IND 5626 Project Programming

ASSIGNMENT 7
Quantitative

OVERVIEW
Your team has now developed an understanding of your Master's Project related to Typology, Building and Site, and Client needs. You have also developed an understanding of the Goals and Objectives for your project. You will now develop a more detailed understanding of the quantitative issues as presented below. To begin, sort through the information to date and compile it into a condensed format for design and particularly space planning purposes. Chapter 8 of your Programming text will give you guidance in this assignment. Major components of this assignment were adapted from Rengel's *Shaping Interior Space* Chapter 5. Additional guidance is available from former assignments.

OBJECTIVES/OUTCOMES
- Determine the occupancy and square footage requirements for your project.
- Develop a detailed understanding of your project’s programmatic requirements.
- Establish an accessible go-to resource for programming information relevant to design development.

PROCEDURE
1) Read/Review:
   a. Chapter 8 of your programming text: “Establishing Quantitative Requirements.”
   b. Rengel’s *Shaping Interior Space* Chapter 5.
   c. The Codes Guidebook for Interiors Chapters 2 and 7.
2) Begin by determining and listing spaces/activity areas. For this assignment, you should consider all information to date.
3) Develop a program space description for each area. Use the table format provided.
   Include the elements for each space/activity area:
   a) Give the name of the Department/Activity Area and specific space
      Ex: Department /Activity Area – Kitchen
         Space – Managers Office
   b) Write a brief narrative description of the function and the characteristics you feel would be important for this space and the specifics of the activities that will take place in the area.
   c) Space requirement:
      o Determine the number of people for each activity area.
      o Reference the space requirement factor per person for your project’s occupancy (net or gross) in the Florida Building Code (FBC) and your Codes book.
      o Determine and list the area requirement for each activity (net or gross) by multiplying the number of people times the sq. ft. requirement (refer to information in lecture).
      o Determine and list in a separate column the net to gross efficiency ratio (factor) (refer to information in lecture).
      o Calculate and list the Net and Gross space requirements (refer to information in lecture).
         - If net sf requirements are listed in the Florida Code/Codes book then divide by the appropriate efficiency ratio (listed in the table shown in the lecture).
• For example, if the net is listed as 50 sq. ft. for a retail space in the Florida Code then you would divide by the efficiency factor (listed in the table shown in the lecture) (.75) which would give you approx. 67 sq. ft. gross per person.
  - If the factor is listed as gross sf requirements, then multiply by the appropriate efficiency ratio (listed in the table shown in the lecture).
  • For example, if the gross space requirement is listed as 67 sq. ft. then multiply by the factor (.75) which would give you approximately 50 sq. ft.

  - Review the resulting area requirements and adjust accordingly. This would be the actual area requirement. The code information is a minimum requirement and you may want to increase the value for the actual activity. As a result, your table will have 2 more columns - the actual gross and net sf requirement - for each activity area. A column listing the square root of each net required activity area (i.e. room size – 10” x 10” will help in understanding the room size).

 4) Multiply the gross sq. ft. by the number of rooms.
 5) Determine and list the Total Actual Gross Space required for your project. This would be the total of the “Total Actual Adjusted Gross Sq. Ft.” column.
 6) Develop a criteria matrix, similar to the ones shown in class, using the above criteria.
 7) Develop a set of adjacency diagrams for your project. Keep in mind the views, lighting, public/private, acoustic and visual privacy, water, etc. requirements of the places in your project. You should diagram each Department/Activity area and the entire project.

DELIVERABLES

OCCUPANCY LOAD AND SPACE ALLOCATIONS
1. Program space description for each area that includes a brief narrative description of the function and the characteristics you feel would be important for this space and the specifics of the activities that will take place in each area.

2. Table that includes the following information:
   • Department
   • Activity spaces in each department
   • Number of people per activity area
   • The appropriate EF (Efficiency Factor) for each activity area
   • FBC Space Factor per person (indicate net or gross with bold red text)
   • Net total space requirement for the activity area (number of people x net space factor for each person)
   • Gross total space requirement for the activity area (number of people x gross space factor for each person)
   • Actual Net Space Requirements for each activity area
   • Square Root of Net Space requirement to better understand activity area size.
   • Actual Gross Space Requirements for each activity area
   • Number of rooms
   • Total of gross area requirements - This total should approximately 10,000 - 15,000 sq. ft. depending on your intended project size.

CRITERIA MATRIX
1. Criteria matrix to include the following information:
   • Adjacencies (list)
     o Primary and secondary
   • Equipment
o List all equipment in the space

- Electrical Requirements
  o List data/voice and electrical requirements as related to the equipment list

- Furniture Requirements
  o List all furniture for the space include how many of each

- Thermal requirements
  o Outline thermal conditions.

- Acoustic requirements
  o Outline acoustic considerations
  o Sound isolation
  o Acoustic privacy required

- Lighting Requirements
  o Ambient light, task light, focal light, and/or decorative light requirements
  o Source requirements, fluorescent, metal halide, incandescent etc.
  o Access to daylight

- Color Requirements
  o List considerations for color selection in particular area. This information would be brought forward from the information you have collected to date this semester. This, of course, would be tentative.

- Material/Finish requirements
  o List requirements for materials, e.g., slip resistance, sustainability, durability, fire resistance etc. Cite the tests that they must pass

- Mechanical Requirements
  o HVAC requirements: e.g., integrated into ceiling, exposed, etc.

- Security Requirements
  o Alarm systems

- Plumbing Requirements
  o List fixtures required in space
  o Hardware requirements

- Door/Window requirements
  o Window view to exterior
  o Operable window in all sleeping rooms
  o Door type, solid core, hollow core, fire rated door
  o Hardware panic latch etc.

- Future factors

2. Set of adjacency diagrams for each department/activity area and the entire project.

**DUE DATES**

**Wednesday, November 03**
- Desk Crits: Occupancy Load & Space Allocations (by appointment)

**Monday, November 08**
- Desk Crits: Criteria Matrix (by appointment)

**Wednesday, November 10**
- Desk Crits: Criteria Matrix (by appointment)

**Sunday, November 14**
- Final Submission
  o Digital copy submitted to CANVAS by 11:59pm