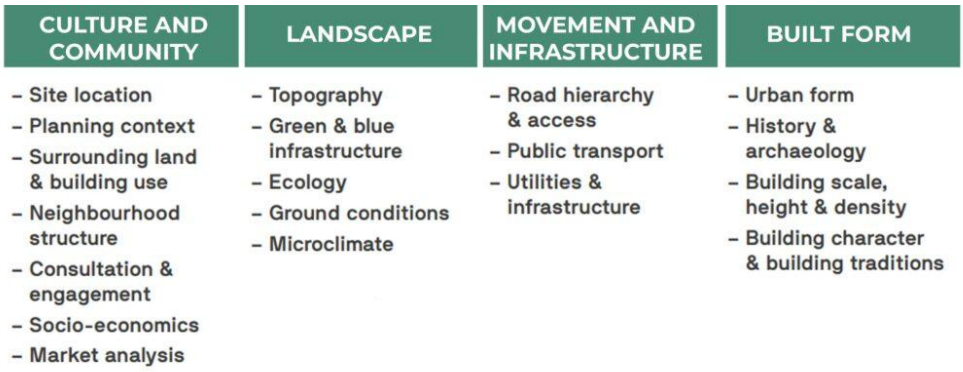

Figure 9: Urban Design Site Analysis [22]

The land-use analysis identifies whether the surrounding area includes residential, commercial, educational, cultural, health, religious, administrative, vacant, or mixed uses. These uses help clarify the type of neighborhood life around the site and the possible users of the facility.

The analysis of building heights and density helps define the scale of the surroundings. A project inserted into a low-rise residential fabric will not have the same response as a project inserted into a dense or mixed-use area. The facility needs to establish an appropriate relationship with its context through scale, volume, edges, and public presence.

Active and inactive edges are also important. An active edge may include shops, entrances, pedestrian activity, schools, public spaces, or social use. An inactive edge may include blank walls, vacant land, technical backsides, or unsafe spaces. The future project can reinforce active edges, improve weak edges, or protect itself from negative conditions.

The required output is an urban context map showing land uses, building heights, public spaces, local activity areas, and important neighborhood references. A strong urban environment analysis does not only describe what surrounds the site. It explains how these surroundings can guide the project.

Figure 10: Analyzing the Urban Environment for desgin [22]

4.6. Accessibility and Movement Analysis

Accessibility and movement analysis examines how users can reach the site and how different types of movement interact around it. This is especially important for a neighborhood facility because the project is intended for regular local use.

Students must analyze:

- Main roads;
- Secondary roads;
- Pedestrian paths;
- Sidewalks;
- Crossings;
- Informal pedestrian routes;
- Public transport points, if present;
- Vehicular access;
- Possible service access;
- Conflict points between pedestrians and vehicles;
- Arrival directions of different user groups.

The analysis should distinguish between pedestrian movement and vehicular movement. These two systems may overlap, but they must be clearly understood. Pedestrian access is essential for local users, children, elderly users, families, patients, readers, or community members. Vehicular access may be necessary for visitors, staff, emergency access, service delivery, or drop-off.

The student should identify the safest and most logical points of arrival. The future main entrance should be informed by this analysis. It should not be placed randomly or only for formal composition.

The required outputs are two movement diagrams: a pedestrian circulation diagram and a vehicular circulation and access diagram. The pedestrian diagram should show the main walking directions, sidewalks, crossings, arrival points, and possible gathering or waiting areas. The vehicular diagram should show main traffic directions, possible car access, service access, conflict points, and areas where the project needs protection from traffic.

A good accessibility analysis helps the student make later decisions about entrance placement, public edge, service access, site insertion, and outdoor-space organization.

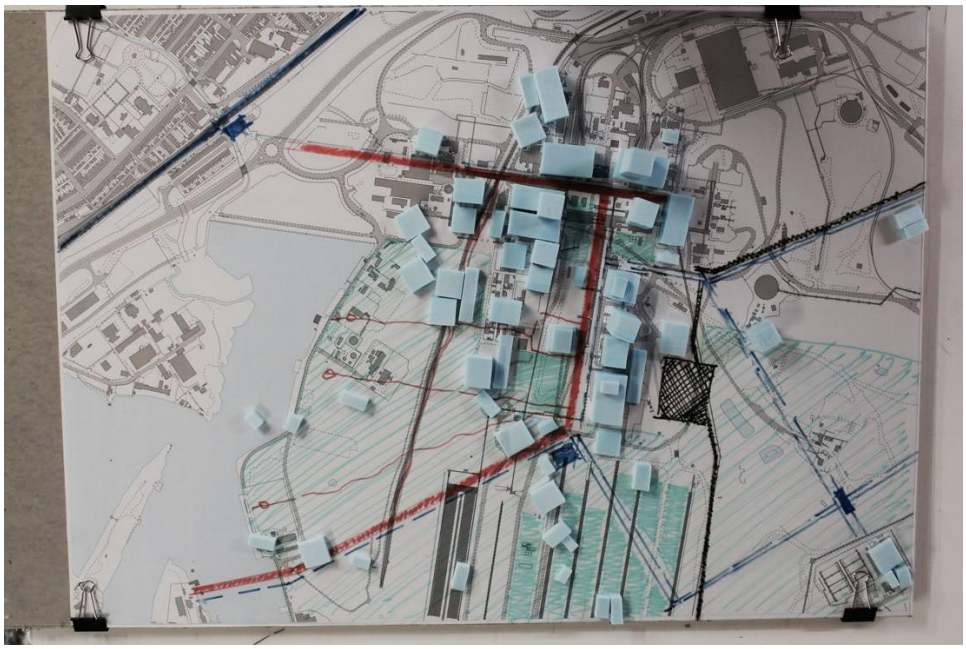

Figure 11: Example of Accessibility and Movement Analysis [23]

4.7. Orientation, Sun Exposure, and Shade Analysis

Because the project is located in Biskra, orientation, sun exposure, overheating, and shade are essential design conditions. Students must treat environmental analysis as a central part of the project, not as a secondary technical issue.

The analysis should include:

- North direction and site orientation;
- East, west, south, and north exposures;
- Morning sun and afternoon sun;
- Most exposed edges;
- Possible future facades exposed to strong solar radiation;
- Existing shaded areas created by buildings, walls, or vegetation;
- Areas suitable for outdoor gathering, shaded entrances, courtyards, or protected transition spaces.

The west and south exposures are especially important in hot climates because they may produce strong heat gain and uncomfortable outdoor conditions. Students should identify which edges may require protection, reduced openings, shading devices, vegetation, transitional spaces, or thermal buffers.

The required output is an orientation and sunlight diagram. This diagram should show exposed zones, shaded zones, possible protected outdoor areas, and first implications for building orientation.

The student should not only draw sun arrows. The analysis must lead to design implications. For example, the entrance may need a shaded threshold; outdoor waiting areas should be protected from direct sun; courtyards must be designed with shade and ventilation; quiet or long-occupied spaces should avoid excessive heat gain; west-facing facades may require strong protection; and service or buffer spaces may be located on the most exposed edges.

A strong environmental reading will directly support the design intentions in Assignment 3 and the environmental strategy in later assignments.

4.8. Wind, Ventilation, and Microclimatic Conditions

Wind, ventilation, and microclimate analysis helps students understand how the site can support passive comfort. The objective is not to produce a complex technical climate report, but to identify possible air movement, exposed areas, protected zones, and opportunities for natural ventilation.

Students should analyze:

- Prevailing or observed wind direction, if known;
- Open edges that may receive wind;
- Surrounding buildings that may block or channel air movement;
- Possible ventilation corridors;
- Uncomfortable exposed areas;
- Shaded and ventilated areas;
- Opportunities for courtyards, openings, shaded transitions, or outdoor spaces.

In a hot climate, ventilation may improve comfort when it is combined with shade and controlled exposure. A courtyard, shaded passage, semi-open gallery, or protected outdoor area can become more usable if the design allows air movement.

The required output is a ventilation and microclimate diagram. It should show possible wind direction, protected zones, exposed zones, areas with ventilation potential, and opportunities for courtyards, openings, shaded transitions, and outdoor spaces.

Students should be careful not to make unsupported technical claims. If accurate climate data is not available, the analysis may be based on observation, site openness, surrounding building mass, street orientation, and general climatic understanding. The important point is to connect microclimatic reading to design decisions.

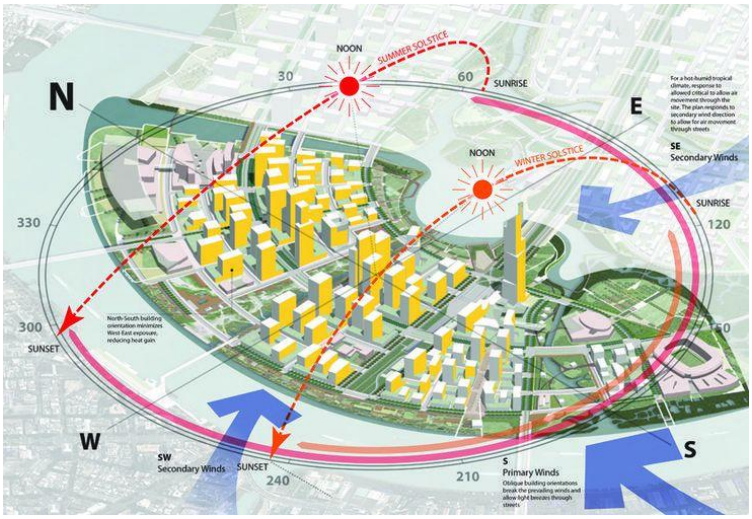

Figure 12: Example of climatic Conditions

4.9. Noise, Views, and Visual Constraints

Noise, views, and visual constraints influence the quality of the future project. These conditions affect the location of entrances, quiet spaces, active spaces, openings, outdoor areas, and privacy strategies.

Students should identify:

- Sources of noise;
- Busy and calm zones;
- Attractive views;
- Useful visual connections;
- Undesirable views;
- Visual disturbance;
- Privacy problems;
- Visual exposure from surrounding buildings;
- Edges that require protection, filtering, screening, or reorientation.

Noise may come from roads, commercial activity, schools, workshops, technical equipment, crowded public spaces, or traffic. Quiet functions, such as reading rooms, consultation rooms, classrooms, rest areas, or administrative offices, may need to be protected from noisy edges.

Views should also be analyzed critically. An attractive view may guide the orientation of a reading area, waiting space, outdoor terrace, or courtyard. An undesirable view may require screening, a blank wall, vegetation, controlled openings, or reorientation.

Privacy is particularly important for facilities such as health centers, nurseries, social centers, and some educational or community facilities. Students must identify whether the site is visually exposed from neighboring buildings or public spaces.

The required output may be one combined diagram or two separate diagrams: a noise and disturbance diagram and a views and visual constraints diagram. A strong visual and acoustic analysis should directly inform zoning, facade treatment, outdoor-space location, and the positioning of sensitive functions.

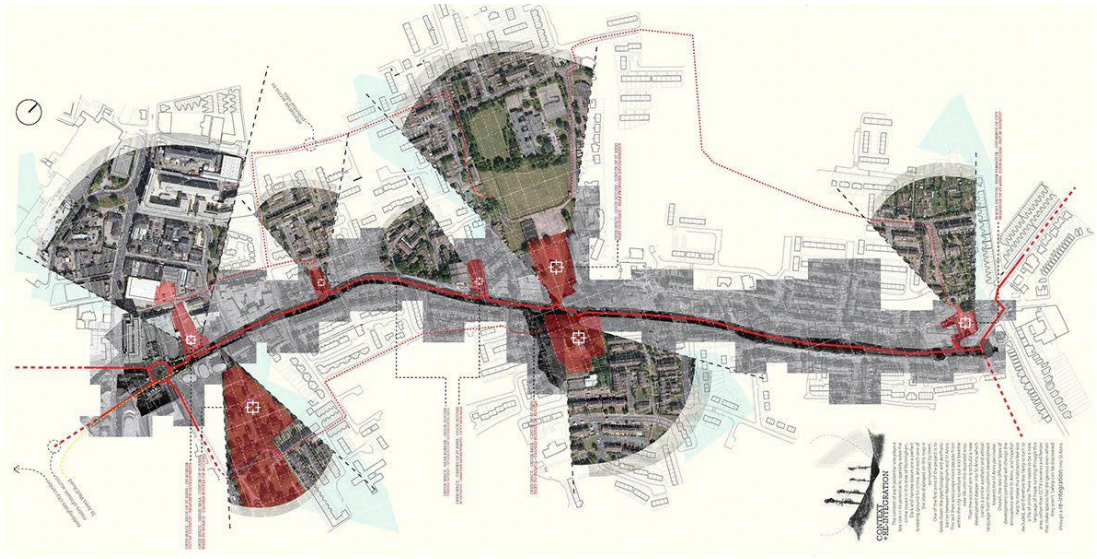

Figure 13: Example of Noise, Views, and Visual Constraints analysis [24]

4.10. Photographic Survey with Analytical Captions

The photographic survey is an essential part of site analysis. Students should visit the site whenever possible. If direct access is not possible, they must use verified visual documentation. The purpose of the photographic survey is not to decorate the board. Each photograph must be selected as evidence and interpreted through a short analytical caption.

The photographic survey may include:

- Site frontage;
- Access points;
- Street conditions;
- Pedestrian paths;
- Surrounding buildings;
- Vegetation;
- Open spaces;
- Traffic or noise sources;
- Views;
- Visual constraints;
- Environmental potentials;
- Physical problems or opportunities.

Each caption should answer three questions: What does the image show? Why is it important? What design implication can be extracted from it?

For example, a photograph of a shaded edge should not simply be captioned “view of the site.” It should explain whether the shaded area can support an entrance, waiting space, courtyard, or pedestrian transition. A photograph of a noisy road should explain how this edge may require buffering or the placement of less sensitive functions.

A strong photographic survey connects field observation to architectural reasoning. A weak survey presents images without interpretation.

4.11. Constraints, Potentials, and Design Implications

This is one of the most important stages of Assignment 2. After completing the different analyses, students must synthesize the findings into constraints, potentials, and design implications.

A constraint is a site condition that may create a problem or require a design response. A potential is a site condition that can support or enrich the project. A design implication explains how the future project should respond to this condition.

Possible constraints include difficult access, heavy traffic, lack of shade, strong sun exposure, noise, weak pedestrian safety, irregular plot shape, visual disturbance, weak public space, lack of vegetation, and poor connection with neighborhood movement.

Possible potentials include good visibility, accessible location, active street edge, nearby public space, possibility of a forecourt, favorable orientation, existing trees, shaded edge, strong neighborhood need, and potential connection with pedestrian movement.

The required output is a constraints and potentials table with four columns:

Site Element	Constraint	Potential	Design Implication
Main road edge	Noise and traffic exposure	High visibility	Place public entrance carefully; use buffer or setback.
Shaded side	Limited direct exposure	Comfortable outdoor potential	Use for waiting, transition, or courtyard.
Pedestrian path	Informal and not protected	Strong arrival direction	Reinforce pedestrian entrance and safe access.

This table is where site observation becomes architectural reasoning. Students should avoid generic SWOT analysis. The focus must remain project-based: what does each site condition mean for the future neighborhood facility?

4.12. Writing the Site Diagnosis

At the end of the assignment, students must write a site diagnosis of 200–300 words. This is the most important written conclusion of Assignment 2.

The site diagnosis should explain:

- The main character of the site;
- Strongest urban qualities;
- Main environmental problems;
- Accessibility conditions;
- Relationship with neighborhood life;
- Main constraints and potentials;
- First architectural implications for the future project.

The diagnosis is not a design concept. It is a clear analytical conclusion explaining how the site should influence the next design stage.

A good site diagnosis may state, for example, that the site benefits from strong pedestrian accessibility and public visibility, but suffers from traffic noise and west exposure. It may conclude that the project should

place public functions near the most visible edge, protect quiet spaces from noise, create a shaded entrance, use the courtyard as a climatic and social device, and orient openings carefully according to sun exposure and privacy.

A weak diagnosis only describes the site without explaining what the design should do. The site diagnosis will directly support Assignment 3, where students will define the project problem, guiding idea, design intentions, and first design choices.

4.13. Required Deliverables

4.13.1. Printed / Pin-Up Submission

- Two A1 boards or three A2 boards.
- Clear title block with student name, studio, project type, and selected site in Biskra.
- North arrow and scale on all relevant maps.
- Clear graphic hierarchy.
- Short comments, not long paragraphs.
- Readable diagrams, labels, legends, and captions.

4.13.2. Digital Submission

Students must submit one PDF file including:

- cover page;
- Site location sequence;
- Plot boundary and dimensions;
- Urban context map;
- Land-use / surrounding functions map;
- Accessibility diagram;
- Pedestrian circulation diagram;
- Vehicular circulation diagram;
- Orientation and sunlight diagram;
- Ventilation / microclimate diagram;
- Noise diagram;
- Views and visual constraints diagram;
- Commented photographic survey;
- Constraints and potentials table;
- Final site diagnosis.

4.13.3. Verbal Presentation

Each student must present the work in 5–7 minutes. The presentation should explain:

- Why the site is suitable for the selected neighborhood facility;
- The main access conditions;
- How the neighborhood context affects the project;
- The main environmental conditions;
- What constraints must be solved;
- What potentials can guide the design.

The presentation should not be a simple reading of the boards. It should explain the logic of the analysis and how the site diagnosis will guide Assignment 3.

4.13.4. Minimum Requirements for Submission

To be accepted, the submission must include:

- Site location sequence;
- Plot boundary and dimensions;
- Urban context map;
- Land-use / surrounding functions map;
- Pedestrian circulation diagram;
- Vehicular circulation diagram;
- Orientation and sunlight diagram;
- Ventilation or microclimate diagram;
- Noise / views / visual constraints diagram;
- Commented photographic survey;
- Constraints and potentials table;
- Final site diagnosis.

Completeness rule: A submission without site location, access analysis, environmental analysis, or constraints/potentials synthesis cannot be considered complete.

4.14. Evaluation Criteria / Rubric Link

Assignment 2 is evaluated out of 100%. The evaluation focuses on the student's ability to locate and analyze the site, interpret its urban and environmental conditions, synthesize constraints and potentials, and communicate the diagnosis clearly.

No.	Assessment Criterion	Weight
1	Site location and plot definition	10%
2	Urban environment analysis	15%
3	Accessibility, pedestrian movement, and vehicular circulation	15%
4	Orientation, sunlight, shade, and environmental reading	15%
5	Noise, views, visual constraints, and surrounding conditions	10%
6	Photographic survey and field observation quality	10%
7	Constraints, potentials, and design implications	15%
8	Final site diagnosis	5%
9	Graphic communication and oral presentation	5%
Total		100%

An excellent submission should precisely locate the site at city, neighborhood, and plot scales; provide a strong urban analysis; map access and movement clearly; connect orientation, sun, shade, and microclimate to future design decisions; identify visual and acoustic conditions; use photographs as analytical evidence; and synthesize constraints and potentials into clear design implications.

Students should avoid:

- Writing general theory about urban design;
- Using generic swot analysis instead of project-based constraints and potentials;
- Adding historical information not related to the selected site;
- Using diagrams without labels, legends, or conclusions;
- Copying maps without redrawing or interpreting them;

- Presenting photos without comments;
- Describing the site without extracting design implications;
- Producing visually attractive boards with weak analysis;
- Starting the building design before completing the site diagnosis.

4.15. Conclusion

Assignment 2 transforms the selected site into a design-support diagnosis. It clarifies how a neighborhood facility can respond to its location, access, urban context, environmental conditions, visual quality, acoustic conditions, constraints, and potentials.

A strong site diagnosis gives direction to the next assignment. It supports the formulation of the project problem, the guiding idea, design intentions, and first design choices. For this reason, Assignment 2 is not only an analytical exercise. It becomes the bridge between site observation and architectural intention.

CHAPTER 5.

Assignment 3 - Project Statement, Guiding Idea, and First Esquisse

Chapter 5. Assignment 3 - Project Statement, Guiding Idea, and First Esquisse

5.1. Purpose of Assignment 3

Assignment 3 is the final assignment of Design Studio 5. It completes the first semester by transforming the results of Assignment 1: Program Analysis and Preliminary Site Choice and Assignment 2: Context Analysis and Site Diagnosis into a clear architectural direction.

At this stage, the objective is not to produce a final architectural project. The focus is on defining the project problem, formulating the project statement, establishing a guiding idea, identifying architectural objectives, clarifying design intentions, justifying first design choices, and preparing initial esquisse alternatives.

This assignment creates the bridge between analysis and design action. The project direction needs to emerge from the interpretation of previous work on program, users, activities, site conditions, environmental factors, and neighborhood context. First design decisions should not appear random, decorative, or copied from examples; they need to be supported by analysis and synthesis.

The main question of Assignment 3 is: What architectural direction should the project take, and why?

This question marks the shift from description to interpretation. The project should no longer remain only a list of spaces or a site analysis board. It begins to become a design proposal with a clear logic, supported by a project statement, guiding idea, design intentions, conceptual diagrams, preliminary parti, and selected esquisse direction.

By the end of Assignment 3, a coherent basis is expected for the future development of the project in Design Studio 6.

5.2. Synthesizing Program and Site Analysis

The first task of Assignment 3 is to synthesize the results of Assignment 1 and Assignment 2. This synthesis is not a repetition of all previous work. It selects the most important findings that directly affect the future design.

The purpose of synthesis is to transform information into design implications. For example, strong afternoon sun exposure may lead to protecting the west façade, reducing direct openings, using shading devices, or placing service spaces as thermal buffers. A facility serving children may require controlled access, protected outdoor space, clear supervision, and safe circulation.

The synthesis includes:

- Main users and their needs;
- Main activities and spatial requirements;
- Required public, semi-public, private, and service zones;
- Strongest site opportunities and constraints;
- Main access conditions and movement patterns;
- Main environmental issues in Biskra;
- Key urban relationships with the neighborhood.

A strong synthesis explains what the analysis means for the project. It connects program and site findings to future decisions about access, zoning, orientation, environmental response, outdoor spaces, spatial hierarchy, and architectural expression.

A useful synthesis table may include the following structure:

Table 9: A synthesis table example

Source	Key Finding	Why It Matters	Design Implication
Program analysis	The project needs flexible activity spaces.	The facility serves different user groups.	Spaces should be adaptable and clearly connected.
Site analysis	The west side is highly exposed to afternoon sun.	Biskra has strong solar exposure.	The west facade needs protection and may receive service spaces as a buffer.
User analysis	Children and families are important users.	Safety and supervision are essential.	Access should be controlled and outdoor spaces should be protected.
Movement analysis	Main pedestrian flow arrives from one edge.	The entrance must be visible and accessible.	The main entrance should be placed near the strongest pedestrian arrival direction.

A strong synthesis does not only summarize. It selects, interprets, and prepares design decisions. This task is essential because it prevents the guiding idea and first esquisse from becoming arbitrary.

5.3. Defining the Main Project Problem

After synthesizing the previous analyses, the next step is to define the main project problem. The project problem represents the central architectural challenge that the design needs to address.

This problem emerges from the intersection between:

- The selected facility type;
- User needs;
- Activity requirements;
- Site constraints;
- Site potentials;
- Neighborhood role;
- Spatial needs;
- Environmental conditions in Biskra.

The project problem needs to be architectural. It should not remain social, general, or abstract. For example, the statement "The neighborhood needs a youth center" is not sufficient because it only describes a need. A stronger architectural problem would be: **How can a youth center in Biskra create a safe, shaded, and active place for young people while remaining open to the neighborhood and protected from excessive heat?**

The required output is a short paragraph of 80 to 120 words. It needs to be specific to the selected facility and site, connected to users and program, related to environmental and urban conditions, and clear enough to guide future design choices.

Table 10: Example of Main Project Problem by project type

Project Type	Example of Architectural Project Problem
Youth center	How can a youth center in Biskra create a safe, shaded, and active place for young people while remaining open to the neighborhood and protected from excessive heat?
Neighborhood library	How can a neighborhood library in Biskra combine quiet reading spaces, community access, and environmental protection from strong solar exposure?
Healthcare center	How can a local healthcare facility organize clear public access, privacy, waiting, and consultation spaces while creating a calm and comfortable environment?
Nursery / daycare center	How can a nursery in Biskra provide protected, supervised, and shaded spaces for children while maintaining clear access for parents and staff?
Community center	How can a community center create flexible spaces for local activities while organizing public access, controlled zones, and shaded outdoor gathering areas?

A weak project problem is vague, poetic, or disconnected from the analysis. A strong project problem immediately suggests what the design must solve.

5.4. Writing the Project Statement

The project statement is one of the most important outputs of Assignment 3. It is the written foundation of the design direction. It explains the selected project, its site, its users, its urban and social role, its main programmatic needs, its main site and environmental issues, and its first architectural response.

The project statement is not the same as the program statement from Assignment 1. The program statement explains what the project contains and how it should function. The project statement goes further. It explains the architectural direction that emerges from the relationship between program and site.

The required length is 200-300 words.

A strong project statement should include:

- Selected facility type;
- Selected site in Biskra;
- Target users;
- Main urban and social role;
- Main programmatic needs;
- Main site issue;
- Main environmental issue;
- First architectural response.

The project statement should be direct, architectural, and specific. It should avoid general sentences that could apply to any project. It must show that the student understands the project as a response to a specific program and a specific site.

A possible structure for the project statement is:

- **Opening sentence**: identify the facility type and its location.
- **User and role**: explain who the project serves and why it is needed.
- **Programmatic issue**: identify the main functions and relationships.
- **Site issue**: explain the most important urban or physical conditions.
- **Environmental issues**: explain the climate-related challenge in Biskra.
- **Architectural response**: state the first design direction.

A good project statement should prepare the guiding idea. After reading it, the instructor should understand the main logic of the project and the direction that the student will test in the esquisse.

5.5. Defining the Guiding Idea

The guiding idea is the main design logic that organizes the project. It is not a decorative concept, a poetic slogan, or a visual image. It must have spatial consequences.

A guiding idea should help the student make decisions about site implantation, access, zoning, circulation, indoor-outdoor relationships, massing, environmental response, public presence, and relationship with the neighborhood.

Examples of guiding ideas include:

- A shaded courtyard;
- A public spine;
- A central hall;
- A sequence from public to private spaces;
- A protected urban edge;
- A building organized around light and shade;
- A community platform;
- A compact form with controlled outdoor spaces;
- A porous building connected to pedestrian movement.

The required output includes one guiding idea sentence, three to five keywords, and one guiding idea diagram.

Table 11: Examples of guiding ideas

Element	Example
Guiding idea sentence	The project is organized around a shaded central courtyard that connects public activities, improves orientation, and creates a protected social space adapted to Biskra's hot climate.
Keywords	Shade - gathering - clarity - protection - community
Guiding idea diagram	A simple diagram showing the courtyard, access, main zones, and environmental protection logic.

A strong guiding idea must be simple, clear, and project-specific. It should be possible to explain it in one sentence and one diagram. If the guiding idea cannot be translated into spatial organization, it is too vague.

5.6. Architectural Objectives

After defining the guiding idea, the next step is to formulate 5 to 7 architectural objectives. These objectives explain what the project aims to achieve through design and how the guiding idea can be translated into architectural decisions.

The objectives need to be specific and design-oriented. They should not remain general values. For example, **"Create a beautiful building"** is too vague. A stronger objective would be: **"Create a shaded public entrance connected to the main pedestrian flow and protected from direct solar exposure."**

Architectural objectives may address urban role, environmental response, functional organization, social use, spatial hierarchy, circulation, indoor-outdoor relationships, public identity, and user comfort. They help transform the guiding idea into clear design priorities for the first esquisse.

Table 12: Architectural Objectives example

Objective Type	Architectural Objective
Urban	Create a clear public entrance connected to the main pedestrian flow.
Environmental	Reduce solar exposure through shaded outdoor spaces and controlled facade openings.
Functional	Separate public, semi-public, private, and service areas without breaking the unity of the project.
Social	Provide flexible spaces that support community gathering and daily neighborhood use.
Spatial	Develop a clear spatial hierarchy from public arrival to more controlled activity zones.
Circulation	Organize user movement through a legible sequence from entrance to main activity spaces.
Indoor-outdoor	Connect interior functions to shaded courtyards, forecourts, or outdoor activity areas.

The objectives must be connected to the project statement and guiding idea. They will help students evaluate their own esquisse alternatives later.

5.7. Design Intentions

A design intention is a clear direction that guides future architectural decisions. It translates the project statement and guiding idea into specific design actions.

Design intentions are formulated for the main aspects of the project, such as implantation, access, zoning, circulation, indoor-outdoor relationships, environmental response, and urban presence. They help clarify how the project will respond to the site, users, program, climate, and neighborhood context.

A strong design intention must be justified by analysis. It should not be written as a personal preference.

Table 13: Example of Design Intention

Design Intention Area	Question to Answer
Implantation	How will the building be placed on the site?
Access	Where will the main entrance be located and why?
Functional zoning	How will public, semi-public, private, and service spaces be organized?
Circulation	How will users move through the building?
Indoor-outdoor relationship	How will the building connect to courtyards, forecourts, gardens, or shaded outdoor spaces?
Environmental response	How will the project respond to sun, shade, ventilation, and heat in Biskra?
Urban presence	How will the facility address the street and neighborhood?

Design intentions are the first step toward architectural organization. They prepare the preliminary parti and esquisse alternatives.

Table 14: Example of Design Intention and architectural responses

Design Intention	Related Analysis Finding	Architectural Response
Protect the west facade.	Strong afternoon sun.	Reduce openings, use shading devices, and place service spaces as thermal buffer.
Create a visible entrance.	Main pedestrian flow arrives from the north.	Place the main entrance on the north edge with a shaded forecourt.
Separate quiet and active functions.	The program includes calm and active activities.	Locate quiet spaces away from the noisy street and active public areas.
Use a courtyard as a climatic and social device.	The site needs shaded outdoor potential and protected gathering space.	Organize main activities around a shaded central courtyard.

5.8. First Design Choices

Students must then present and justify the first design choices. These choices are not final plans. They are early decisions that structure the project before the esquisse.

First design choices may include:

- Site implantation;
- Main entrance position;
- Public forecourt or transition space;
- Functional zoning;
- Main circulation axis;
- Placement of outdoor space;
- Location of quiet spaces;
- Location of noisy or active spaces;
- Environmental protection strategy;
- Relationship with the street;
- Relationship with surrounding buildings.

Each first design choice must be justified using evidence from the program or site analysis.

Table 15: First Design Choice examples

First Design Choice	Why This Choice?	Evidence from Program / Site	Expected Design Effect
Place the entrance on the most accessible edge.	To improve public legibility and arrival.	Main pedestrian flow arrives from this direction.	Clear access sequence and stronger public presence.
Use service spaces as buffer on the exposed facade.	To reduce heat impact on occupied spaces.	West edge receives strong afternoon sun.	Better thermal protection.
Locate quiet spaces away from the noisy road.	To support concentration and comfort.	Noise analysis shows traffic disturbance.	Improved acoustic comfort and privacy.
Create a shaded courtyard.	To provide protected outdoor space.	Biskra's climate requires shade and controlled outdoor use.	Social and environmental central space.

This task teaches students that design decisions must be explained. The project should not be based on intuition only. Design intuition is important, but in studio work it must be supported by analysis and reasoning.

5.9. Conceptual Diagrams

The design direction is communicated through simple and clear diagrams. These diagrams explain decisions and are not used as decorative illustrations.

Required conceptual and analytical diagrams may include:

- Program-site synthesis diagram;
- Main project problem diagram;
- Guiding idea diagram;

- Implantation intention diagram;
- Access and arrival diagram;
- Functional zoning diagram;
- Public / semi-public / private / service diagram;
- Environmental intention diagram;
- Indoor-outdoor relationship diagram;
- Preliminary parti diagram.

Each diagram needs a clear title, simple graphic language, labels, and a legend when necessary. It also needs to have a direct relationship with the project statement, guiding idea, and design intentions.

A good conceptual diagram reduces complexity without losing meaning. It helps the reader understand the logic of the project quickly. Arrows, colors, and shapes should only be used when they communicate a clear design decision.

5.10. Preliminary Parti

The preliminary parti is the first spatial and organizational logic of the project. It is not the final building design, but it is the first clear architectural position.

The parti should show:

- Building position on the site;
- Main access;
- Main zones;
- Public/private organization;
- Main circulation direction;
- Outdoor space relationship;
- Environmental response;
- General volumetric logic.

The preliminary parti must come from the project statement, guiding idea, design intentions, and first design choices. It should not appear suddenly as an unrelated form.

The required output is one preliminary parti sheet, including a parti diagram, simple massing sketch, basic zoning, and a short explanation of the architectural logic.

For example, a project organized around a shaded central courtyard may show the courtyard as the spatial center, public functions near the entrance, controlled or quiet spaces around protected sides, service spaces as buffers, and circulation around the courtyard. A project organized around a public spine may show a linear circulation axis connecting entrance, public spaces, activities, and outdoor areas.

A strong parti is simple but powerful. It gives the project direction without fixing every detail too early.

5.11. Esquisse Alternatives

Two or three first esquisse alternatives are prepared to test different ways of organizing the project. Each alternative responds to the same program and site, but explores a different spatial strategy.

The purpose of these alternatives is to support comparison before selection. The first idea is not always the strongest one; design develops through testing, evaluating, and refining possible directions.

Each alternative includes:

- A small site plan diagram;
- A zoning diagram;
- A massing idea;
- Access logic;
- Main advantages and limitations.

The comparison of alternatives helps identify the most coherent direction for the next stage of project development.

At the end of this task, students must select one preferred direction and explain why it is the most coherent response to the program and site.

The selected direction should not be chosen only because it looks better. It must be evaluated according to program fit, site response, access clarity, functional organization, environmental response, indoor-outdoor relationship, public role, and feasibility for the next design phase.

5.12. Selecting the Preferred Design Direction

After testing the esquisse alternatives, one preferred design direction is selected as the basis for the next stage of the studio.

The selection needs to be clearly justified. The justification explains why the chosen direction is stronger than the other alternatives, with reference to the project statement, guiding idea, design intentions, functional logic, site conditions, access, zoning, circulation, and environmental response.

A strong selected direction statement answers:

- Which alternative is selected?
- Why is it the most coherent?
- How does it respond to users and program?
- How does it respond to the site?
- How does it organize access, zoning, and circulation?
- How does it respond to Biskra's climate?
- What needs to be developed in the next stage?

This statement closes Design Studio 5 with a clear architectural direction. It also prepares Design Studio 6, where the project will be developed through functional analysis, precedent analysis, architectural programming, and preliminary design.

5.13. Required Deliverables

Assignment 3 requires printed, digital, and verbal outputs.

5.13.1. Printed / Pin-Up Submission

- Two A1 boards.
- Clear title block with student name, facility type, and selected site in Biskra.
- Clear diagrams and short explanatory texts.
- Readable drawings and diagrams.
- No long theoretical paragraphs.

The boards should communicate the transition from analysis to design direction.

5.13.2. Digital Submission

The digital submission must include:

- Cover page.
- Synthesis of Assignment 1 and Assignment 2.
- Main project problem.
- Project statement.
- Guiding idea.
- Architectural objectives.
- Design intention table.
- First design choices justification matrix.
- Conceptual diagrams.
- Preliminary parti diagram.
- Two or three esquisse alternatives.
- Comparison table and selected direction.

5.13.3. Verbal Presentation

Each student must present the work in 7-10 minutes. The presentation should explain:

- what the project problem is;
- how program and site analysis led to the guiding idea;
- what the architectural objectives are;
- what the main design intentions are;
- how the first design choices are justified;
- which esquisse alternative is selected and why.

The presentation should be structured, clear, and design-oriented. Students should not simply describe the boards. They must explain the reasoning behind the design direction.

5.13.4. Minimum Requirements for Submission

To be accepted, the submission must include:

- Synthesis table from Assignments 1 and 2;
- Main project problem;

- Project statement;
- Guiding idea sentence and diagram;
- Architectural objectives;
- Design intention table;
- First design choices justification matrix;
- Conceptual diagrams;
- Preliminary parti diagram;
- Two or three esquisse alternatives;
- Comparison table;
- Selected design direction.

A submission without a project statement, guiding idea, or justified first design choices cannot be considered complete.

5.14. Evaluation Criteria / Rubric Link

Assignment 3 is evaluated out of 100%. The evaluation focuses on the student's ability to synthesize previous analysis, define a clear architectural problem, formulate a project statement, develop a guiding idea, justify design intentions, prepare a preliminary parti, and compare esquisse alternatives.

No.	Assessment Criterion	Weight
1	Synthesis of program and context findings	10%
2	Definition of the main project problem	10%
3	Quality of the project statement	15%
4	Guiding idea and architectural objectives	15%
5	Design intentions and first design choices	20%
6	Preliminary parti and conceptual diagrams	15%
7	Esquisse alternatives and comparison	10%
8	Graphic communication and oral presentation	5%
Total		100%

An excellent submission demonstrates that the student can select the most important findings from Assignments 1 and 2 and translate them into design implications. The project problem is precise and architectural. The project statement clearly explains the facility, site, users, programmatic needs, urban role, environmental issue, and first architectural response. The guiding idea is strong and connected to the project. Design intentions and first design choices are justified through evidence. The preliminary parti and diagrams show coherent spatial logic. Esquisse alternatives are tested, compared, and evaluated.

Students should avoid:

- writing general architectural theory;
- presenting a concept that is not connected to the site or program;
- using poetic ideas without spatial consequences;
- starting from form without justification;
- copying a design from a precedent;

- producing diagrams that do not explain design decisions;
- confusing project statement with final design description;
- making final plans before defining the parti;
- ignoring Biskra's climate and site conditions;
- ignoring users and functional relationships from Assignment 1.

5.15. Conclusion

Assignment 3 completes the Design Studio 5 sequence by transforming program analysis and context analysis into a clear architectural direction. Through the project problem, project statement, guiding idea, architectural objectives, design intentions, first design choices, conceptual diagrams, preliminary parti, and esquisse alternatives, the work begins to move from analysis toward design.

This assignment is not a final project. It represents the first structured architectural position. Its value lies in clarifying that design decisions need to be justified through program, site, users, environmental conditions, and neighborhood context. A strong Assignment 3 gives the project a clear direction and prepares Design Studio 6, where the project will be developed through functional analysis, precedent analysis, architectural programming, and preliminary architectural design.

PART III.

Design Studio 6: From Functional Logic to Architectural Programming

PART III: Design Studio 6: From Functional Logic to Architectural Programming

Design Studio 6 represents the second semester of the neighborhood facility project in Biskra. It continues the analytical and conceptual foundation developed in Design Studio 5 and transforms it into a more operational, programmatic, and architecturally controlled project.

At this stage, the focus moves beyond understanding the project and the site. The work begins to clarify how the facility functions, how relevant examples can inform the design process, and how the final architectural program can guide the preliminary design.

Part III focuses on the first three assignments of Design Studio 6. These assignments create the bridge between the first design direction developed in Design Studio 5 and the preliminary architectural conception that will be developed later in Assignment 7.

Studio 6 Assignments Covered in Part III

Assignment	Title	Main Pedagogical Focus
Assignment 4	Functional Analysis of the Neighborhood Facility	Understanding the facility as a real system of users, activities, functions, access levels, relationships, use sequences, and indoor-outdoor connections.
Assignment 5	Precedent / Example Analysis	Learning from relevant projects by extracting practical lessons related to program, spatial organization, circulation, zoning, composition, environmental strategies, and adaptation to Biskra.
Assignment 6	Architectural Programming	Producing the final architectural program: spaces, functional entities, areas, access and privacy levels, adjacency logic, zoning, program-site relationships, environmental requirements, and final program sheet.

Pedagogical Role of Part III

The main objective of Part III is to show that architectural design cannot rely only on concept or form. A coherent project requires functional clarity, spatial logic, attention to user needs, programmatic precision, and environmental awareness.

This part supports the transition from a general guiding idea to a structured architectural program that can later be developed into plans, sections, elevations, massing, and spatial organization. In this sense, Part III gives the project its operational depth before the final preliminary design stage.

Expected Outcomes at the End of Part III

By the end of Part III, each student should have:

- A clear functional analysis of the selected facility;
- A precise understanding of users, access levels, and use sequences;
- Functional relationship, compatibility, and incompatibility tables;
- User-flow and access-zoning diagrams;
- Three precedent analyses with extracted design lessons;
- A comparative precedent table;
- A complete architectural program;
- Area calculations and functional entities;
- Adjacency matrix and bubble diagram;
- Program zoning and program-site relationship diagrams;
- Environmental requirements for the main spaces;
- A final architectural program sheet.

Transition Toward Architectural Conception

This part is fundamental because it prepares the final stage of the studio: Architectural Conception and Preliminary Design. Functional analysis prevents the project from becoming only formal and weak in use. Precedent analysis introduces spatial and organizational lessons that can inform design decisions. Architectural programming gives precision, hierarchy, and coherence to the future proposal.

Part III therefore acts as the operational core of the workbook. It transforms the first design direction into a controlled architectural brief and prepares the development of a preliminary design that is visually coherent, functionally organized, environmentally responsive, and connected to the public role of the neighborhood facility in Biskra.

Pedagogical Flow Toward Assignment 7

Phase	Assignment	Guiding Question
Functional logic	**Assignment 4**	How must the facility function in real use?
Design learning	**Assignment 5**	What can be learned from similar projects?
Design brief	**Assignment 6**	What is the final architectural program that will guide the design?
Next stage	**Assignment 7**	How can the program, site, concept, and functional logic become a coherent architectural project?

CHAPTER 6.

Assignment 4 - Functional Analysis of the Neighborhood Facility

Chapter 6: Assignment 4 - Functional Analysis of the Neighborhood Facility

6.1. Purpose of Assignment 4

Assignment 4 opens Design Studio 6 and marks the transition from the analytical and conceptual work of Design Studio 5 toward a more operational understanding of the neighborhood facility project. In the previous semester, the work focused on program analysis, site choice, context analysis, project statement, guiding idea, and first esquisse alternatives. Assignment 4 deepens this foundation by studying how the facility functions in real use.

The purpose of this assignment is not to repeat Assignment 1. While Assignment 1 introduced users, activities, functions, and preliminary spatial needs, Assignment 4 develops a more detailed reading of the facility as an organized system. This system includes user categories, access levels, activities, functional relationships, compatibilities, incompatibilities, circulation flows, use sequences, and indoor-outdoor relationships.

A neighborhood facility is not only a list of rooms. It is a system of spaces that supports different users, different levels of access, different rhythms of use, and different functional requirements. Some spaces are public, while others are controlled, private, supervised, technical, or service-related. Certain spaces may require acoustic protection, shade, ventilation, privacy, or direct connection to outdoor areas.

The main question of Assignment 4 is: **How must the facility function in real use?**

This question is essential before moving to architectural programming and preliminary design. Without a clear understanding of functional logic, the project may become visually attractive but weak in organization, circulation, access control, and everyday usability.

By the end of this assignment, the functional logic of the selected facility needs to be clearly explained through diagrams, tables, and written synthesis. These documents will support the next stages of Design Studio 6: precedent analysis, architectural programming, and preliminary architectural design.

6.2. Reconfirming the Facility Role

The first step of Assignment 4 is to reconfirm the selected facility and its functional role. This step restates the type of neighborhood facility, its location in Biskra, its users, and the daily or regular needs it addresses.

This task ensures continuity between Design Studio 5 and Design Studio 6. The selected facility, site, and design direction developed through Assignments 1, 2, and 3 remain the basis of the work. Any change in facility type, site boundary, or main intention requires clear justification and validation during studio supervision.

The facility role statement answers:

- What type of neighborhood facility is being designed?
- What is its main purpose?
- Who does it serve?
- What daily or regular needs does it respond to?
- What is its expected role in the selected neighborhood of Biskra?
- How does this role connect to the guiding idea developed in Assignment 3?

The required output is a facility role statement of 100 to 150 words. This statement is functional rather than theoretical. It explains how the specific selected facility works as a public or collective-use building within its neighborhood context.

For example, a youth center is not described only as “a place for young people.” The statement explains the types of youth activities it supports, how users arrive, what level of supervision is needed, which spaces are public or controlled, and how the facility contributes to neighborhood life.

6.3. Function Categories

After reconfirming the facility role, the main functions of the project are classified. This classification clarifies the internal organization of the building before developing architectural programming.

Functions are grouped according to their role in the operation of the facility: main functions, secondary functions, administrative or staff functions, service functions, and outdoor or transitional functions.

The Table 16 prepares future zoning, circulation, access control, and architectural programming.

Table 17: Function Categories

Function Category	Meaning	Possible Examples
Main functions	Spaces that define the primary purpose of the facility	Reading room, consultation room, activity hall, classroom, workshop, multipurpose hall
Secondary functions	Spaces that support or complement the main activities	Meeting room, support room, supervision space, small group room
Administrative / staff functions	Spaces used for management, supervision, and operation	Offices, staff room, reception management, administration
Service functions	Spaces required for technical and operational support	Toilets, storage, maintenance, technical rooms, cleaning spaces, service access
Outdoor / transitional functions	Exterior or semi-exterior spaces connected to use and comfort	Forecourt, courtyard, shaded waiting area, garden, outdoor activity area

This classification avoids treating all spaces as equal. A main activity room, storage space, public reception, staff office, or shaded courtyard does not have the same functional weight or access level. The required output is a functional classification table including function category, spaces included, users concerned, and functional importance.

6.4. User Categories and Access Levels

A neighborhood facility is used by different categories of people. Each user category has different needs, activities, spaces, access rights, and movement patterns. Assignment 4 requires students to analyze these user categories more deeply than in Assignment 1.

Relevant user categories may include:

• Main users; • Occasional visitors; • Children; • Youth;	• Elderly users; • Families; • Staff; • Administration;	• Technical or service staff; • External service providers; • Event participants; • Accompanying persons.

For each user category, students must define the access level. Access levels help organize the building and prevent confusion between public, semi-public, controlled, staff, and service areas.

Table 18: Access Leveland meaning

Access Level	Meaning
Public	Open to general users and visitors
Semi-public	Accessible to users under certain conditions or after reception
Controlled	Requires supervision, permission, appointment, or specific user status
Private / staff-only	Reserved for staff, administration, or management
Service / technical	Reserved for maintenance, delivery, technical operation, or support

The required output is a user and access-level table linking user category, needs, activities, spaces used, access level, and frequency of use.

This analysis will later help students develop public circulation, staff circulation, service circulation, controlled zones, and entrance logic. For example, in a healthcare center, patients and accompanying persons may use public and semi-public zones, while medical staff need controlled and private access. In a nursery, children may be main users but must be protected through controlled access. In a library, readers may use public and semi-public spaces, while staff areas and storage remain private or service-related.

6.5. Activity and Use Requirements

After identifying users and access levels, we must study the activities that occur in the facility. Each activity must be connected to the users who perform it, the spaces where it occurs, and the functional requirements it generates.

Activities should be classified according to their nature. We should consider whether activities are quiet or noisy, individual or collective, public or private, supervised or unsupervised, indoor or outdoor, and transitional.

The activity analysis should answer:

- What activity takes place?
- Who performs the activity?
- Where does it happen?
- Is the activity public, semi-public, private, or controlled?
- Is it quiet or noisy?
- Does it require supervision?
- Does it need acoustic separation?
- Does it need natural light, shade, ventilation, privacy, or visibility?
- Does it require direct access or proximity to storage, toilets, staff, or outdoor space?

Table 19: Activity and Use Requirements

Activity	User Group	Type of Activity	Space Needed	Functional Requirement
Waiting	Visitors / users	Public / transitional	Waiting area	Visibility, comfort, shade, proximity to reception
Reading	Main users	Quiet / individual	Reading room	Acoustic comfort, daylight control, calm location

Consultation	Patients / staff	Private / controlled	Consultation room	Privacy, controlled access, calm environment
Workshop	Youth / community users	Collective / active	Activity room	Flexibility, storage, ventilation, supervision
Outdoor play	Children	Outdoor / supervised	Protected outdoor area	Shade, safety, visibility from staff spaces

This step is important because activities generate spatial and environmental requirements. A space should not be designed only by name. It must be designed according to what happens inside it.

6.6. Functional Relationships

Functional relationships explain how spaces should relate to one another. Some spaces must be close. Some must be separated. Some must be connected through a clear sequence. These relationships are essential for developing a coherent architectural program and later a coherent plan.

Students must study three main types of relationships:

1. Proximity relationships refer to spaces that should be close to each other because they support the same activity or user sequence. For example, reception and waiting should usually be close. Storage may need to be close to a workshop. Changing rooms may need to be close to a sports activity hall.
2. Separation relationships refer to spaces that should be kept apart because of noise, privacy, safety, smell, service access, or control. For example, a noisy multipurpose hall should not disturb quiet reading rooms. Service access should not cross public waiting areas. Consultation rooms should be protected from visual and acoustic intrusion.
3. Continuity relationships refer to spaces that should be connected through a logical sequence of use. For example, arrival may lead to entrance, then reception, then waiting, then the main activity space, and finally exit.

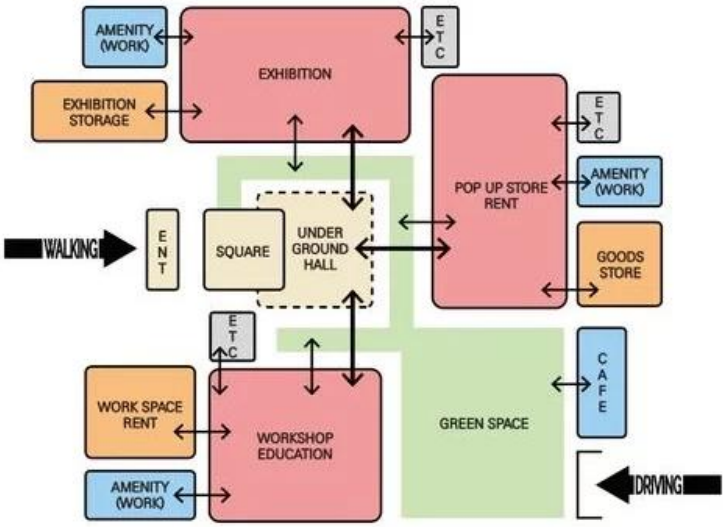

Figure 14: Functional Relationships Diagram

The required output is a functional relationship table identifying Space A, Space B, relationship type, and reason.

Space A	Space B	Relationship Type	Reason
Entrance	Reception	Direct proximity	Users need orientation immediately after arrival
Reception	Waiting area	Direct proximity	Waiting must be controlled and visible
Reading room	Noisy activity hall	Separation	Acoustic comfort is required
Workshop	Storage	Direct proximity	Materials and equipment must be easily accessible
Staff office	Public hall	Controlled proximity	Staff supervision is needed without full public access

This task develops functional reasoning. It prepares adjacency matrices, zoning diagrams, and later plan organization.

6.7. Compatibility Between Functions

Compatibility analysis identifies functions that can work well together or be located near each other. Compatible functions usually share similar users, access levels, activity types, noise levels, privacy needs, or environmental requirements.

For example:

- Reception and waiting are compatible because both are public arrival functions;
- Workshop and storage are compatible because the activity may need equipment;
- Outdoor play and nursery activity spaces may be compatible if supervision is ensured;
- Courtyard and public hall may be compatible if the courtyard supports gathering, orientation, and environmental comfort;
- Administration and reception may be compatible if staff need to supervise the entrance.

The required output is a compatibility table (see Table 20). It should show which functions can be grouped, connected, or located near each other, and why.

Table 21: compatibility table

Function A	Function B	Compatibility Reason	Design Implication
Reception	Waiting area	Both support arrival and orientation	Place them near the main entrance
Workshop	Storage	Activity requires materials	Provide direct or near access
Public hall	Courtyard	Both support gathering and orientation	Connect visually and physically
Staff office	Reception	Staff may supervise public access	Provide controlled proximity
Activity room	Outdoor activity area	Indoor and outdoor activities can complement each other	Create direct shaded connection

Compatibility analysis prevents random zoning. It helps students group functions intelligently and support real use.

6.8. Incompatibility Between Functions

Incompatibility analysis identifies functions that should not be placed together or should be separated carefully. Incompatibility may result from noise, privacy, safety, smell, technical requirements, user conflict, service movement, or control issues.

For example:

- Quiet reading spaces are incompatible with noisy activity halls;
- Consultation rooms are incompatible with highly public or noisy zones;
- Children's controlled spaces are incompatible with uncontrolled public access;
- Service delivery areas are incompatible with main public entrances;
- Technical rooms may be incompatible with sensitive public areas if they generate noise or require restricted access.

The required output is an incompatibility table. It should explain the reason for separation and the expected design response.

Table 22: Incompatibility table

Function A	Function B	Incompatibility Reason	Design Implication
Reading room	Multipurpose hall	Noise conflict	Separate acoustically or locate in different zones
Consultation room	Public lobby	Privacy issue	Use controlled access and buffer space
Children's area	Service access	Safety risk	Separate circulation systems
Outdoor public area	Staff/private zone	Control and privacy issue	Use boundary, transition, or controlled access
Technical room	Quiet activity space	Noise or equipment disturbance	Provide buffer or distant location

This analysis is essential because many weak projects fail not because they lack spaces, but because they place incompatible functions together without control.

6.9. User-Flow Diagrams

User-flow diagrams show how different users move through the facility. They help students understand the building as a sequence of use, not only as a collection of spaces.

Assignment 4 requires at least three user-flow diagrams:

4. Main public user flow;
5. Staff / administration flow;
6. Service / technical flow.

Depending on the selected facility, students may also add children's flow, patient flow, visitor flow, event-user flow, delivery flow, emergency flow, parent flow, or maintenance flow.

A user-flow diagram should show a clear sequence, for example: arrival -> entrance -> reception -> waiting -> main activity space -> support space -> exit.

The diagram should distinguish different users through line types, labels, or colors. It should also show where flows overlap and where they must be separated. For example, public users may enter through the main entrance, while staff may have controlled access and service users may need a separate service route.

A strong user-flow diagram helps answer:

- Where does each user enter?
- What is the first space they encounter?

- Which spaces do they use?
- Which zones are controlled?
- Where do public and staff flows overlap?
- Where should service movement be separated?
- How can confusion, conflict, or unsafe crossing be avoided?

These diagrams directly support the next zoning and architectural programming stages.

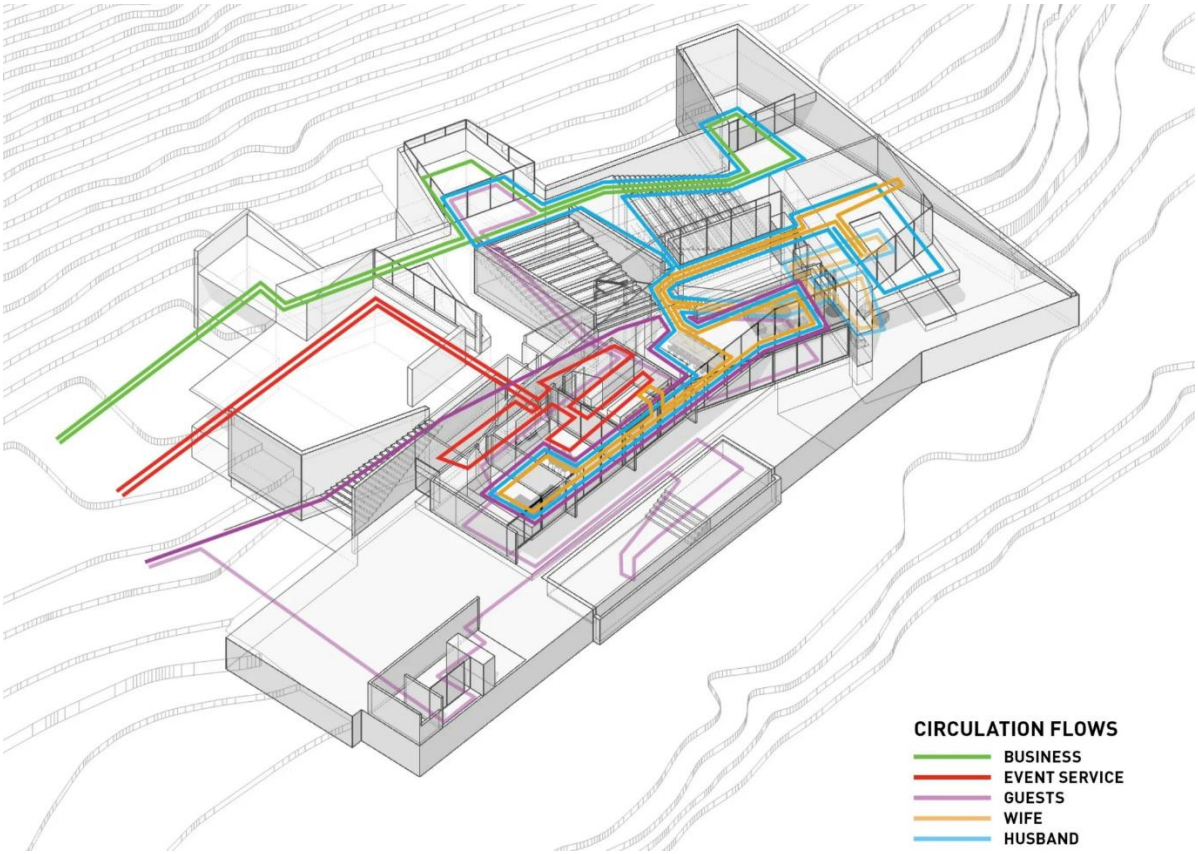

Figure 15: Circulation diagram of our Hipped House by Naoi Architecture & Design Office [25]

6.10. Zoning by Access Level

Zoning by access level organizes the facility according to degrees of publicness, control, privacy, and service. This step is necessary before developing detailed plans.

Students must distinguish public zones, semi-public zones, controlled zones, private / staff zones, service / technical zones, and outdoor / transitional zones. Each zone should be connected to user access and functional logic.

Zone Type	Typical Spaces	Design Logic
Public zone	Entrance, lobby, reception, waiting, public hall	Easy access, visibility, orientation

Semi-public zone	Activity rooms, reading areas, workshop spaces	Accessible but organized and sometimes supervised
Controlled zone	Children's spaces, consultation rooms, supervised rooms	Access requires control, appointment, or supervision
Private / staff zone	Offices, staff room, administration	Restricted access, operational support
Service / technical zone	Storage, technical rooms, maintenance, delivery	Separate or controlled service access
Outdoor / transitional zone	Forecourt, courtyard, shaded waiting, garden	Supports arrival, comfort, activities, and climate response

The required output is an access zoning diagram. This diagram should show the logic of access and control before the architectural plan is developed.

A good zoning diagram does not fix the final plan, but it prepares it. It shows which functions should be near the public edge, which should be deeper inside the project, which need controlled access, and which require service separation.

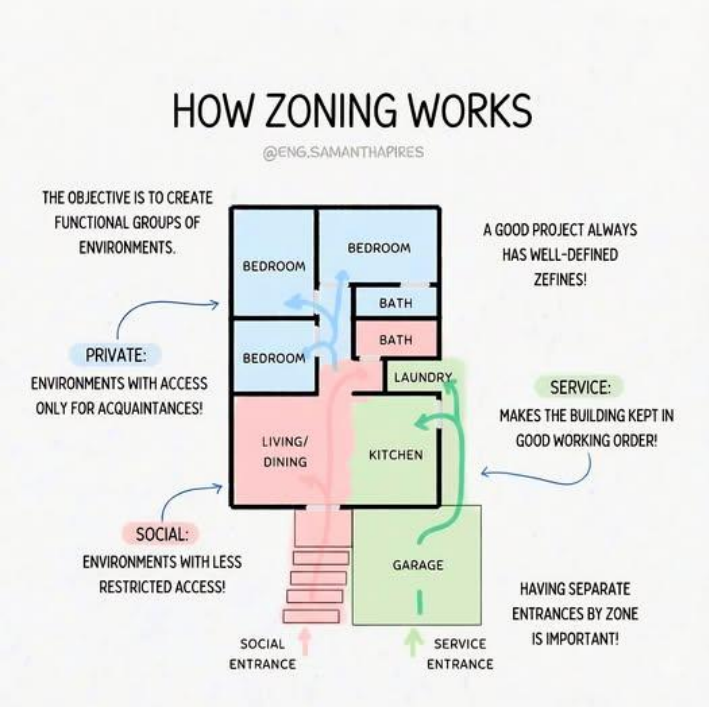

Figure 16: Public/Private diagrams [26]

6.11. Indoor-Outdoor Functional Relationships

Indoor-outdoor relationships are especially important in the Biskra context because outdoor and semi-outdoor spaces can support both function and environmental comfort. A courtyard, shaded

forecourt, garden, covered passage, or outdoor activity space should not be treated as leftover space. It must have a functional purpose.

Students must identify:

- Spaces that need direct outdoor extension;
- Spaces that need a shaded forecourt;
- Spaces that need a courtyard;
- Spaces that need a garden or outdoor activity area;
- Spaces that need protected outdoor waiting;
- Spaces that need service yards or technical outdoor access;
- whether outdoor spaces are public, semi-public, controlled, or service-related.

They must also consider Biskra conditions: shade, heat, comfort, access, ventilation, protection from direct sun, and relation between interior use and outdoor use.

The required output is an indoor-outdoor relationship diagram or table linking interior spaces to outdoor spaces and explaining their functional purpose.

Table 23: table linking interior to outdoor spaces

Interior Space	Related Outdoor Space	Type of Relationship	Functional Purpose
Entrance / lobby	Shaded forecourt	Direct public transition	Arrival, waiting, orientation, climate protection
Activity room	Courtyard	Controlled connection	Outdoor extension for group activities
Reading area	Quiet garden	Visual / controlled access	Calm atmosphere and daylight quality
Nursery classroom	Protected play area	Direct supervised access	Safe outdoor play
Service room	Service yard	Controlled service connection	Delivery, maintenance, waste management

This step helps students integrate climate, function, and spatial organization. It prepares future decisions related to courtyards, shaded entrances, outdoor activity spaces, and transitional zones.

6.12. Functional Synthesis

At the end of Assignment 4, a functional synthesis is produced to summarize the operational logic of the facility and clarify its implications for the architectural programming stage.

The functional synthesis is written in 250 to 350 words and supported by a final diagram. It includes:

- Main functions;
- Secondary and support functions;
- Service functions;
- User categories;
- Access levels;
- Major functional relationships;
- Compatibility and incompatibility issues;
- User flows;
- Indoor-outdoor relationships;
- First functional implications for architectural programming.

This synthesis is not a simple repetition of tables. It explains how the facility works as a complete system. For example, it may show that the project requires a public arrival sequence connected to reception and waiting areas, while controlled activity spaces are organized deeper inside the building. It may also clarify how staff areas supervise access without becoming fully public, how service spaces require separate access, and how shaded outdoor spaces can support waiting, circulation, or activity in response to Biskra's climate.

The functional synthesis represents the main conclusion of Assignment 4. It prepares Assignment 5 and Assignment 6 by clarifying the functional needs of the project before precedent analysis and architectural programming.

6.13. Required Deliverables

6.13.1. Printed / Pin-Up Submission

Students must submit:

- two A1 boards;
- clear title block including student name, facility type, and site location in Biskra;
- clear, labeled, and readable functional diagrams;
- short text directly connected to diagrams.

The boards should clearly explain how the facility functions. They should not repeat the full program analysis from Assignment 1 without deeper functional interpretation.

6.13.2. Digital Submission

Students must submit one PDF file including:

7. Cover page.
8. Facility role statement.
9. Functional classification table.

10. User and access-level table.
11. Activity and use-requirement table.
12. Functional relationship table.
13. Compatibility table.
14. Incompatibility table.
15. User-flow / use-sequence diagrams.
16. Public / semi-public / private / staff / service zoning diagram.
17. Indoor-outdoor relationship diagram.
18. Final functional synthesis.

6.13.3. Verbal Presentation

Each student must present the work in 7-10 minutes. The presentation should explain:

- How the facility functions;
- Who uses it;
- Which spaces are central, secondary, or service-related;
- Which spaces require proximity, separation, or continuity;
- How different users move through the building;
- How access and control are organized;
- How indoor and outdoor spaces support the facility;
- How the functional analysis will guide the next assignment.

6.13.4. Minimum Requirements for Submission

To be accepted, the submission must include:

- Facility role statement;
- Functional classification table;
- User and access-level table;
- Activity and use-requirement table;
- Functional relationship table;
- Compatibility table;
- Incompatibility table;
- User-flow diagrams;
- Public / semi-public / private / staff / service zoning diagram;
- Indoor-outdoor relationship diagram;
- Final functional synthesis.

A submission without functional classification, user/access analysis, or functional relationship diagrams cannot be considered complete.

6.14. Evaluation Criteria / Rubric Link

Assignment 4 is evaluated out of 100%. The evaluation focuses on the student's ability to understand the facility's functional role, classify functions, analyze users and access levels, define activity requirements, study functional relationships, produce user-flow and zoning diagrams, and synthesize the operational logic of the project.

No.	Assessment Criterion	Weight
1	Understanding of the facility functional role	10%
2	Identification and classification of functions	15%
3	User analysis and access levels	15%
4	Activity analysis and use requirements	15%
5	Functional relationships, compatibility, and incompatibility	20%
6	User-flow, sequence, and zoning diagrams	15%
7	Indoor-outdoor relationships and functional synthesis	5%
8	Graphic communication and oral presentation	5%
Total		100%

An excellent submission clearly explains the facility's purpose, neighborhood role, users, and operational logic in Biskra. It classifies main, secondary, support, service, staff, and outdoor functions with clear priorities. It links user categories to needs, activities, spaces, access levels, and frequency of use. It identifies proximity, separation, continuity, compatibility, and incompatibility with strong functional reasoning. It also presents clear diagrams for public, staff, service, and special user flows, supported by a coherent access zoning diagram.

Students should avoid:

- repeating Assignment 1 without deeper functional analysis;
- listing spaces without explaining how they function;
- treating all spaces as equally important;
- confusing users with activities;
- drawing bubble diagrams without functional logic;
- ignoring staff and service circulation;
- ignoring public/private/control levels;
- ignoring indoor-outdoor relationships;
- proposing a final plan too early;
- using generic theoretical explanations not related to the selected facility;
- adding historical, legal, or material discussions outside the project logic.

6.15. Conclusion

Assignment 4 represents the operational foundation of Design Studio 6. It clarifies the neighborhood facility as a functioning system composed of users, activities, spaces, access levels, movements, and relationships.

This assignment is essential because it prevents the project from becoming only a formal composition. It prepares the development of a precise architectural program and a coherent preliminary design. A strong functional analysis supports precedent selection, architectural programming, zoning, circulation, indoor-outdoor relationships, and the final architectural conception of the neighborhood facility in Biskra.

CHAPTER 7.

Assignment 5 - Precedent / Example Analysis

Chapter 7: Assignment 5 - Precedent / Example Analysis

7.1. Purpose of Assignment 5

Assignment 5 is a design-learning exercise within Design Studio 6. It focuses on the study of relevant built examples in order to understand how similar neighborhood facilities are programmed, organized, composed, and adapted to their context. The objective is not to copy an existing project, but to extract architectural lessons that can guide the neighborhood facility project in Biskra.

This assignment follows Assignment 4, where the functional logic of the selected facility was analyzed through users, functions, access levels, use sequences, and indoor-outdoor relationships. After this operational reading, precedent analysis helps clarify how comparable projects respond to similar design problems.

Precedent analysis supports the movement from intuition to informed design reasoning. It involves observing, redrawing, comparing, interpreting, and transforming architectural information into design knowledge. A precedent is not treated as an image to imitate, but as a source of programmatic, spatial, functional, environmental, and compositional lessons.

The main question of Assignment 5 is: **What can be learned from similar built projects, and how can these lessons guide the project in Biskra?**

By the end of this assignment, relevant precedents are selected and analyzed through their program, spatial organization, circulation, zoning, environmental strategies, and architectural expression. The extracted lessons prepare Assignment 6: Architectural Programming.

7.2. Why Precedent Analysis Is Necessary

Precedent analysis is necessary because architectural design does not begin from nothing. Built examples provide useful lessons, not for copying, but for understanding how similar projects respond to users, functions, site, climate, circulation, structure, spatial hierarchy, and public role.

At the third-year level, precedent analysis helps clarify how a program becomes architecture. A list of spaces does not automatically produce a coherent building. Comparable projects can show how entrances, lobbies, activity spaces, service areas, staff zones, circulation systems, courtyards, façades, and outdoor spaces are organized.

A good precedent study answers practical questions such as:

- How are public and private spaces separated?

- Where is the main entrance located?
- How is circulation organized?
- How are service spaces integrated?
- How is the relationship between indoor and outdoor spaces created?
- How does the building respond to sun, shade, ventilation, and climate?
- What type of spatial organization is used: central, linear, courtyard-based, clustered, or spine-based?
- Which lessons can be adapted to the project site in Biskra?

This assignment remains practical and studio-based. It is not a historical research assignment. Long biographies of architects or general theoretical discussions are not the focus. The main objective is to extract architectural lessons that can support the development of the neighborhood facility project.

7.3. Selecting Three Relevant Precedents

Each student must analyze three precedent projects. These projects must be selected carefully according to relevance, scale, available architectural information, and usefulness for the Biskra project.

The three precedents should respond to different learning needs:

Precedent Type	Requirement
Precedent 1: Same facility type	Must be directly related to the student's project type, such as library, health center, youth center, nursery, community center, cultural center, or multipurpose hall.
Precedent 2: Similar scale or neighborhood role	Must show how a public or community facility works at neighborhood scale.
Precedent 3: Climate or spatial strategy precedent	Must be useful for Biskra because of its treatment of shade, courtyard, compactness, ventilation, transition spaces, or hot-climate response.

At least one precedent must include available architectural drawings, such as a plan, section, elevation, axonometric view, or reliable diagram. Students should avoid choosing projects that only have attractive photographs but no architectural information.

The selected precedents should not be too large or too complex. A huge museum, hospital, university campus, or iconic cultural center may be visually impressive, but it may not be useful for a neighborhood-scale project. The precedent must be understandable and adaptable to the student's own design problem.

7.4. Justifying Precedent Selection

After selecting the three precedents, students must justify why each one is useful. The justification must be architectural, not aesthetic only.

The assignment uses several criteria for selecting precedents: program relevance, scale relevance, spatial clarity, drawing availability, functional value, environmental relevance, urban relevance, and adaptability to Biskra.

Table 24: Selection Criterion of Precedent

Selection Criterion	Explanation
Program relevance	The project has functions similar to the student's facility.
Scale relevance	The project is close to neighborhood scale and is not too large or too complex.
Spatial clarity	The project has clear organization, zoning, and circulation.
Drawing availability	Plans, sections, diagrams, or reliable architectural documents are available.
Functional value	The project helps explain users, activities, spaces, and relationships.
Environmental relevance	The project gives useful lessons for heat, shade, sun, ventilation, or outdoor spaces.
Urban relevance	The project has a meaningful relationship with street, public space, or neighborhood.
Adaptability to Biskra	The project contains lessons that could be adapted to the student's own site.

A strong justification explains what each precedent contributes. For example, one precedent may be useful for its program organization, another for its circulation and zoning, and a third for its shaded courtyard or hot-climate response. Students should avoid selecting precedents only because the images look attractive. Visual quality is not enough. The precedent must provide information that can support design decisions.

7.5. Precedent Identification Sheet

For each precedent, students must prepare a short identification sheet. This sheet gives the basic information needed to understand the project before analysis begins.

The identification sheet should include:

- Project name
- Architect or design team, if known
- Location
- Year, if known
- Project type
- Approximate area, if available
- Main users
- Main functions
- Reason for selection

This sheet should be concise. It should not become a long project description. Its purpose is to introduce the precedent and explain why it was selected.

7.6. Program Extraction

Program extraction means identifying the main spaces and functions of each precedent. Students must understand what the building contains and how its program is organized. The analysis should distinguish public spaces, main activity spaces, secondary or support spaces, administrative or staff spaces, service spaces, and outdoor or transitional spaces.

This step helps students understand that precedents are not only formal examples. They are also programmatic models. The student should ask: Which spaces are included? Which spaces are missing? Which spaces are large or small? Which functions dominate the project? How does the program relate to users? This analysis will directly support Assignment 6, where students define their own final architectural program.

7.7. Spatial Organization Analysis

Spatial organization analysis studies how the spaces of the precedent are arranged. Students must identify the main organizational logic of the project.

Possible spatial organizations include:

- central organization
- linear organization
- courtyard-based organization
- clustered organization
- compact organization
- spine-based organization
- vertical organization
- open-plan organization
- cellular organization

The required output is a redrawn spatial organization diagram for each precedent. Students must redraw the diagram in their own graphic language. They should not simply copy the original plan. Redrawing helps them understand the project. The diagram should simplify the building and show its spatial logic.

The analysis should answer:

- Is the project organized around a center, axis, courtyard, spine, or cluster?
- How are public and private spaces arranged?
- How does the organization support movement?
- How are outdoor spaces integrated?
- How does the spatial organization respond to climate or site?
- Which organizational principle could be useful for the student's own project?

A strong spatial organization diagram is simple, readable, and analytical. It should reveal the architectural structure of the project.

7.8. Access and Circulation Analysis

Access and circulation analysis studies how users enter and move through each precedent. This is essential because circulation is one of the main organizing systems of a public facility.

Students should analyze the main entrance, secondary entrance, service entrance, public circulation, staff circulation, service circulation, vertical circulation if present, arrival sequence, clarity of movement, and possible conflict areas.

The required outputs are a circulation diagram for each precedent and a circulation type table.

Table 25: Access and Circulation Analysis

Circulation Type	Description	Architectural Implication
Public circulation	How visitors and main users move	Helps organize entrance, reception, and public areas
Staff circulation	How staff reach operational areas	Helps separate public and staff access
Service circulation	How delivery, maintenance, or technical movement occurs	Helps avoid conflict with public users
Arrival sequence	How users move from outside to inside	Helps design the entrance and transition spaces
Possible conflicts	Where circulation systems overlap badly	Helps identify problems to avoid

The analysis should not only show arrows. It should explain what the circulation means. For example, a precedent may have a strong public spine that organizes all major spaces. Another may use a central courtyard to orient users. Another may separate staff and service access from public movement. Students should identify which circulation lessons can be adapted to their own project in Biskra.

7.9. Zoning Analysis

Zoning analysis studies how access levels are organized in the precedent. Students must identify public, semi-public, controlled, private/staff, service/technical, and outdoor zones.

This analysis helps students understand how buildings control access without becoming confusing. For example, in a health center, public waiting areas must be clear, but consultation rooms must be controlled. In a nursery, the entrance may be welcoming, but children's spaces must be secure. In a cultural center, public exhibition spaces may be open, while workshops, staff, and storage require different access levels. A strong zoning analysis supports future architectural programming and plan development.

7.10. Functional Relationship Analysis

Functional relationship analysis identifies how spaces relate to one another inside the precedent. Students must study proximity, separation, continuity, visual connection, indoor-outdoor relation, and support relationships.

The required output may be a functional relationship diagram, an adjacency table, or both.

Space A	Space B	Relationship Type	Reason
Entrance	Reception	Proximity	Orientation and control
Reception	Waiting area	Continuity	User arrival sequence
Workshop	Storage	Proximity	Materials and equipment
Quiet room	Multipurpose hall	Separation	Acoustic conflict
Main hall	Courtyard	Indoor-outdoor link	Gathering and environmental comfort

The student must explain why spaces are connected or separated. This analysis should help them avoid random adjacencies in their own project. Functional relationships are important because they show how the

building works. A precedent may have a beautiful plan but weak functional organization. Students should learn to evaluate, not only admire.

7.11. Composition Principles

Composition analysis studies the architectural logic that organizes the form, massing, volume, and spatial hierarchy of each precedent.

Students may analyze:

- Axis
- Grid
- Courtyard
- Central void
- Linear spine
- Modular organization
- Hierarchy of volumes
- Solid/void relationship
- Massing composition
- Facade rhythm
- Structure-space relation
- Building/outdoor-space relation

The required output is a composition principles diagram for each precedent. This diagram should explain how the building is composed. Students may ask: Is the building organized around a central void? Does it use a grid or modular system? Does it have a clear hierarchy between main and secondary volumes? Is the project compact or fragmented? How does solid and void create spatial quality? How does the facade express function, climate, or public role?

Students should not confuse composition analysis with visual description. The goal is not to say that the building is beautiful or modern. The goal is to understand the architectural order behind the project.

7.12. Environmental Strategies

Environmental strategy analysis identifies how the precedent responds to climate, comfort, daylight, ventilation, and outdoor use. This part is especially important because the students' own projects are located in Biskra, where heat, sun exposure, shade, and comfort are essential design concerns.

Students should analyze orientation, shading, courtyard cooling, compact form, thermal buffering, natural ventilation, daylight control, protected openings, transitional spaces, vegetation, shaded circulation, facade protection, and indoor-outdoor comfort.

Students must identify what can be adapted to Biskra, not copied directly. A strategy used in another climate may need transformation before it becomes useful for Biskra.

7.13. Comparative Analysis Table

After analyzing the three precedents separately, students must compare them. Comparison helps students evaluate different strategies and identify which lessons are most useful for their own project.

The required output is a comparative analysis table.

Table 26: comparative analysis table

Criterion	Precedent 1	Precedent 2	Precedent 3	Lesson for My Project
Program organization	To be completed	To be completed	To be completed	What program logic is useful?
Spatial clarity	To be completed	To be completed	To be completed	Which organization is clearest?

Circulation	To be completed	To be completed	To be completed	Which circulation model can guide the project?
Zoning	To be completed	To be completed	To be completed	How can access levels be organized?
Indoor-outdoor relationship	To be completed	To be completed	To be completed	Which outdoor relation is useful for Biskra?
Environmental response	To be completed	To be completed	To be completed	Which strategies can respond to heat and sun?
Adaptability to Biskra	To be completed	To be completed	To be completed	What should be adapted, transformed, or avoided?

A strong comparative table is critical and selective. It does not simply describe each precedent. It explains what the student can learn from comparing them.

7.15. Final Precedent Synthesis

At the end of the assignment, students must write a final precedent analysis synthesis of 250-350 words.

The synthesis should explain:

- which precedent is most useful
- what spatial strategy is most relevant
- what functional organization is most useful
- what circulation or zoning lesson can guide the project
- what environmental lesson can be adapted to Biskra
- what lesson will guide the next assignment
- how the precedent study will support the final architectural program

The synthesis should be direct and design-oriented. It should not be a historical conclusion. It should show how precedent analysis will help the student develop Assignment 6.

A strong synthesis may state that one precedent is useful for its courtyard organization, another for its public/service circulation separation, and another for its climate response. It should then explain how these lessons will be adapted to the student's own facility, site, and guiding idea.

7.16. Required Deliverables

7.16.1. Printed / Pin-Up Submission

Students must submit:

- two A1 boards or three A2 boards
- clear title block with student name, facility type, site location in Biskra, and assignment title
- three selected precedents clearly identified
- redrawn diagrams, not only copied images
- short analytical comments connected to diagrams
- comparative table
- design lessons matrix

7.16.2. Digital Submission

Students must submit one PDF file including:

- Cover page.
- Precedent selection justification.
- Precedent identification table.
- Program extraction table for each precedent.
- Spatial organization diagram for each precedent.
- Access and circulation diagram for each precedent.
- Public / semi-public / private / service zoning diagram.
- Functional relationship diagram or adjacency table.
- Composition principles diagram.
- Indoor-outdoor relationship diagram.
- Environmental strategy table.
- Comparative analysis table.
- Design lessons matrix.
- Final precedent analysis synthesis.
- Sources of drawings, images, and project information.

7.16.3. Verbal Presentation

Each student must present the work in 7-10 minutes. The presentation should explain:

- Why the precedents were selected
- What was learned from each precedent
- How spaces and functions are organized
- How circulation and zoning work
- What composition principles are useful
- What environmental strategies are relevant to biskra
- Which lessons will be used in the student's own project

7.16.4. Minimum Requirements for Submission

To be accepted, the submission must include:

- Three selected precedents
- Precedent selection justification
- Precedent identification table
- Program extraction table
- Redrawn spatial organization diagrams
- Circulation diagrams
- Zoning diagrams
- Functional relationship analysis
- Composition principles analysis
- Indoor-outdoor relationship analysis
- Environmental strategy analysis
- Comparative table
- Design lessons matrix
- Final synthesis
- Source references

Important condition: A submission without three precedents, redrawn diagrams, or design lessons for the student's own Biskra project cannot be considered complete.

7.17. Evaluation Criteria / Rubric Link

Assignment 5 is evaluated out of 100%. The evaluation focuses on the relevance of precedent selection, the quality of program extraction, spatial analysis, circulation and zoning analysis, composition analysis, environmental strategy analysis, comparative thinking, design lessons, graphic communication, source citation, and oral presentation.

No.	Assessment Criterion	Weight
1	Relevance and justification of precedent selection	10%
2	Program and function extraction	15%
3	Spatial organization analysis	15%
4	Access, circulation, and zoning analysis	15%
5	Functional relationships and composition principles	15%
6	Indoor-outdoor and environmental strategy analysis	10%
7	Comparative analysis and design lessons for Biskra project	15%
8	Graphic communication, source citation, and oral presentation	5%
Total		100%

An excellent submission presents three highly relevant precedents connected to the student's facility type, scale, spatial problem, and Biskra project. It extracts program and functions clearly, redraws spatial organization diagrams, analyzes access and zoning, identifies functional relationships and composition principles, and explains indoor-outdoor and environmental strategies relevant to Biskra. It also compares the precedents critically and translates the analysis into clear design lessons for the student's own project.

Students should avoid:

- Writing a historical biography of the architect
- Presenting long general theory
- Selecting examples without plans or architectural information
- Using only photographs without spatial analysis
- Copying drawings without redrawing and interpreting them
- Describing the building without extracting lessons
- Analyzing projects unrelated to the selected facility type
- Choosing very large or iconic projects that are not relevant to neighborhood scale
- Copying the form of a precedent
- Ignoring biskra's climate and neighborhood context
- Using images, drawings, or online information without source references

7.18. Conclusion

Assignment 5 develops the ability to learn from built examples in a critical and practical way. It prevents the project from being developed only through intuition, visual preference, or isolated formal ideas. Through precedent selection, program extraction, spatial organization analysis, circulation and zoning analysis, composition study, environmental strategy analysis, comparison, and design lessons, the project gains a stronger architectural basis.

The value of this assignment lies in transformation. Precedent information is not collected for description only. It is transformed into useful architectural lessons that can inform the neighborhood facility project in

Biskra. These lessons directly support Assignment 6, where the final architectural program, area logic, functional entities, spatial relationships, environmental requirements, and program-site connections are defined.

CHAPTER 8.

Assignment 6 - Architectural Programming

Chapter 8: Assignment 6 - Architectural Programming

8.1. Purpose of Assignment 6

Assignment 6 is the last preparatory stage before full architectural conception. It belongs to Design Studio 6 and focuses on the development of the architectural program for the proposed neighborhood facility in Biskra.

The architectural program is the operational document that defines what the project contains before the design is developed in detail. It transforms previous analyses into a clear set of spaces, functional groups, approximate areas, access levels, privacy levels, spatial relationships, environmental requirements, and site-response principles.

This assignment does not aim to produce final plans. Its purpose is to prepare a precise and justified design brief that will guide Assignment 7: Architectural Conception and Preliminary Design.

Assignment 6 is based on the results of all previous assignments:

- **Assignment 1:** Program analysis and preliminary site choice;
- **Assignment 2:** Context analysis and site diagnosis;
- **Assignment 3:** Project statement, guiding idea, and first design direction;
- **Assignment 4:** Functional analysis;
- **Assignment 5:** Precedent / example analysis.

The main question of Assignment 6 is: **What is the final architectural program that will guide the design?**

By the end of this assignment, a complete architectural program is expected. It needs to be specific to the selected facility, adapted to the selected site in Biskra, and connected to users, functions, areas, relationships, environmental needs, and design intentions developed in the previous assignments.

8.2. Reconfirming the Project Brief

The first step of Assignment 6 is to reconfirm the project brief. Before preparing the final architectural program, the essential basis of the project needs to be summarized clearly.

This step ensures continuity with the previous assignments and prevents the architectural program from becoming a generic list of rooms. The program needs to grow from the selected facility type, site conditions, users, functional analysis, guiding idea, and precedent lessons.

The project brief summary includes:

- Selected facility type;
- Selected site in Biskra;

- Target users;
- Main project purpose;
- Main guiding idea from Assignment 3;
- Main functional lessons from Assignment 4;
- Main precedent lessons from Assignment 5.

The required output is a project brief summary of 150 to 200 words.
A strong project brief summary explains the identity of the project in a concise and architectural way. It states what the facility is, who it serves, where it is located, what role it plays in the neighborhood, and what design logic will guide the architectural program.
For example, in the case of a neighborhood library, the brief can clarify the target users, reading and learning functions, need for quiet zones, public access, staff support, shaded outdoor spaces, and environmental response required by the Biskra context.
This brief becomes the foundation for the complete space list and the final architectural program sheet.

8.3. Functional Entities

A functional entity is a group of spaces that work together and share a common role in the project. Organizing spaces into functional entities helps students structure the architectural program before developing plans and spatial composition.

Functional entities help answer:

- What are the main parts of the project?
- Which spaces work together?
- Which spaces form the public interface?
- Which spaces support the main activity?
- Which spaces are staff-related?
- Which spaces are technical or service-related?
- Which outdoor spaces are part of the program?

The assignment proposes the following functional entities: reception and public interface, main activity entity, secondary activity entity, administration and staff entity, service and technical entity, circulation and transition entity, and outdoor entity.

Table 27: Functional Entity example

Functional Entity	Possible Content
Reception and public interface	Entrance, lobby, reception, waiting area, information desk
Main activity entity	Main spaces that define the facility: reading rooms, classrooms, consultation rooms, workshops, activity halls
Secondary activity entity	Complementary spaces: meeting rooms, training rooms, support rooms
Administration and staff entity	Offices, staff room, management, supervision
Service and technical entity	Storage, toilets, technical rooms, maintenance, cleaning room
Circulation and transition entity	Corridors, stairs, ramps, galleries, covered passages
Outdoor entity	Forecourt, courtyard, shaded waiting, garden, outdoor activity space

The required output is a functional entities table.

Table 28: Output of Functional Entity example

Functional Entity	Role in the Project	Spaces Included	Main Users
Reception and public interface	To organize arrival and orientation	Entrance, lobby, reception, waiting	Visitors, main users, staff
Main activity entity	To contain the core function of the facility	According to project type	Main users
Administration and staff entity	To support operation and management	Offices, staff room, supervision	Staff
Service and technical entity	To support maintenance and technical operation	Storage, toilets, technical rooms	Service users, staff
Outdoor entity	To support comfort, transition, and external activities	Forecourt, courtyard, garden	Users, visitors, staff

This table gives the project a clear functional structure. It also prepares the complete space list, area calculation, zoning diagram, and adjacency matrix.

8.4. Complete Space List

The complete space list is one of the most important outputs of Assignment 6. It defines all spaces required for the proposed facility.

Each space must be justified. Students should not include spaces only because they appear in another project. They must explain the role of each space in relation to the selected facility, users, activities, access level, privacy level, and environmental needs.

For each space, students must specify:

- Space name;
- Functional entity;
- Users;
- Activity;
- Access level;
- Privacy level;
- Number of units, if needed;
- Approximate area per unit;
- Total area.

The required output is a complete space list table.

Table 29: complete space list

Space	Functional Entity	Users	Activity	Access Level	Privacy Level	No.	Approx. Area / Unit	Total Area
Entrance lobby	Reception and public interface	Visitors, users, staff	Arrival and orientation	Public	Open	1	To be estimated	To be calculated
Main activity room	Main activity entity	Main users	Core activity	Semi-public / controlled	Moderately controlled	1	To be estimated	To be calculated
Staff office	Administration and staff entity	Staff	Management	Private / staff-only	Private	1	To be estimated	To be calculated

Storage	Service and technical entity	Staff / service users	Equipment storage	Service / technical	Restricted	1	To be estimated	To be calculated
Courtyard	Outdoor entity	Users / visitors	Outdoor gathering or activity	Public / controlled	According to project	1	To be estimated	To be calculated

The space list must be adapted to the selected facility type. A health center, library, nursery, youth center, cultural center, or multipurpose hall will each require a different space list.

A strong complete space list shows that the student understands the project operationally and architecturally. It connects users, activities, functions, access, privacy, and areas.

8.5. Area Estimation

Area estimation defines the approximate size of each space and the approximate total size of the project. The objective is not to produce final technical calculations. The objective is to create a realistic, coherent, and justified program size.

Students must calculate:

- Area of each space;
- Subtotal of each functional entity;
- Total net usable area;
- Circulation percentage;
- Service or support percentage, if not already included;
- Total approximate built area;
- Approximate outdoor programmed area.

The assignment identifies the basic area logic as follows: net usable area is the sum of all main, secondary, administrative, service, and activity spaces; circulation allowance is usually estimated as a percentage of the net area; total built area equals net usable area plus circulation allowance; outdoor programmed area includes courtyard, forecourt, garden, outdoor activity space, or shaded waiting areas.

The required output is a program area calculation table.

Table 30: Program area calculation output example

Functional Entity	**Net Area**	**Circulation / Support Allowance**	**Total Estimated Area**	**Percentage of Total**
Reception and public interface	To be calculated	To be calculated	To be calculated	To be calculated
Main activity entity	To be calculated	To be calculated	To be calculated	To be calculated
Secondary activity entity	To be calculated	To be calculated	To be calculated	To be calculated

Administration and staff entity	To be calculated	To be calculated	To be calculated	To be calculated
Service and technical entity	To be calculated	To be calculated	To be calculated	To be calculated
Outdoor entity	To be calculated separately	Not applicable / as needed	To be calculated	To be calculated

Students must justify large or unusual areas using user needs, functional requirements, precedent lessons, or site conditions.

A weak area schedule gives numbers without logic. A strong area schedule explains why spaces are sized in a particular way and how the total program remains appropriate for a third-year neighborhood facility project.

8.6. Net Area, Circulation Allowance, Built Area, and Outdoor Area

To develop a coherent architectural program, students must distinguish between different types of area.

- The net usable area includes the spaces that are directly used for activities, administration, service, and support. These are the spaces that form the functional core of the project.
- The circulation allowance includes movement spaces such as corridors, stairs, ramps, galleries, covered passages, and circulation halls. Circulation should not be ignored. A building cannot function if all spaces are listed without allowing for movement between them.
- The total built area is the approximate area of the building. It includes the net usable area and the circulation allowance.
- The outdoor programmed area includes designed exterior spaces that have a clear function, such as forecourts, courtyards, gardens, shaded waiting areas, outdoor activity spaces, patios, or service yards.

Students must avoid treating outdoor spaces as decoration or leftover space. In Biskra, outdoor spaces are especially important because they can support shade, ventilation, gathering, waiting, and indoor-outdoor transitions.

A strong program should therefore include both interior and outdoor programmed areas. The relationship between them will later guide site insertion, massing, courtyard design, and environmental strategy.

8.7. Adjacency Matrix

The adjacency matrix defines the required relationships between spaces. It identifies which spaces need direct connection, proximity, visual connection, separation, acoustic protection, privacy, or access to outdoor areas.

The required outputs are:

1. Adjacency matrix;
2. Relationship diagram;
3. Bubble diagram.

The matrix is based on the complete architectural program and uses clear categories such as direct connection, near connection, visual connection, separation required, or no necessary relationship. It is not

only a technical table, but a design decision tool that guides zoning, relationship diagrams, bubble diagrams, and future plan development.

Space A	Space B	Relationship Type	Reason
Entrance	Reception	Direct connection	Users need immediate orientation
Reception	Waiting	Direct connection	Waiting must be visible and controlled
Workshop	Storage	Near / direct connection	Materials and equipment are needed
Reading room	Noisy multipurpose hall	Separation required	Acoustic comfort must be protected
Main activity space	Courtyard	Visual or direct connection	Indoor-outdoor activity extension

A strong adjacency matrix is not simply a technical table. It is a design decision tool. It will guide the relationship diagram, bubble diagram, zoning, and plan development.

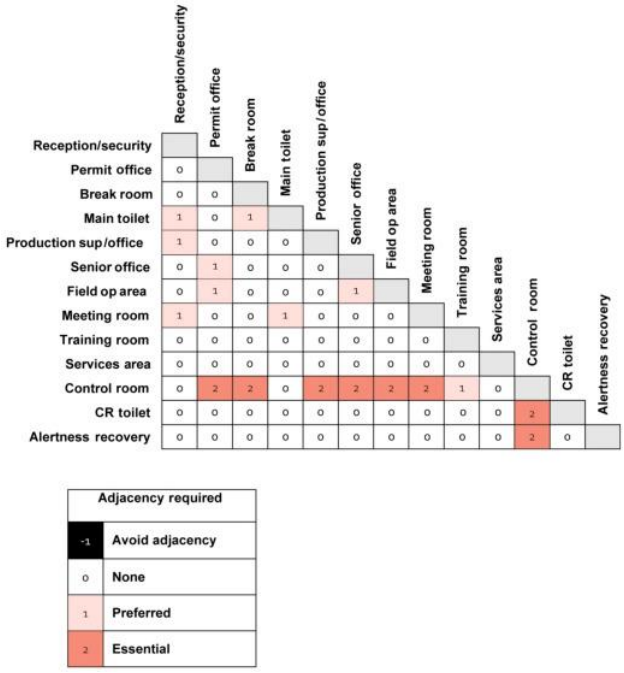

Figure 17: Example of Adjacency matrix [18]

8.9. Relationship Diagram and Bubble Diagram

The relationship diagram and bubble diagram translate the adjacency matrix into visual form.

The relationship diagram shows connections, separations, and hierarchies between spaces or functional entities. It is usually more abstract and explains the logic of proximity, access, and sequence.

The bubble diagram shows the approximate spatial grouping of spaces or entities. It does not yet define walls or exact plan geometry, but it begins to organize the project spatially.

These diagrams must show:

- Public interface;
- Main activity spaces;
- Secondary spaces;
- Staff/admin areas;
- Service/technical areas;
- Outdoor spaces;
- Circulation logic;
- Controlled access;
- Separation between incompatible functions.

Students should avoid drawing random bubbles. Every bubble must come from the space list, adjacency matrix, access/privacy matrix, and functional entities table.

A strong bubble diagram should make the future project easier to design. It should already suggest where the public entrance may be, where main activities may be grouped, where service access may occur, and how outdoor spaces connect to indoor spaces.

8.10. Program Zoning Diagram

The program zoning diagram organizes the program into zones according to access, function, and spatial logic.

Minimum required zones are:

- Public zone;
- Semi-public zone;
- Controlled activity zone;
- Private / staff zone;
- Service / technical zone;
- Outdoor / transitional zone.

The required output is a program zoning diagram showing zones, their relative importance, their access levels, and their relationship to entrances, circulation, and outdoor spaces.

A strong zoning diagram should show how the building may be organized before detailed plans are drawn. It should explain which spaces belong near the public edge, which require controlled access, which need separation, and which can connect to outdoor areas.

For example, public functions such as entrance, reception, waiting, or exhibition areas may be located near the main access. Controlled activity spaces may be placed deeper inside. Staff and service zones may require separate or controlled access. Outdoor spaces may act as public forecourt, internal courtyard, garden, or service yard depending on their function.

The zoning diagram should be connected to both the program and the selected site.

8.11. Program–Site Relationship

The architectural program must respond to the selected site in Biskra. Students must explain how program decisions are connected to site conditions.

This task connects Assignment 6 directly to Assignment 2 and Assignment 3. The program cannot be developed as if it were independent from the site. The selected site influences access, zoning, orientation, outdoor space, environmental strategy, and the placement of sensitive functions.

Students should connect program decisions to:

- Main access direction;
- Pedestrian flow;
- Vehicular flow;
- Noisy edges;
- Quiet edges;
- Sun exposure;
- Shaded areas;
- Outdoor-space potential.
- Views and visual constraints;
- Public street relationship;
- Wind and ventilation opportunities;

The required output is a program–site relationship diagram.

Program Decision	Related Site Condition	Design Implication
Place reception near main pedestrian edge	Main arrival from east	Entrance should be visible and shaded
Place quiet spaces away from noisy road	Heavy traffic on west edge	Use buffer spaces or controlled façade
Place courtyard in protected inner zone	Need for shaded outdoor use	Courtyard becomes social and environmental core
Locate service spaces near secondary access	Service access possible from side street	Reduce conflict with public users
Orient main activity rooms toward controlled daylight	Strong sun exposure on west façade	Protect openings and use shaded façades

This step ensures that the program is not abstract. It becomes specific to Biskra, to the selected plot, and to the architectural direction of the project.

8.12. Environmental Requirements Table

Because the project is located in Biskra, the program must identify environmental requirements for different spaces. Environmental thinking should not be treated as a separate theory. It must be connected to the actual spaces of the project.

Students must define which spaces require:

- Protection from direct sun;
- Controlled daylight;
- Strong shade;
- Visual privacy;
- Natural ventilation;
- Quietness;
- Thermal buffering;
- Outdoor shaded extension;
- Acoustic separation;
- Dust and glare protection.

The required output is an environmental requirements table.

Table 31: table for environmental requirements

Space	Environmental Requirement	Reason	Architectural Implication
Reading room	Controlled daylight and quietness	Visual comfort and concentration	Use protected openings and locate away from noisy edge
Waiting area	Shade and ventilation	Users may wait for short or medium periods	Connect to shaded forecourt or ventilated lobby
Consultation room	Privacy and acoustic protection	Confidentiality and comfort	Use controlled access and acoustic separation
Activity room	Ventilation and flexibility	Collective use and variable occupancy	Provide operable openings or shaded outdoor link
Courtyard	Shade and thermal comfort	Outdoor use in hot climate	Use vegetation, covered edges, and controlled exposure

This task helps students prepare environmental design decisions for Assignment 7. It also ensures that climate response is embedded in the program, not added after the design is complete.

8.13. Final Architectural Program Sheet

At the end of Assignment 6, students must prepare one Final Architectural Program Sheet. This sheet summarizes the complete architectural program in a clear and usable format.

The final program sheet must include:

- Project title;
- Facility type;
- Site in biskra;
- Functional entities;
- Complete area summary;
- Access hierarchy;
- Adjacency logic;
- Zoning logic;
- Program–site implications;
- Main design constraints generated by the program.

The final program sheet must be clear enough to guide the development of the preliminary design in Assignment 7. It should not be overloaded with long text. It should combine tables, diagrams, and short analytical notes.

A strong final program sheet acts as the student's design brief. When starting the next assignment, the student should be able to use this sheet to develop site insertion, massing, zoning, plans, sections, elevations, and environmental strategy.

8.14. Programming Synthesis

Students must write an architectural programming synthesis of 250–350 words. This synthesis explains the logic of the program and how it will guide the design stage.

The synthesis should answer:

- What are the main functional entities?
- Which spaces are most important?
- What is the approximate total built area?
- How is the program organized?
- What are the key relationships between entities?
- How does the program respond to the selected site in Biskra?
- What programming decisions will guide the design stage?

A strong synthesis should not repeat the space list. It should explain the logic behind it. For example, it may state that the project is organized around a public interface connected to a shaded forecourt, with main activity spaces grouped around a protected courtyard, staff areas placed near the reception for supervision, and service spaces connected to a secondary access. It may also explain how quiet spaces are protected from noise and how environmental requirements influence façade orientation and indoor-outdoor relationships.

This synthesis is the written conclusion of Assignment 6. It prepares the transition to architectural conception.

8.15. Required Deliverables

8.15.1. Printed / Pin-Up Submission

Students must submit:

- Two A1 boards or three A2 boards;
- Clear title block;
- Student name;
- Facility type;
- Site location in Biskra;
- Readable tables;
- Clear and labeled diagrams;
- Short texts connected to the program;
- No long theoretical paragraphs.

The submission should communicate the architectural program clearly and professionally.

8.15.2. Digital Submission

Students must submit one PDF file including:

1. Cover page.
2. Project brief summary.
3. Functional entities table.
4. Complete space list.
5. Program area calculation table.
6. Access and privacy matrix.
7. Adjacency matrix.
8. Relationship diagram.
9. Bubble diagram.
10. Program zoning diagram.
11. Program–site relationship diagram.
12. Environmental requirements table.
13. Final Architectural Program Sheet.
14. Architectural programming synthesis.

8.15.3. Verbal Presentation

Each student must present the work in 7–10 minutes. The presentation should explain:

- what the facility contains;
- how the program is organized;
- what the total approximate area is;
- how spaces are related;
- how access and privacy levels are controlled;
- how the program responds to Biskra's site and climate;
- how the program will guide the preliminary design.

8.15.4. Minimum Requirements for Submission

To be accepted, the submission must include:

1. Project brief summary;
2. Functional entities table;
3. Complete space list;
4. Area calculation table;
5. Relationship diagram;
6. Bubble diagram;
7. Total built area;
8. Outdoor programmed area;
9. Access and privacy matrix;
10. Adjacency matrix;
11. Program zoning diagram;
12. Program–site relationship diagram;
13. Environmental requirements table;
14. Final architectural program sheet;
15. Written programming synthesis.

A submission without a complete space list, area calculation, or adjacency / relationship diagrams cannot be considered complete.

8.16. Evaluation Criteria / Rubric Link

Assignment 6 is evaluated out of 100%. The evaluation focuses on the coherence of the project brief, the completeness of functional entities and space list, area estimation, access and privacy logic, adjacency relationships, program zoning, program–site connection, environmental requirements, final program sheet, synthesis, and presentation quality.

No.	Assessment Criterion	Weight
1	Coherence of project brief and use of previous assignments	10%
2	Definition of functional entities and complete space list	15%
3	Area estimation and program surface calculation	20%
4	Access, privacy, and functional hierarchy	10%
5	Adjacency, relationship diagram, and bubble diagram	15%
6	Program zoning and program–site relationship	15%
7	Environmental requirements and Biskra-specific response	5%
8	Final program sheet, synthesis, and presentation quality	10%
Total		100%

An excellent submission clearly builds on Assignments 1–5 and integrates facility type, site, users, functional analysis, guiding idea, and precedent lessons. Functional entities are clear and complete. The space list is detailed and adapted to the project. Area calculations are realistic and justified. Access levels, privacy levels, and functional hierarchy support future spatial organization. Adjacency matrix, relationship diagram, and bubble diagram are precise and logical. Zoning is clearly connected to site conditions such as access, noise, sun exposure, shade, views, and public edges. Environmental requirements are specific to Biskra and translated into design implications.

Students should avoid:

- Copying a ready-made program from the internet;
- Listing spaces without area, users, access level, or relationships;
- Giving approximate areas without justification;
- Ignoring circulation and support spaces;
- Treating outdoor spaces as decoration;
- Confusing functional analysis with architectural programming;
- Preparing final plans before finalizing the program;
- Ignoring the lessons from precedents;
- Ignoring biskra's climate and site conditions;
- Adding general theory, historical background, legal frameworks, or material discussions outside the project logic.

8.16. Conclusion

Assignment 6 transforms the previous studio work into a concrete architectural program. It is the final preparatory step before architectural conception. Through the project brief, functional entities, complete

space list, area calculation, access and privacy matrix, adjacency matrix, relationship diagram, bubble diagram, zoning diagram, program-site relationship, environmental requirements, final program sheet, and programming synthesis, the project becomes a practical and measurable design brief.

A strong architectural program prevents the design process from relying only on intuition. It gives structure, hierarchy, and precision to the project. It also prepares the transition to Assignment 7, where the program, site, concept, and functional logic are developed into a coherent preliminary architectural design.

PART IV.

Design Studio 6: Architectural Conception and Preliminary Design

PART IV: Design Studio 6: Architectural Conception and Preliminary Design

Part IV represents the final design-development stage of the Pedagogical Handbook / Studio Workbook. It focuses on the transformation of the analytical, functional, and programmatic work completed in the previous assignments into a coherent preliminary architectural proposal. At this stage, the student begins to move from the structured design brief toward the architectural form, spatial organization, site insertion, environmental response, and visual communication of the project.

This part is centered on Assignment 7 - Architectural Conception and Preliminary Design. It follows the work completed in Assignment 6: Architectural Programming, where students defined the final list of spaces, functional entities, approximate areas, access levels, privacy levels, adjacency relationships, zoning logic, environmental requirements, and program-site relationships. The architectural program produced in Assignment 6 becomes the main design brief for this final stage. It should be clear enough to guide the development of the preliminary design.

The purpose of Part IV is to help students understand how the project becomes architecture. The work is no longer limited to analysis, tables, or diagrams. Students must now translate the program, site diagnosis, guiding idea, functional analysis, precedent lessons, and environmental requirements into spatial and architectural decisions. This includes the development of the site plan, massing strategy, functional zoning, circulation logic, plans, sections, elevations, indoor-outdoor relationships, environmental strategy, architectural expression, 3D views, and model.

Continuity with the Previous Assignments

In this stage, the student must demonstrate continuity with all previous assignments. The project should not restart from a new idea. The selected direction must grow from the complete studio sequence:

- Assignment 1 clarified the facility type, users, activities, preliminary spaces, and site choice.
- Assignment 2 analyzed the site, access, flows, orientation, climate, constraints, and potentials.
- Assignment 3 formulated the project statement, guiding idea, design intentions, and first esquisse.
- Assignment 4 clarified how the facility functions in real use.
- Assignment 5 extracted design lessons from relevant precedents.
- Assignment 6 defined the final architectural program, areas, relationships, zoning, and environmental needs.
- Assignment 7 transforms all this work into a coherent avant-projet.

The term avant-projet refers to a preliminary architectural proposal that is developed enough to communicate the main design decisions, but still open to refinement. It is not a technical execution project. At the third-year level, the avant-projet should show that the student can connect the program, site, users, functions, circulation, environmental response, and architectural expression into one coherent project.

Levels of Design Development in Part IV

Part IV asks students to work at several levels at the same time. At the **urban level**, the project must respond to the selected site in Biskra, the surrounding streets, access points, public edges, neighboring buildings, and outdoor spaces. At the **functional level**, it must organize public, semi-public, controlled, private/staff, service, and outdoor zones. At the **spatial level**, it must develop clear plans, sections, circulation systems, and indoor-outdoor relationships. At the **environmental level**, it must respond to Biskra's hot climate through shade, sun protection, ventilation, daylight control, thermal buffering, and protected outdoor spaces. At the **architectural level**, it must express the identity and public role of the neighborhood facility.

Table 32: Expected Design Focus

Level	Expected Design Focus
Urban level	Site insertion, streets, access points, public edges, neighboring buildings, and outdoor spaces.
Functional level	Organization of public, semi-public, controlled, private/staff, service, and outdoor zones.
Spatial level	Plans, sections, circulation systems, spatial hierarchy, and indoor-outdoor relationships.
Environmental level	Shade, sun protection, ventilation, daylight control, thermal buffering, and protected outdoor spaces.
Architectural level	Architectural identity, public role, massing, facade logic, entrance expression, and visual communication.

The main objective of this part is not only to produce drawings, but to produce drawings that are justified. A site plan must show more than the building footprint; it must explain how the project is inserted into the site. A plan must show more than rooms; it must clarify zoning, circulation, access, hierarchy, and use. A section must show more than levels; it must explain spatial quality, light, ventilation, indoor-outdoor relations, and central spaces. An elevation must show more than facade composition; it must express entrance, public presence, solid/void logic, shading devices, and climatic response.

Expected Outcomes at the End of Part IV

By the end of Part IV, students should be able to produce a coherent preliminary architectural proposal including:

1. Project basis summary;
2. Site insertion diagram;
3. Massing development diagrams;
4. Functional zoning diagram;
5. Circulation and access diagram;
6. Site plan;
7. Floor plans;
8. Sections;
9. Elevations;
10. Indoor-outdoor relationship diagram;
11. Environmental strategy diagram;
12. Architectural expression statement;
13. 3d views or axonometric views;
14. Physical or digital model;
15. Final preliminary design synthesis.

Pedagogical Value of Part IV

This part completes the pedagogical sequence of the studio. It shows that architectural design is not an isolated act of form-making. It is the result of a progressive process that begins with understanding the project, continues through site and functional analysis, learns from precedents, defines a precise program, and finally develops a coherent architectural proposal.

Therefore, Part IV is the synthesis stage of the workbook. It requires students to demonstrate methodological rigor, design clarity, spatial organization, environmental awareness, and graphic communication. The final preliminary design should prove that the project is contextually grounded, functionally organized, climatically responsive, and meaningful as a neighborhood facility in Biskra.

Key message: Part IV transforms the complete studio process into a coherent avant-projet. Every plan, section, elevation, massing decision, and environmental strategy must be justified through the program, site, users, functions, and design intentions developed in the previous assignments.

CHAPTER 9.

Assignment 7 - Architectural Conception and Preliminary Design

Chapter 9: Assignment 7 - Architectural Conception and Preliminary Design

9.1. Purpose of Assignment 7

Assignment 7 is the final synthesis of Design Studio 6 and of the complete studio sequence. It is the stage where all previous analytical, functional, programmatic, and conceptual work is transformed into a coherent preliminary architectural proposal for a neighborhood facility in Biskra.

This assignment moves the project from analysis and programming toward architectural conception. The work now needs to demonstrate how the building is inserted into the site, how the program is organized, how users move through the facility, how spaces relate to each other, how the project responds to Biskra's climate, and how the facility expresses its public role within the neighborhood.

The objective is not to produce a fully detailed construction project. At the third-year level, Assignment 7 focuses on the development of an avant-projet, or preliminary architectural proposal. This proposal is developed enough to show the main architectural decisions, while remaining open to refinement through critique and further development.

The main question of Assignment 7 is: **How can the program, site, concept, and functional logic become a coherent architectural project?**

This question requires continuity with the full studio process. The final proposal needs to grow from:

- The facility type, users, activities, and preliminary spaces identified in Assignment 1;
- The site analysis, access, flows, climate, constraints, and potentials studied in Assignment 2;
- The project statement, guiding idea, and first design direction developed in Assignment 3;
- The functional analysis and user-flow logic clarified in Assignment 4;
- The precedent lessons extracted in Assignment 5;
- The final architectural program, areas, relationships, and environmental requirements defined in Assignment 6.

Assignment 7 is therefore the architectural conclusion of the workbook. It demonstrates that the design is not a random form, but a coherent response developed from program, site, users, functional logic, precedents, climate, and neighborhood needs.

9.2. Confirming the Project Basis

Before developing the architectural proposal, the basis of the project needs to be confirmed. This step ensures that the preliminary design is built on the previous assignments and does not start from a disconnected idea.

The project basis includes:

- Selected facility type;
- Selected site in Biskra;
- Final architectural program;
- Guiding idea;
- Main design intentions;
- Main functional entities;
- Main site constraints and potentials;
- Main environmental response.

The required output is a project basis summary of 150 to 200 words.

This summary is clear, concise, and architectural. It explains what the project is, where it is located, who it serves, what program it contains, what guiding idea organizes it, and which major design issues need to be addressed. A strong project basis summary may explain that the project is organized around a shaded courtyard, a public spine, a protected urban edge, or another guiding idea developed in Assignment 3. This idea needs to be connected to the final program from Assignment 6 and to the site conditions identified in Assignment 2. This task helps maintain continuity and prevents arbitrary design changes. The project may be refined, but its previous logic should not be abandoned without clear justification.

9.3. Site Insertion Strategy

The site insertion strategy explains how the building is placed on the selected site in Biskra. It is one of the most important steps in Assignment 7 because the project must respond to real site conditions, not only to internal program needs.

The site insertion strategy must consider:

- Site boundaries;
- Access points;
- Pedestrian movement;
- Shaded areas;
- Vehicular access;
- Neighboring buildings;
- Public space;
- Outdoor spaces;
- Noise;
- Orientation;
- Sun exposure;
- Views and visual constraints.

The required output is a site insertion diagram showing:

- Building position;
- Main entrance;
- Secondary or service access;
- Outdoor spaces;
- Public edge;
- Relationship with streets;
- Relationship with neighbors;
- Environmental orientation.

A strong site insertion strategy answers several design questions. Where should the building be placed on the plot? Which edge should receive the main entrance? Where should outdoor spaces be located? Which facades need protection from sun or noise? How should the project relate to the street and surrounding buildings?

For a neighborhood facility, the site insertion must also support public use. The building should be accessible, legible, and connected to neighborhood movement. At the same time, it must protect sensitive spaces from heat, noise, visual exposure, or uncontrolled access.

In Biskra, site insertion must pay special attention to climate. The building position should help create shade, protect outdoor spaces, reduce excessive solar exposure, and support ventilation when possible.

9.4. Massing Strategy

The massing strategy explains how the general volume of the project is formed. Massing should not be arbitrary. It must come from the program, guiding idea, site geometry, access logic, zoning, environmental strategy, and indoor-outdoor relationships.

Students must develop at least three massing development diagrams:

1. Initial site volume;
2. Volume transformation;
3. Final massing with entrances, zones, and environmental response.

The massing strategy should respond to:

- The architectural program;
- The guiding idea;
- Site geometry;
- Access logic;
- Functional zoning;
- Environmental strategy;
- Indoor-outdoor relationship.

For example, if the guiding idea is a shaded central courtyard, the massing may develop from an initial compact volume, then subtract a courtyard, then organize public and semi-public spaces around the protected void. If the guiding idea is a public spine, the massing may develop along a clear circulation axis connected to the main pedestrian flow. If the strategy is a protected urban edge, the massing may create a buffer against noise or sun while opening toward an internal shaded space.

The massing diagrams should show transformation, not only final form. They should explain how the volume evolves from site and program conditions.

A strong massing strategy should demonstrate:

- Clear relationship to the site;
- Readable functional hierarchy;
- Climatic response;
- Connection between indoor and outdoor spaces;
- Coherent architectural expression;
- Appropriate scale for a neighborhood facility.

9.5. Functional Zoning

Functional zoning translates the architectural program into spatial organization. It shows how the main parts of the facility are arranged according to access level, function, privacy, and relationship to outdoor spaces.

Minimum required zones include:

- Public zone;

- Semi-public zone;
- Controlled activity zone;
- Private / staff zone;
- Service / technical zone;
- Outdoor / transitional zone.

The required output is a functional zoning diagram showing:

- Zones;
- Access levels;
- Spatial hierarchy;
- Relationship between zones;
- Connection to outdoor spaces.

The zoning diagram must be connected to Assignment 6. The student should use the final architectural program, access and privacy matrix, adjacency matrix, and program zoning diagram developed previously. The zoning in Assignment 7 should now become more spatial and site-specific.

A strong zoning diagram should explain:

- Where public functions are placed;
- How users move from entrance to main activities;
- Where controlled spaces are located;
- How staff and service areas are separated or connected;
- How outdoor spaces support the program;
- How the zoning responds to access, sun, shade, noise, and privacy.

Functional zoning is not the final plan, but it is the basis for developing the plan. Without clear zoning, the project risks becoming confused, even if the form is visually attractive.

9.6. Circulation and Access Logic

Circulation and access logic explain how users move through the facility. A neighborhood facility must be readable and easy to use. Different users may require different circulation systems, especially when the project includes public users, staff, service users, children, patients, visitors, or event participants.

Students must define:

- Main public entrance;
- Secondary entrance, if needed;
- Relationship between circulation and public spaces;
- Main circulation spine or system;
- Staff circulation;
- Service circulation;
- Vertical circulation, if relevant;
- Emergency or secondary exit logic;
- Service entrance;

The required output is a circulation diagram showing:

- Public flow;
- Staff flow;
- Service flow;
- Main movement sequence;
- Controlled access points.

A strong circulation diagram should distinguish between different movement types. Public movement should be clear and welcoming. Staff movement should support supervision and operation. Service movement should avoid conflict with public users. Controlled spaces should not be accessed accidentally.

Circulation must also support the guiding idea. For example, a public spine can become the main organizing circulation. A courtyard can become a reference point for orientation. A central hall can distribute users to different zones. A sequence from public to private spaces can organize the transition from entrance to controlled areas.

The circulation logic must be visible in the plans, not only in diagrams.

9.7. Site Plan Development

The site plan shows the building in relation to the whole plot and surrounding context. It is not only a drawing of the roof or building footprint. It must explain how the project is inserted into the site.

The site plan should include:

- Site boundary;
- Building footprint;
- Main entrance;
- Secondary or service entrance;
- Pedestrian access;
- Vehicular or service access;
- Outdoor spaces;
- Shaded areas;
- Basic graphic hierarchy.
- Landscape elements;
- Surrounding streets;
- Neighboring buildings or edges;
- North arrow;

The recommended scale is 1/500 or 1/200, depending on project size.

A strong site plan should show:

- How the project addresses the street;
- How users arrive;
- Where outdoor spaces are placed;
- How the project creates public, semi-public, controlled, and service edges;
- How the building responds to orientation, sun, shade, views, and noise;
- How the facility participates in neighborhood life.

In Biskra, the site plan should also show environmental intention. Shaded forecourts, courtyards, covered passages, vegetation, protected outdoor areas, and orientation should be clearly represented.

9.8. Floor Plan Development

The floor plans show the spatial organization of the project. They must translate the architectural program, functional zoning, circulation logic, and guiding idea into architectural space.

The plans must include:

- Walls;
- Openings;
- Entrances;
- Circulation;
- Functional zones;
- Room names;
- Approximate room areas;
- Furniture or basic layout where useful
- Outdoor spaces;
- North arrow;
- Scale;
- Basic line-weight hierarchy.

Required outputs include:

- Site plan;
- Ground floor plan;
- Upper floor plan or plans, if the project has more than one level;
- Roof plan, if relevant.

Recommended scales are 1/200 or 1/100, depending on project size.

A strong floor plan should show more than room distribution. It should show:

- Clear entrance sequence;
- Logical circulation;
- Functional hierarchy;
- Relationship between public, semi-public, private, staff, and service spaces;
- Connection between indoor and outdoor spaces;
- Environmental decisions such as shaded zones, courtyards, protected facades, and controlled openings.

Plans must be coordinated with sections and elevations. If a space is important in the plan, it should also be understandable in section.

9.9. Sections

Sections are essential because they explain the spatial quality and environmental logic of the project. They show relationships that cannot be fully understood in plan. Students must produce at least two architectural sections. At least one section must pass through an important public or central space. Recommended scale is 1/200 or 1/100.

The sections must show:

- Interior spatial hierarchy;
- Relation between levels;
- Relation between indoor and outdoor spaces;
- Courtyards, patios, shaded zones, or transitional spaces;
- Natural light and ventilation logic;
- Roof and facade relationships;
- Basic structural logic.

A strong section should explain how the building works spatially and environmentally. For example, it may show how a courtyard brings light and ventilation, how shaded galleries protect circulation, how high spaces support public gathering, how roof openings control daylight, or how a section responds to the hot climate.

Students should avoid producing sections as simple cut drawings without meaning. A section must help explain the project.

9.10. Elevations

Elevations express the architectural character of the neighborhood facility. They show how the building addresses the street, protects itself from climate, organizes openings, and communicates its public role.

Students must produce at least two elevations, including one main public facade. Recommended scale is 1/200 or 1/100.

The elevations must consider:

- Orientation;
- Solar exposure;
- Public visibility;
- Entrance expression;
- Privacy;
- Facade rhythm;
- Shading devices;
- Solid/void relationship;
- Material intention, without treating materials as independent theory.

A strong elevation is not a decorative facade. It must come from the internal organization, climate response, and public role of the building. For example, a facade facing strong sun may have smaller protected openings, shading devices, screens, recessed windows, or service buffers. A public facade may express entrance, openness, and civic presence. A private or controlled facade may need more protection.

The elevation should be coordinated with plans and sections. Openings must correspond to interior spaces. Shading devices must respond to orientation. Solid and void should express both spatial logic and environmental response.

9.11. Indoor-Outdoor Relationships

Indoor-outdoor relationships are central to the neighborhood facility project in Biskra. Outdoor spaces should not be leftover areas. They must support function, comfort, transition, and public life.

Students should design:

- Shaded entrance;
- Forecourt;
- Courtyard;
- Patio;
- Garden;
- Outdoor activity area;
- Covered walkway;
- Shaded waiting area;
- Transitional space between street and building.

The required output is an indoor-outdoor relationship diagram, supported by representation in plans and sections.

The diagram should explain:

- Which indoor spaces connect to outdoor spaces;
- Whether the outdoor space is public, semi-public, controlled, or service-related;
- How outdoor spaces support user activities;
- How shade and comfort are provided;
- How indoor-outdoor transitions support the guiding idea.

In Biskra, outdoor spaces can become important social and environmental devices if they are shaded, protected, ventilated, and connected to the program. A courtyard may organize orientation and gathering. A forecourt may support arrival and public identity. A garden may support calm activities. A covered walkway may connect zones while protecting users from sun.

A successful indoor-outdoor relationship strengthens both spatial quality and climatic response.

9.12. Environmental Strategy for Biskra's Hot Climate

The project must clearly respond to Biskra's hot climate. Environmental response must be integrated into the architectural project, not added as a separate theoretical paragraph.

Students must show how the design responds through:

- Correct orientation;
- Compactness;
- Shaded outdoor spaces;
- Protected facades;
- Controlled openings;
- Courtyards;
- Natural ventilation;
- Thermal buffering;
- Vegetation for shade;
- Shaded circulation;
- Glare protection.
- Daylight control;

The required output is an environmental strategy diagram showing:

- Sun protection;
- Shaded areas;
- Ventilation logic;
- Daylight logic;
- Thermal buffer zones.

This diagram must remain connected to the actual project. Students should avoid presenting general environmental theory. The strategy must show where shading occurs, which facades are protected, where ventilation can happen, how courtyards or transitional spaces work, and how the program is organized in response to climate.

For example, service spaces may be placed on exposed facades as thermal buffers. Main activity spaces may open toward shaded courtyards. Circulation may be protected through covered galleries. Outdoor waiting areas may be shaded and ventilated. West-facing openings may be reduced or protected.

The environmental strategy should be visible in the site plan, plans, sections, elevations, and 3D views.

9.13. Architectural Expression

Architectural expression refers to the identity, character, and public presence of the neighborhood facility. It should emerge from the project logic, not from decoration.

The architectural expression should come from:

- the public role of the facility;
- the neighborhood context;
- the guiding idea;
- environmental response;
- spatial organization;
- entrance treatment;
- facade composition;
- relationship between solid and void.

The required output is a short architectural expression statement of 100-150 words, supported by elevations, sections, or 3D views.

A strong architectural expression statement may explain how the entrance communicates public access, how shaded thresholds respond to climate, how the facade rhythm reflects internal organization, how solid and void protect privacy and daylight, or how the massing expresses the facility's role in the neighborhood.

Students should avoid describing the project only with aesthetic words such as "modern," "beautiful," or "dynamic." The architectural expression must be justified by function, site, climate, and public role.

9.14. 3D Views, Axonometric Views, and Model

Three-dimensional representation helps communicate the project's spatial and architectural qualities. Students must present the project in a way that shows its relationship to the site, massing, outdoor spaces, and interior organization.

Required 3D outputs include:

- One general exterior perspective;
- One entrance or public-space view;
- One interior or courtyard view;
- One axonometric or exploded diagram showing spatial organization.

Students must also produce:

- One physical study model or digital massing model;
- The model must show the relationship between building, site, and outdoor spaces.

Recommended scale:

- 1/500 or 1/200 for site model;
- 1/200 or 1/100 for architectural model, depending on project size.

The model should not be only decorative. It should help explain:

- Site insertion;
- Massing;
- Outdoor spaces;
- Entrances;
- Spatial hierarchy;
- Environmental strategy;
- Relationship between building and neighborhood.

A strong model or axonometric view can show how the project is organized more clearly than plans alone.

9.15. Final Preliminary Design Synthesis

At the end of Assignment 7, students must write a final preliminary design synthesis of 250-350 words.

The synthesis must answer:

- What is the main guiding idea?
- How is the building inserted into the site?
- How is the program organized?
- How do users move through the building?
- How does the project respond to Biskra's climate?
- How does the building serve the neighborhood?
- What are the strongest architectural qualities of the proposal?

The synthesis should be clear, architectural, and design-oriented. It should not be a general description. It must explain the logic of the project and show how the final proposal grows from the full studio sequence.

A strong synthesis may explain that the project is organized around a shaded central courtyard, connected to a visible entrance and public forecourt, with public functions near the main access, controlled activities deeper inside, service spaces placed along a secondary edge, and environmental strategies that reduce heat and improve outdoor comfort.

This synthesis helps prepare the final jury presentation and allows students to explain the project coherently.

9.16. Required Deliverables

Assignment 7 requires printed, digital, model-based, and verbal outputs.

9.16.1. Printed / Pin-Up Submission

Students must submit:

- Three to four A1 boards;
- Clear title block;
- Student name;
- Facility type;
- Site location in Biskra;
- Drawings with scale;
- North arrow when relevant;
- Labels;
- Graphic hierarchy.

9.16.2. Digital Submission

Students must submit one PDF file including:

1. Cover page.
2. Project basis summary.
3. Site insertion diagram.
4. Massing development diagrams.
5. Functional zoning diagram.
6. Circulation diagram.
7. Site plan.
8. Floor plans.
9. Sections.
10. Elevations.
11. Indoor-outdoor relationship diagram.
12. Environmental strategy diagram.
13. 3D views / axonometric views.
14. Model photos or digital model views.
15. Architectural expression statement.
16. Final preliminary design synthesis.

9.16.3. Verbal Presentation

Each student must present the work in 10-12 minutes. The presentation should explain:

- Project idea;
- Site insertion;
- Functional organization;
- Plans and sections;
- Circulation;
- Environmental response;
- Facade and architectural expression;
- Relationship between the facility and neighborhood life.

9.16.4. Minimum Requirements for Submission

To be accepted, the submission must include:

1. Project basis summary;
2. Site insertion diagram;
6. Circulation diagram;
7. Site plan;
11. Two elevations minimum;

3. Massing development diagrams;
4. Functional zoning diagram;
5. Final preliminary design synthesis.
8. Floor plans;
9. Two sections minimum;
10. Model photos or digital model views;
12. Environmental strategy diagram;
13. Indoor-outdoor relationship diagram;
14. 3d views or axonometric views;

A submission without plans, sections, site insertion, functional organization, and environmental response cannot be considered complete.

9.17. Evaluation Criteria / Rubric Link

Assignment 7 is evaluated out of 100%. The evaluation focuses on the coherence of the proposal with previous assignments, site insertion, functional organization, quality of drawings, environmental response, massing, elevations, architectural expression, 3D representation, model, final synthesis, and oral presentation.

No.	Assessment Criterion	Weight
1	Coherence with previous assignments and project basis	10%
2	Site insertion and relationship with Biskra context	15%
3	Functional organization, zoning, and circulation	20%
4	Quality of plans, sections, and spatial development	20%
5	Environmental response and indoor-outdoor relationships	15%
6	Massing, elevations, and architectural expression	10%
7	3D representation, model, and visual communication	5%
8	Final synthesis and oral presentation	5%
Total		100%

An excellent submission clearly builds on program analysis, context analysis, guiding idea, functional analysis, precedent lessons, and architectural programming. The building is well inserted into the selected site in Biskra and responds to access, street conditions, neighboring buildings, orientation, public edge, and outdoor spaces. Public, semi-public, private, staff, service, and outdoor zones are clearly organized. Plans and sections are coherent, scaled, readable, and spatially developed. The environmental response is integrated through shade, orientation, ventilation, courtyards, transitional spaces, and protected outdoor areas. Massing, elevations, entrance treatment, facade logic, and solid/void composition express the public role of the facility.

Students should avoid:

- Producing form without connection to program and site;
- Ignoring assignment 6 architectural programming;
- Changing the project direction without justification;
- Drawing attractive facades without functional logic;
- Ignoring circulation and access control;
- Ignoring biskra sun, heat, shade, and outdoor comfort;

- Treating outdoor spaces as leftover areas;
- Submitting plans without sections;
- Submitting drawings without scale or labels;
- Copying precedent forms;
- Adding general theory, historical background, legal frameworks, or material discussions outside the project logic.

9.18. Conclusion

Assignment 7 completes the full pedagogical sequence of Design Studio 5 and Design Studio 6. It transforms the accumulated work of the studio into a coherent architectural proposal. The project needs to demonstrate continuity from program analysis, site diagnosis, project statement, functional analysis, precedent lessons, and architectural programming.

At this stage, architecture is understood not only as a final image, but as a structured synthesis of users, activities, functions, site, climate, public role, spatial organization, and architectural expression. A strong preliminary design shows the ability to move from analysis to design with clarity, rigor, and architectural responsibility.

The final avant-projet needs to be contextually grounded, functionally organized, environmentally responsive, and meaningful as a neighborhood facility in Biskra.

General Conclusion

This pedagogical handbook provides a structured and practical framework for the development of a neighborhood facility project in Biskra within Design Studio 5 and Design Studio 6. It presents architectural design as a progressive process that moves from understanding the project and its context toward functional organization, architectural programming, and preliminary design.

The handbook emphasizes that architectural conception cannot begin from an arbitrary form, image, or isolated idea. It needs to be grounded in program analysis, user needs, activity patterns, site conditions, environmental constraints, public role, and spatial relationships. Each assignment contributes to this progression by producing specific documents, diagrams, tables, and design decisions that support the next stage of the project.

Design Studio 5 establishes the analytical and conceptual foundation of the project. Through program analysis, preliminary site choice, context analysis, site diagnosis, project statement, guiding idea, and first esquisse alternatives, the project begins to acquire a clear architectural direction. This first semester prepares the basis for deeper functional and programmatic development.

Design Studio 6 transforms this foundation into an operational and architectural proposal. Functional analysis clarifies how the facility works in real use. Precedent analysis provides practical lessons from comparable built examples. Architectural programming organizes spaces, areas, relationships, access levels, environmental requirements, and program-site connections. Finally, the preliminary design translates the accumulated work into a coherent avant-projet.

The neighborhood facility project is particularly appropriate for third-year architecture education because it combines public use, neighborhood scale, functional complexity, environmental response, and social value within a manageable project size. In the context of Biskra, the project also introduces essential issues related to climate, shade, ventilation, indoor-outdoor relationships, pedestrian access, public space, and local urban life.

By the end of the studio sequence, the preliminary architectural proposal is expected to demonstrate continuity between analysis and design. The project should be contextually grounded, functionally organized, environmentally responsive, and meaningful as a public facility within its neighborhood. More importantly, the handbook supports the development of a rigorous design method, where each architectural decision is justified by a clear relationship between program, site, users, climate, function, and architectural intention.

This document therefore functions both as a methodological guide and as a studio workbook. It supports independent work, studio supervision, desk critiques, pin-ups, and jury preparation. Its main value lies in helping the design process remain clear, progressive, and coherent from the first program analysis to the final preliminary architectural proposal.

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