



SYLLABUS | HEALTHCARE DESIGN 220

Rick Thompson, NCIDQ Certificate #27720

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Overview

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Course Objectives:

This is a second-year study course using the functional program for a Behavioral Health Community Clinic as the course project. The primary objective of the course is for each individual to develop the ability to produce effective design solutions. Beyond aesthetics, these design solutions should be **EVIDENCE BASED**; satisfying **FUNCTIONAL AND BEHAVIORAL NEEDS**, and should meet the criteria dictated by the proposed community. Using the floor plan and other criteria provided throughout the class sessions, students will **COLLABORATIVELY AND INDIVIDUALLY** collect information critical to the design solutions of their own clinic project. Students will, through this **COLLABORATIVE RESEARCH PROCESS**, understand how our **GLOBAL COMMUNITY**, its **SOCIO-ECONOMIC MAKE-UP**, and **CULTURAL RESPONSES** impact design decisions in a clinic situation specific to a **CURRENT and CONTEMPORARY CRISIS**.

The student is to demonstrate an understanding of the following skills and concepts and provide evidence of their abilities in completing this course:

- Develop Executive Statements/Overarching Goals
- Research Skills and dilution into a knowledge sharing (collaborative) format
- Integrate Community, Design Review Board, and Programmatic Requirements into a culturally appropriate design solution
- Diagramming - (Program Matrix, Adjacency and Bubble Block Diagrams, Circulation, Acoustic, and Light/View Studies)
- Exploring design options using multiple Space Studies
- Space planning
- Knowledge of Equipment and Human Dimension Standards
- Analytical and graphic knowledge of area acoustics, circulation, and harnessing daylight
- Knowledge of the following concepts and integration into design solutions:

- Evidence-Based Design (EBD)
 - Accessibility/Building Codes (ADA)
 - Ergonomics & Anthropometry
 - Wayfinding
 - Sustainability
 - Color Theory
 - Lighting Theory (natural and designed)
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- Material & Furniture Requirements (CSI Specs)
- Medical Trends
- Designing for Behavior Health (Psychiatry and Addiction Medicine)

-Hand Drawing and Sketching Presentation (2D/3D)

-Digital Presentation (2D/3D)

--Verbal Presentation

-Translate Research and Design to thorough Presentation Documents

-Develop Process Notebook with Project Documentation

-Develop Project Presentation Booklet

-Develop Final Presentation materials that tell a complete story of the clinic

Required Texts:

Environmental Psychology for Design. 3rd Edition, Kopec, Bloomsbury Publishing, Inc., 2018.

Inclusive Design: A Universal Need. Nussbaumer, Linda L. Fairchild Publications, Inc, 2012.

Materials:

You will be provided a link to an AutoCAD drawing file of the floor plan – you will need to make your own paper copy by ordering from a print shop

1 - 3 Ring Binder – you should collect all of your deliverables in a binder but for this online class you will not be turning it in.

Any materials that produce professional quality presentations at every project design phase

Attendance:

Even though this class is online, it still represents a professional environment therefore your online attendance is a professional responsibility. Your classmates and team will depend upon your constant contact and presence, your active participation, and your immediate responses for their project deadlines and deliverables. These are unsettling times; however, they pose a unique opportunity for real world experience and collaboration. Attendance to the online classes is mandatory as well as your participation. Two absences, regardless of the circumstances will result in a letter grade drop. With three absences we will strongly recommend you withdraw from the class. Three consecutive absences will constitute failure in the class. Tardiness to your own or a fellow students presentation is unacceptable.

Deadlines:

Absolutely NO make-up deadlines will be given. Deadlines are as posted. No exceptions. Missed project deadlines may expect a zero for that portion of the project; however, **the work must still be completed.** All work is to be posted or turned in at the beginning of class unless otherwise stated. In most cases it is better to turn in your work in an unfinished state and receive partial credit than no credit at all (unless previously stated).

Late final project deliverables would constitute failure in the class.

Academic Dishonesty:

All academic work, written or otherwise, submitted by a student for a grade is expected to be the result of his/her own thought, research, or self-expression. Plagiarism includes reproducing someone else work or employing or allowing another person to alter or revise the work a student submits as his /her own. Should a student use part of, or refer to another source in the exercise, proper credit should be given in accordance with established documentary formats. Any work submitted for grade, which proves to be that of someone other than the student will receive a zero for a grade. Help is a courtesy, doing the project for someone else is cheating!

Grading:

Grading is determined by completion and thoroughness of the assignment and participation in class and on the teams. Even on team assignments, grading is per individual presentations and research content. As always, design solutions, digital craftsmanship, professional graphics, and aesthetic quality play a large part in the final grade.



The Project:

This class is intended to reinforce the teaching of **PROJECT PHASES AND DELIVERABLES** as well as how to utilize **EVIDENCE BASED RESEARCH** for the optimum design solution. **RESEARCH** is the key component in this class and effectual **KNOWLEDGE SHARING** is essential to the success of each student's learning and their final project. The class is also intended to teach the importance of various **PRESENTATION SKILLS** both graphic and oral. The class will encourage **COLLABORATION AND TEAMWORK** and students will rely on their classmates to complete phases of presentation and learning to move ahead with project deadlines. While each student will be judged and graded on their own presentations, components of every student's work will come from **RESEARCH PROVIDED BY OTHER STUDENTS** and **TEAM COLLABORATION**. The graphic and creative quality of assigned work throughout the course will largely determine individual success. Research will be clearly evidenced in all final solutions.

This class is all about **RESEARCH, DOCUMENTATION, APPLICATION, and KNOWLEDGE SHARING**: *Collecting* information and data, *documenting* the findings, *sharing* those findings with others, *distilling* the information to usable principles, *applying* those principles to your design, and *completing* a successful project based on your (and others) quantified research. An understanding of **ENVIRONMENTAL PSYCHOLOGY AND INCLUSIVE DESIGN**, as relating to the course project, will require each student to acquire and read assigned textbooks readings.

Team Assignments 1 – Due Week 3:

Students will be divided into three teams.

Each team will be assigned different research topics and will be sharing their research findings with the class on week 3. This shared information will then be incorporated into each student's individual project. The class will use all of the research to develop a collective program document. Each student team will collect credited research on their assigned topic(s). Do not just download information from the internet - Use periodicals, white papers, and books. Extract only information relevant to this project and assemble an understandable presentation. The team will collectively distill their information down to bullet points and agree upon the key issues for each topic before their presentations. Each team member will participate and communicate the research information in concise, coherent, and knowledgeable presentations via a short **POWERPOINT OR SIMILAR PROGRAM**. Remember Power Points should use only 5 word **BULLET POINTS** and no sentences. You must know your topic to present it and **DO NOT READ IT TO THE CLASS**. The slides should include not only information, but also **images** that support your topic(s). A recommended length per topic is at **minimum** ten (10) slides.

Immediately after the presentations you will share **all** of your information and your slide presentation with the entire class along with credits (bibliography.) The class should take copious notes on each presentation however; **each individual topic researched should have a cover page of at least fifteen (15) bullet points defining key issues about that topic that you will also share with the rest of the class**. These issues will inform a **basis of design** and help create a set of **overarching goals** for each student's project. So, each student will provide each other student with the following: 1) a cover page with a minimum of 15 bullet points of key issues about the topic researched; 2) all of the research downloaded about the topics) researched; 3) a bibliography of the websites, periodicals, or texts where the research was accumulated; 4) a copy of their portion of the Powerpoint.

Team Assignments 2 – Due Week 4:

The three teams will also be assigned one of three diverse communities. Each "community" is made up of a particular ethnicity and will make up the staff and patients of their own Medical Clinic. The Medical Clinics are located in areas that support a large demographic of that assigned ethnic community. It will then become **each student's** responsibility to research their assigned ethnic community along with their geographic area. There are also Architectural Review Committees with each community requiring students to familiarize themselves (**Assignment Due Week 2**) with their architectural style and influence. The teams will collaborate as a group and with collective photos, words, and possibly background music, **CREATE A VIDEO PRESENTATION** that tells the story of that community in a unique and informative way. This presentation should also convince your client and the Design Review Board that you have done your homework about their project and would be eager to work with you.

Topics and Textbook Chapters for Research

Topics include (but may not be limited to):

Group One - Overarching Topics

- **Addiction Medicine**
 - Chemicals/Food/Smoking – statistics and types
 - Causes and effects
 - Step Programs
 - Kopec Chapters 1-4 on Psychology of Behavior
- **Psychiatry**
 - Top Issues
 - Group Therapies
 - Marriage and Family
 - Adolescent
 - Kopec Chapters 1-4 & on Psychology of Behavior
- **Evidence Based Design**
 - Principles of/Best Practices – apply to healthcare
 - Kopec Chapters 6, 7, 11, 12, & 13
 - Nussbaumer Chapter 8
- **Patient and Family Centered Care (both)**
 - Similarities and differences/Principles Of/Best Practices
 - Kopec Chapter 9 – 13 plus other references
 - Nussbaumer Pg. 62
- **Theories of Care & Current Trends**
 - Outpatient with some Inpatient aspects
 - Look at Child Therapy as well – Sand and Play therapies
 - Nussbaumer Chapter 8

Group Two - Patient Needs Topics

- **Cultural Competence & Environmental Psychology**
 - Useful when applied to assigned communities
 - Kopec Chapters 1, 3, 7, 12 & 13
 - Nussbaumer Pgs. 136-137
- **Ergonomic & Anthropomorphic**
 - See Universal Design/Design for All/Accessible Design
 - Kopec Chapter 7 & 11 (look at Chapter 12)
 - Nussbaumer Chapter 7
- **Universal Design/Design for All/Accessible Design**
 - See Ergonomic & Anthropomorphic
 - Kopec Chapter 11 & 12 (look at Chapter 4)

- Nussbaumer Chapter 1, 2 & 3
- **Designing for Pediatric & Gerontology Facilities**
 - Outpatient & Inpatient
 - Residential/Daycare/and Outpatient
 - Kopec Chapters 9 & 10 (Look at Chapter 5)
 - Nussbaumer – Pgs. 217 - 219
 - Nussbaumer – Pgs. 127 – 132

Group Three - Building Specific Topics

- **Wayfinding**
 - What is it and what is a wayfinding system?
 - Kopec Chapters 7 & 8
 - Look at Kopec index for Color & Wayfinding
 - Nussbaumer Chapter 9
- **Lighting for Healthcare**
 - Outpatient with some Inpatient aspects
 - Nussbaumer – Pgs. 154-159, 102-103
- **Color for Healthcare (Inpatient and Outpatient)**
 - Look at Artwork and color applications for Healthcare
 - Kopec Chapter 8
- **Materials for Healthcare Facilities**
 - Outpatient and Inpatient
- **Acoustics and Air Quality for Healthcare Facilities**
 - Nussbaumer Chapter 8
 - Nussbaumer – Pgs. 92,143,152, 153, 157-160, 216-217
- **Codes for health clinics - general for all but specifically outpatient mental health**
 - ICC IBC2015
 - Cal TB133
 - Mental Health Codes
- **Safety & Security in Behavioral Health Facilities**
 - Staff Safety
 - Patient safety & confidentiality
 - Security vs. Welcoming
 - Furniture arrangements and security



Resources

Finally, to build upon your knowledge of the current status of healthcare design, its issues, opportunities, challenges, and research, the following set of resources will be invaluable as you begin your journey:

Center for Healthcare Design <http://www.healthdesign.org/>
Clinic Design-Transforming Primary Care Environment
<http://clinicdesign.healthdesign.org/about>

InformeDesign <http://www.informedesign.org/Default.aspx>
Health Environments Research and Design Journal (HERD)
<http://www.herdjournal.com/ME2/Default.asp>

Research Library with downloadable papers from the Center for Healthcare Design
<http://www.healthdesign.org/chd/research>

Behavioral Healthcare Magazine. Vendome Publications
<http://www.behavioral.net>

Addiction Professional Magazine. Vendome Publications
<http://www.addictionpro.com>

And of course, the IDI Library, your local library, YOUTube, and the web! Be Resourceful!



The design of healthcare facilities presents an opportunity to affect people in what is often a very stressful time in their lives. Uncertainty and often trepidation will be associated with visits to various types of healthcare facilities. Perhaps this is due to a focus on the disease versus health or the process of healing rather than on maintaining wellness. Regardless, stress levels are increased with most visits and can affect all users. Patients, families, staff, and physicians are but some of the users affected by the design (or lack thereof) of these facilities.

Patients facing a behavioral health crisis are even more prone to elevated stress and their response and coping mechanisms may not be fully functioning. Patients with the challenges of addiction and recovery might have lost their ability to control or function in social situations. Divorcing couples or grieving parents might be displaying emotions that normally would be more controlled. It is critical that the environment not be a catalyst to a volatile state of being nor pose a safety hazard to staff.

While our focus will be on a healthcare facility in this country, we will attempt to look at the subject through a broader lens. How do we design for a specific "community type? Or, how might we incorporate features for pediatrics while offering an inclusive environment for older teens? Let's not forget our elderly patients whose poorly functioning joints decrease their comfort and ability to navigate. How do we design for all users – the patient and their families, doctors, nurses, and care partners? How do we make a difference? We will question how our work fits within a global view of health and how it can inform beyond the limits of our selected subject matter. Our project will take on many dimensions as we probe into providing a *Behavioral Health Clinic* for a targeted ethnicity.

This project is in a building located in a community that supports its assigned ethnic population. You will create a design for a behavioral health clinic to accommodate the program requirements listed along with associated amenities. This is an all-inclusive behavioral health clinic and will therefore provide services for mental health as well as addiction. It is important to remember that addiction can range from chemicals and drugs to alcohol, smoking, and food. Psychiatric treatment might include marriage and family counseling, home and workplace behavioral issues, grief and psychological issues, gender identity and transformation, abuse (physical and emotional), and in the case of some of your communities, severe trauma and associated post traumatic stress. The behavioral health clinic patients include seniors, adults, and adolescents. People of all genders, ages, sizes, and physical capabilities will be using this clinic.

Spaces to be designed:

Waiting/Reception:

- Waiting area – Seats 25 Note: Psychiatric patients and Chemical Dependency patients might not like sitting together (must have windows) – 800-1000sf
- Reception Station – 3 Check-in and 1 Check-out returning appointment all 4 stations with separations for privacy – view of lobby/waiting area – 225sf (must have door to escape away from lobby patients into a secured corridor or area)
- Queuing area – Area to wait in line for open Reception station – should be at least 5-6 feet back from reception to allow for HIPAA/privacy
- Copy/work area – adjacent to and part of to Reception – 75sf (hidden from view by patients but not with a door)
- Security desk /station – 1 Security guard (needs very small locked storage) – 30sf – directly adjacent to Waiting area and Reception (should have visibility to entire waiting room)

Administration Suite – a separate suite:

- Clinic Executive Director – 1 office (window required)– 130sf
- Administration – 3 people (1 Department Admin. (110sf) and 2 Clerical Admin (75sf each) – 275sf (all 3 spaces can be equal if cubicles)
- Copy/work area – 35sf
- Waiting – 3 people – 75sf

Treatment Spaces:

- Therapist Office – 12 full time therapists – 110sf – window required (therapists corridor is locked with no guest or group room access – escorted access only)

Note: Two Child Therapist offices can be 125sf but require a waiting area in the corridor to accommodate 2 adults and 2 children.

- Social Worker – 2 Social Workers – 110sf – window desirable but not critical
- Telemedicine – 80sf – no window
- Group Rooms – 3 Group Rooms (2 large and medium for Chemical Dependency groups and 1 smaller specifically for Psychiatric groups), (windows desired but not critical) – varies 300-700sf
- Teen Activity Room / Patient Lounge – Flexible Room (windows desired but not critical) – 700-900sf

Note: Group Rooms should have unescorted access without passing through Therapist Corridors or other private areas.

Exam/Detox/Holding Suite – a fully enclosed locked down suite: must have access to an exit not through public spaces (no windows)

- Detox Area – 1 open area w/2 Bays – Detox and/or administering surrogate medications – 225sf - no windows
- Detox/Exam Work Area – clean and soiled storage cabinets and work space – immediately adjacent to Detox Room and Unisex toilet – 75-100sf
- Exam Rooms – 2 – vitals and general nursing functions – 115sf – no windows
- Holding Room – 1 room – 65sf – no windows
- Nurse office – 100sf
- Toilet - 1 Unisex patient w/ specimen collection pass through to Detox Work area and observer – 80sf

Note: This suite functions as one area and all spaces should be convenient to each other so the Nurse does not have to walk long distances and can monitor Detox patients.

Staff/Public Amenities:

- Employee Lounge – areas for eating (8 people) as well as quiet respite (2-3 people) – should have windows – 300-400sf
- Toilets – 4 total – Can be Unisex or M/F - 2 for staff, 2 for patients – 65sf
ABSOLUTELY NOT LOCATED AGAINST A WINDOW
- Public Amenity Space – sf TBD if room on plan - create a room that you feel would be a nice amenity for staff or public (ex. Patient Ed./yoga/acupuncture/ etc.)

Grossing Factor: 1.50 (this is large but it will help in planning)

Note that with this large grossing factor, longer corridors should aim to be about 6'-0" wide while shorter corridors can be 5'0". No corridor can be less than 5'0".

Room Requirements

Waiting Reception Area

- **Waiting area – Seats 25 – windows required**
 - Waiting Room Seating including Bariatric – variety
 - Fabrics and furniture finishes for Waiting
 - Tables
 - Trash cans
 - Bulletin/Information Boards
 - Art
 - Clocks
 - Room Finishes

- **Reception Station – 4 (3 check-in and one check-out)**
 - Highly Ergonomic task chair (Ergonomic Assignment)
 - Adjustable Work desks
 - Open or partial window to patient
 - Sanitizer
 - Information holders

- **Copy/work area**
 - Copy Machine
 - Built-ins for storage
 - Trash

- **Security desk /station**
 - Small Lockable storage
 - Desk - small
 - Task chair

Administration Suite (An enclosed Private Suite)

- **Administration area – 3 people (1 Department Admin. and 2 Clerical Admin)**
 - Work Stations w/ accessories
 - Ergonomic Task Seating
 - Guest chair
 - Filing

- **Clinic Executive Director Office – window**
 - Desk
 - Chair
 - Guest Seating / Occasional Table(s) or Conference
 - Filing

Artwork

- **Copy/work area** – 50sf
Built-in or add to work stations above
Copier
- **Waiting for Administration** – 3 people
Guest Chairs
Occasional Table
Magazine Rack
Artwork

Treatment Spaces

- **Therapist Office – 12 offices – all must have window**
Therapist Chair or may use Ergonomic Desk Chair
Ergonomic Desk Chair
Therapist Desk or charting
Patient Chair(s) - Guest Chair or Sofa
Storage/Bookcase
Occasional table (tissue holder)
Lamp
Artwork
Child Therapy – same but sand table and children's chairs

Note: Two Child Therapist offices require a waiting area in the corridor to accommodate 2 adults and 2 children.

- **Social Worker** – 2
Desk
Chair
Guest Seating for 2
Filing
Artwork
Child's chair and table (maybe)
- **Telemedicine – no window**
Small Desk or Built-in counter
Large Monitor with camera – wall opposite neutral
Comfortable Chair for Desk plus room for one more
- **Group Rooms** – 3 Group Rooms – 2 Chem Depend & 1 Psych
Folding Portable Work Conference Tables
Comfortable chairs (stackable or grouping)
Bulletin Boards
Marker Boards (large)
Step Program posters

Artwork
 Storage
 Clocks
 Discuss Sinks
 Possibly lounge chairs for Psychiatric Group
 Large Monitors

- **Teen Activity Room / Patient Lounge** – Flexible Room
 - Pool Table / Foosball Table / Ping Pong Table
 - Computer desk
 - Lounge furniture – flexible for moving around for Group
 - Large Monitor
 - Artwork
 - Bulletin Board / Marker Board
 - Vending Machines
 - Sink
 - Refrigerator
 - Coffee / Ice machines
 - Portable stove and work counter for cooking demonstrations
 - Storage - lots

Exam/Detox/Holding Suite – A Locked Suite (separated suite) – no windows

- **Exam / Detox Area**
 - Detox Room – 1 area w/2 Bays
 - Cubicle Curtains between bays
 - Two Stretcher beds or Large Recliners
 - Portable Equipment side tables by beds
 - Mayo stand
 - Doctors' Stool
 - Side chair in each bay - bariatric
- **Exam/Detox Work Area** (immediately adjacent to Detox Area and to Specimen Toilet room)
 - Storage for clean and soiled linen (separate)
 - Work space with deep sink
 - Small Blanket Warmer
 - Physician's scale
 - Small Locking cabinet for urine samples
- **Exam Rooms – 2**
 - Doctor's chair
 - Exam table w/ front step
 - Base cabinet with overhead wall cabinet (5-6 drawers if possible) - must have sink
 - Standing instrument stand

2-Guest chairs with arms (Bariatric)
 Lab stool w/ back
 Large trash hamper for disposable linen
 Computer stand - either wall mounted or free standing

- **Nurse office – 1**

Desk
 Chair
 Guest Chair 1
 Filing
 Lockable Drug Cabinet
 Storage for small medical supplies
 Sink
 Artwork

- **Toilet Room – 1 Unisex Patient** (immediately adjacent to Detox Area and to Exam/Detox Work Area)

Specimen collections pass through to Detox Work Area
 Room for Observer separated by cubicle curtain
 Trash
 Paper Towels

- **Holding Room – 1**

Upright Lounge Chair - heavy
 No more furniture should be in this room
 One side chair for security outside door of this room

Staff/Public Amenities

- **Employee Lounge – (8 people) as well as quiet respite (2-3 people) – window**

Tables (2) (or some counter seating as well)
 Chairs (8)
 Personal Storage cubbies
 Cabinets
 Kitchen (Sink, Microwave, Large Refrigerator, Coffee)
 Monitor
 Bulletin Board
 Artwork
 Computer Work station w/ chair
 Respite Area:
 3 Lounge chairs or Sofa & One lounge Chair
 Occasional Tables
 Book case
 Artwork

- **Toilet Rooms** – 4 total – 2 M/F staff, 2 M/F patient – **no window**
 - Trash
 - Public (Baby Changing Both)
 - Paper Towels
 - Trash by door
- **Corridors**
 - Signage
 - Artwork
 - Education Information area
 - If long corridors – rest area/bench
 - Wayfinding elements

Medical Clinic Furniture & Equipment Sources:

Stryker
Hill Rom
Coalesse (a Steelcase Company)
Herman Miller
Human Scale
KI
Nemschoff (a Herman Miller Company)
Weiland
Brandrud
Davis
Peter Pepper Products (Chart/Magazine Holders & More)

Many other sources

Stainless Steel Toilet/Exam Room Accessories

ASI (American Specialties, Inc.)
Bradley
Global
Bobrick
Hewi (Not Stainless)

There are numerous options for the planning of different spaces. Exploring those options is a crucial element towards **Evidence Based Design research**.

Researching different theories of practice and treatment modalities can affect not only planning, but more importantly, patient outcomes along with staff and patient safety, privacy, and workplace efficiency.

Given certain room program requirements, various spatial studies can be explored even without knowing the overall planning layout. Placed in an overall plan, the layouts and functions of certain rooms should not dramatically change once an agreed spatial study is determined. Accommodations for window mullions and column alignment should not create a wholesale reworking of a room plan.

Each student will use the Program and Room Requirements for each of the following rooms and create **a minimum of three (3) different spatial plans for each room or space identified below**. Create your plans to scale (1/4" = 1'-0") You may want to rapidly draw several on flimsy first but redraw the three you prefer in CAD. Some room plans may take on various different dimensional shapes and layouts while some rooms may stay similar in size but have different furnishing layouts. The key is to **explore** as many **options** as possible and to keep an open mind about each plan using all available research and knowledge. **Furniture and equipment should be noted** on each plan so that we know what we are visualizing. **Innovation will be rewarded!**

Spaces / Rooms to be planned (all CAD Drawings):

Therapist Office – 3 different floor plans (include a sand therapy option)

Try this room at different sizes – not just furnishings

Try Pediatric Therapy office as one solution

Exam/Detox Suite – 3 different floor plans of the entire Suite (includes Nurse Office, Exam Detox cubicles and Work Area, Unisex Toilet, Holding Room & 2 Exam Rooms)

Try this suite at different sizes & configurations – Review of spatial, equipment, and furniture needs in class.

REMEMBER THIS IS A SUITE

Criteria Matrix

The Criteria Matrix allows you to graphically list all of the programmatic areas within a space or all of the rooms within a project, and, measure those rooms to a set of criteria that are of importance to the client, the program, the staff or customers, and the success of the project. Allowable square footages and critical adjacencies are generally the most crucial part of a criteria matrix; however, other vital measures should be described here as well. Some examples could be Public Access, Privacy or Acoustics, Natural Light Access, or Thermal Properties. Defined criterion might be measured as high, medium, low; major, important, minor; essential and non-essential – in any case a legend or key should list the defining factors of measurement. Below is an example of a hand drawn graphic Criteria Matrix for a restaurant – For this assignment students should offer a computer generated version as long as it is graphic and consistent with the other diagramming deliverables:

CRITERIA MATRIX

		SQ. FT.	ADJACENCIES	PUBLIC ACCESS	VEWS	PRIVACY
1	KITCHEN	N/A	③ ⑥ ⑤ ④	N	N	H
2	ENTRY/HOST.	70 sq ft	③ ④ ② ⑥	H	N	L
3	LOUNGE	150 sq ft	② ⑤ ①	H	L	L
4	DINING	540 sq ft	② ⑤ ⑥	H	H	L
5	BAR	550 sq ft	② ③ ④	H	M	L
6	WAITING	120 sq ft	② ①	H	M	L

⊗ = MAJOR ADJACENCY

⊗ = IMPORTANT ADJACENCY

N = NONE

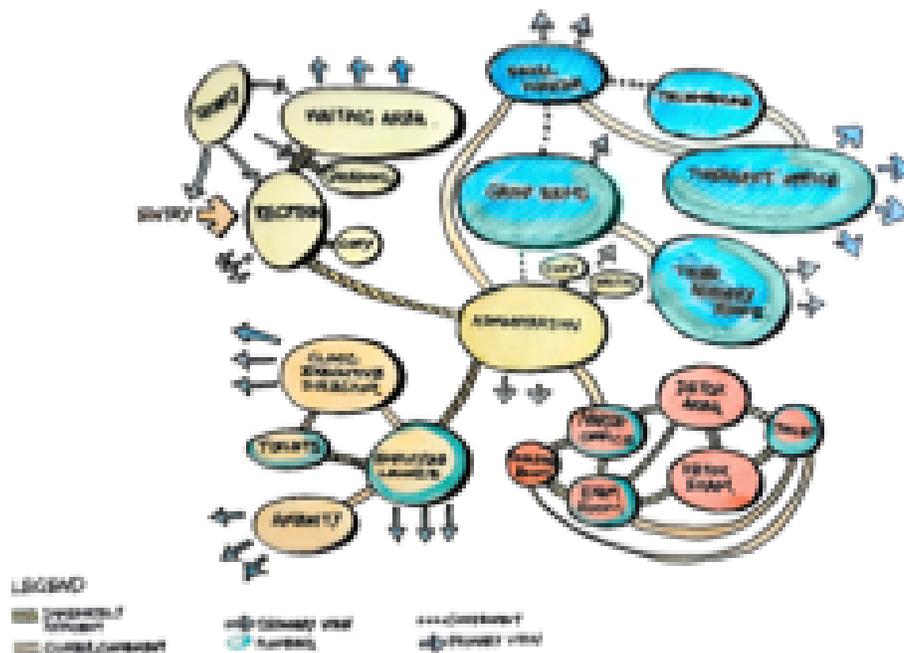
H = HIGH

M = MEDIUM

L = LOW

Relationship Diagrams

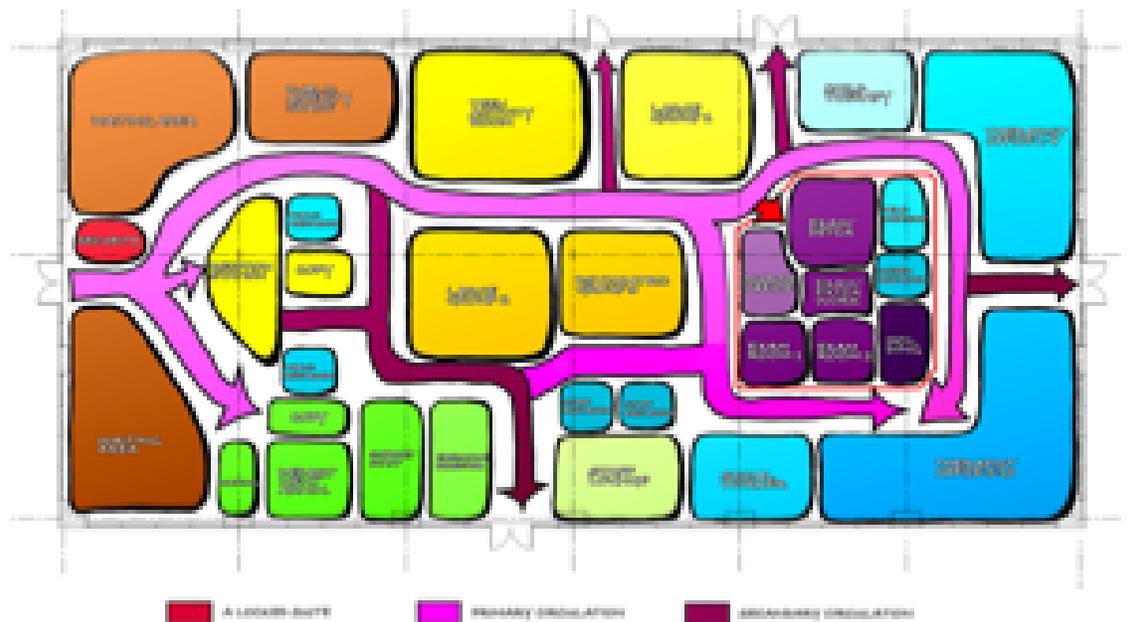
The Relationship Diagram simply and graphically illustrates programmed spaces or rooms in their relationship adjacencies to each other. A series of different sizes of bubbles or squares can illustrate room or space hierarchy and then graphic lines and arrows can define adjacencies. A legend or key defining the meanings of the lines and even the bubbles is critical to a visual understanding of the diagram. This diagram is extremely useful in planning to ensure accuracy of adjacencies in the final planning. Here is an example of a fairly simple Relationship Diagram – Students should create a computer generated version:



RELATIONSHIP DIAGRAM

Bubble Block Diagrams

The Bubble Block Diagram is an illustrative tool used as a quick planning guide inside the perimeter of a given area or plan. Given some known square footages or sizes of areas, block shaped colored bubbles can be laid out defining entire areas without the details of walls, casework, furniture, or any other detailing. This can also be helpful in circulation planning, area separation, and in larger projects, departmental planning. The bubble blocks should have some relationship to scale and not just drawn at any size. Here is an example of a Bubble Block Diagram for a Behavioral Health Clinic:



BUBBLE BOLCK

Circulation Study

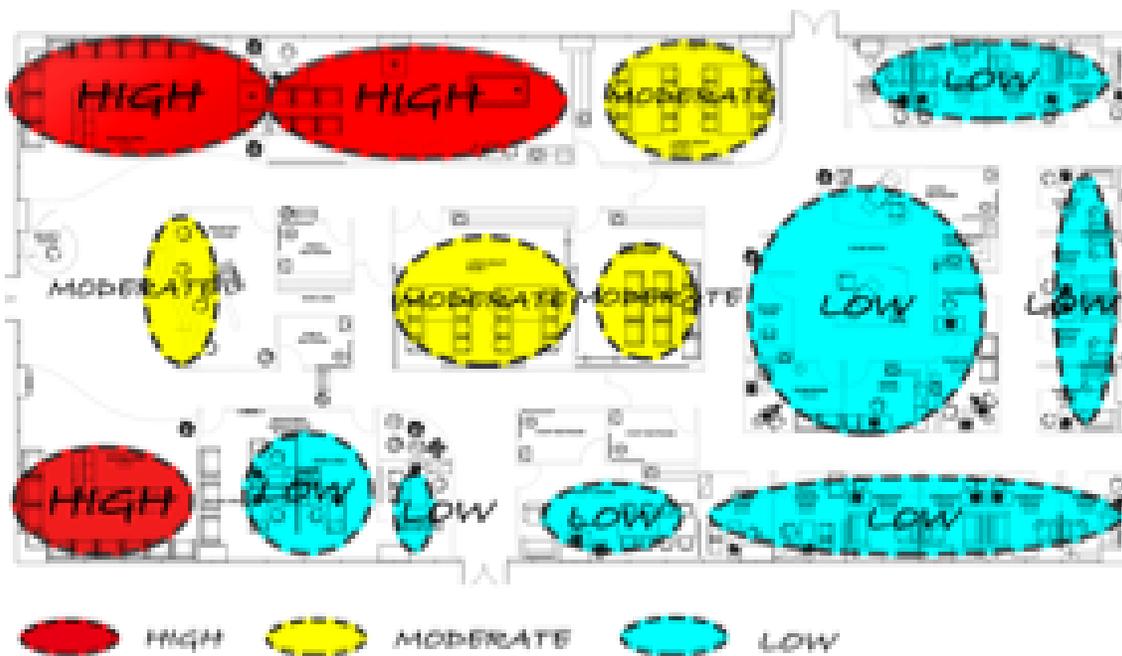
The Circulation Study is useful on projects of all scales. On larger projects, the Circulation Study can determine corridor size widths by hierarchy of use, staff vs. public, multi-use, "back-of-house", and other defined uses. This plan can also point out problem areas of circulation where multiple users converge. In smaller projects it can delineate some of the same areas and problems or help keep public and private areas separated. In some instances, furniture can influence circulation and simple rearrangements can solve some major circulation issues. Graphic arrows should be used for readability but keyed to a legend for clarity. Here is a Circulation Study of Patients and Staff for a clinic:



CIRCULATION STUDY

Acoustic Study

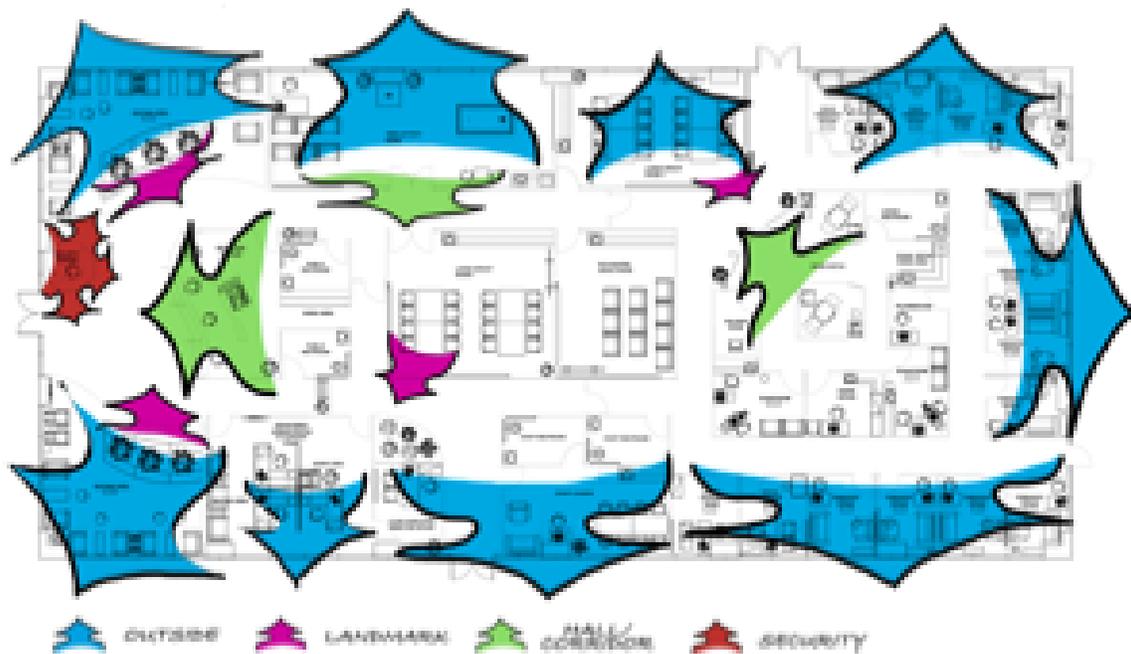
The Acoustic Study can be useful in identifying where noise enhancement or reduction is desired, or pointing out areas where acoustics could be of concern. In bars and clubs, often loud noise is associated with a certain “vibe” while restaurants can be seen as either more energetic or perceived as “too loud to think”. Television and recording studios, sound booths, and libraries might be more extreme areas of concern towards noise abatement awareness; and healthcare facilities need to be aware of HIPAA laws and other acoustic privacy issues. Acoustic studies can point out areas where noise is desired or abated, high energy vs. quiet and cozy, high acoustical privacy is desired or required or where “white noise” might be needed. Like other studies, a legend is needed to offer clarity in what is being graphically illustrated. This Acoustic Study is measuring the noise and “energy” desired for a Behavioral Health Clinic:



ACOUSTIC STUDY

Light/View Study

The Light/View Study has several purposes and can be helpful in achieving a total sensory experience within a space. Natural light can be harvested and reduce energy consumption in both lighting and thermal consumption. While generally desired, daylight can have both positive and negative effects with different users in different uses. An ocean sunset view at a cozy table might be desired but the same table at 3:30pm might prove to be uncomfortable in both light and heat. Access to natural light and window views is proven to have curative properties but in an eye or sleep clinic, this might prove more harmful than healing. The Light Study can also point out areas where areas of ambient, task, or general lighting is needed. View Studies, as the name implies, identifies views. It is important to know what people are "looking at" and if it is a desired view. In areas without windows, views still occur but become more inwardly focused and may require highlighting. A banquette with movie stars might be a new view to the same restaurant patrons who earlier enjoyed a sunset. An ocean view at night can become a black hole, while a city view can offer vistas both night and day. This View Study illustrates multiple views, lighting and even cites wayfinding elements within a clinic:



LIGHT & VIEW STUDY

Deliverable 1 - Criteria Matrix

Create a **computer generated graphic** of your **Criteria Matrix** using the attached list of Spaces To Be Designed for your programmed areas and also the example as shown. Make sure to break down spaces within Suites as listed. This is to be a detailed matrix.

Deliverable 2 – Relationship Diagram

Create a **computer generated graphic** of your **Relationship Diagram** using all of the spaces shown in your Criteria Matrix. Again, using the attached list of Spaces To Be Designed for your programmed areas, the Criteria Matrix, and also the example of the Relationship Diagram as shown. Again, make sure to break down spaces within Suites as listed. This is to be a detailed Relationship Diagram.

Deliverable 3 – Bubble Block Diagram

Create a **computer generated graphic** of your **Bubble Block Diagram**. **This should relate in scale to the areas you are illustrating.** Since you have square footages of areas, your bubbles should correspond in scale to those rooms. While you might show one large bubble labeled “Therapist Offices,” the scale of that bubble should be equal to 12 therapist’s offices. You should also include circulation in this diagram so as to plan for it in the desired areas. This is to be a complete Bubble Block Diagram of all programmed areas.

Deliverable 4 – Combination Circulation/Acoustic/Light View

Create a **computer generated graphic** of a combination of your **Circulation / Acoustic / Light- View Studies**. This can be an overlay of your Bubble Block Diagram or the beginnings of your Schematic Design Plan. Circulation should show areas of public /staff only/ escorted areas and certain travel patterns. Acoustic should take into consideration the privacy expectations of Therapist offices, Group Rooms, Check In/Out stations, the noise in the Teen Activity Room and the quiet required of the Detox area. The Light/View study is not interested in outdoor views as much as security views. The security desk should have a full view of the entire waiting area and the Check In/Check Out stations should also have an unobstructed view of the waiting area. The Nurse should have a fairly good view of the Detox patients.

Schematic Design

The purpose of a Schematic presentation is to explain and SELL your concept to a client or design manager. Clearly, you need to be far enough into the process to have something to describe but not so far into the design as to be inflexible to change and suggestions. Giving your client (and yourself!) options in Schematic Design is sometimes very helpful and can demonstrate your process of thinking towards a solution. It can promote engagement from your clients, colleagues, peers, and design leadership. We will document our process and consequent solutions in Schematic deliverables towards a Design Development solution.

For this online class the deliverables will be as follows:

- **Floor Plan – 1/8" scale** that has had a preliminary review with comments and concerns corrected. **MUST have all rooms and spaces**, room names, and square footages should be shown as well. The clinic name should also be shown on the plan.

The following deliverables can be printed on individual digital pages:

- **Wayfinding concepts and sketches** demonstrating applications of different conceptual elements. Use imagery from the web or publications.
- **Imagery** – Web or publication photos of images that tell a design story and a cultural story. Don't forget your Design Review Committee!
- It is important that a Schematic Design presentation include **statements, words, slogans or research statements, and imagery** that support your concept and **ALL of the RESEARCH TOPICS**. Use quick **annotations** that show how **research and culture** are being incorporated into the design.
- **Clinic name** and basic thoughts towards **logo design** and **culture**.

Design Development

The purpose of a Design Development presentation is to demonstrate your thorough understanding of the clients business and project and to further explain and sell your more fully developed concept. Design has taken roots in your project and your client or design manager should see their passion and your passion come together towards an exciting design solution. Not all of your design solutions will sell, but you have to be able to show enough of them to talk towards them. Little should change in Design Development as you should not have sprung any “surprises” on your client. They have walked with you along a path and deviation from that path can be unsettling. Often a side meeting alerting them to possible changes is a good practice in communicating with your clients or employers. It is always helpful to take a presentation back to some earlier beginnings to remind them of the thought and discussion that has brought you all to this design solution. Thus in Design Development, having some of the process sketches and diagrams is helpful in grounding clients to their original goals and programmatic requirements. It can (and should) still promote engagement from your clients, colleagues, peers, and design leadership. It's not built yet, and the Construction Documents are not complete so a few helpful changes and comments can only help the project become successful for everyone.

For this online class the Design Development deliverables will be **due on week 12** as part of the final project.

Criteria:

- Design Development Plan – Most current **COLORIZED Design Development Space Plan – 1/8” scale**
- Your name on the plan
- Clinic name and logo on the plan
- Plan must have all **Room Names** and all rooms must be **furnished**
- Wayfinding elements identified symbolically on the plan

You are to develop a Wayfinding Plan for your Behavioral Health Clinic. Your plan should focus on the path of travel for your clinic's visitors and patients from the waiting area to the various rooms they may be required to visit. You should also indicate various components of your wayfinding concept and provide quick illustrations of their design and purpose. To fully illustrate a wayfinding concept, a floor plan, renderings, and elevations are to be completed by the designer. The initial concept(s) should be reviewed with the Schematic Design Deliverables in order to develop the elements in the Design Development plan. The concept will appear on both your Design Development Boards and on your final presentation boards within the Project Booklet in a more completed format.

For Design Development:

- Develop a **wayfinding floor plan** and a legend using arrows and symbols to illustrate the various components and features of your wayfinding design.
- Use different symbols to illustrate decision points, destination points, landmarks, architectural wayfinding enhancements, and directional and destination signage locations- create a legend for these

For the Final Project Booklet inclusive of Room/Area Presentation Pages:

- **Develop Wayfinding Elevations / 3D Renderings** that illustrate the features of your Wayfinding system:
- Show wayfinding components on final plan page illustrating with symbols and a legend
- On Wayfinding Room/Area page in the booklet, illustrate with a partial corridor/intersection plan the major components in concert with each other
- Show architectural features and landmarks that assist in wayfinding
- Show floor covering features that assist in wayfinding
- Show how color has assisted in wayfinding
- Show lighting features that assist in wayfinding
- Show designed signage you have developed assisting in wayfinding

Specification Assignments:

Ergonomic Task Chair – You will research and find a highly ergonomic task chair for the receptionists at the main reception desk. This chair will be fully equipped with arms and casters and have all the ergonomic features for multiple tasks and extended seating periods. You will create your own specification for this chair but you must provide all of the backup information on the chair including the model numbers needed to specify the chair with the added ergonomic features. Include a standard graded in fabric and finish for the chair with an example digitally printed on your specification. **Submit as a digital file on due date.**

Inclusive and Universal Design Examples - You will research and find a clear example (one each) of both an Inclusive Design concept or product and a Universal Design concept or product. These examples must clearly demonstrate the characteristics and spirit of Inclusive Design or Universal Design and not simply be an ADA accessible concept – if it is a product it must demonstrate the same spirit of inclusivity or adhere to the concepts of Universal Design. This can be a picture or a product specification. **Submit as a digital file on due date.**

FF&E Specification Information – Your project will have specification information on all of the furniture, finishes, equipment and fixtures used in your project. This means that any item that you choose will have the back-up technical data in order to complete a thorough specification for that item. **Submit as a digital file on final deliverable date.**

Items to be included in your digital file:

- Finishes: Flooring, Walls, and Ceilings – include information that one would use to complete a specification.
- FF&E: Furniture, fabrics, medical fixtures, lighting fixtures, countertops, toilet room accessories, some medical equipment (exam tables and other exam room equipment), activity room equipment (pool table, etc.)
- Specification sheets for accessories like artwork, clocks, marker boards, bulletin boards, and chart holders.

Format:

The format of this Project Booklet is still to be determined based on the changing health and safety recommendations and dynamics of Covid-19. Regardless of the format, the following page order and content would still apply.

Include the following pages (in this order):**Cover Page**

- Clinic name
- Inspirational image/concept graphic
- Your name

Table of Contents

- Every page in the booklet needs to be numbered (with the exception of the cover pages)

Design Statement

- Overview of your project concept including a description of the project, goals of the project – Use your design concept
- Include concept or inspirational images (lifestyle images)
- Design Review Board – Names and a VERY brief synopsis of their firms or person. Include one image each of one of their projects that might inspire your design

Project Description

- Project site
- Project objectives and Overarching Goals as developed in class
- Project program – list areas of the clinic being designed

City of

- State the history and background of the city of your community
- Include demographics or any research information
- Research on city's architectural heritage /style
- Include images of the area

Community Culture

- Describe your patient “community”
- Include research on your patient “community”
- Include images – lifestyle/country of origin

Research Information

- Research topics researched by each team. Each topic does not need its own page, but do not put all of the topics on one page. Each topic might have one sentence intro and then **a list of bullet points** about the topic. It might be helpful and graphic if you illustrated some of these topics with **pertinent imagery**. You do not have to illustrate each topic but a few would be informative and get the reader used to associating the topics as design principles.

Topics to include:

- Addiction Medicine
- Psychiatry
- Evidence Based Design
- Patient and Family Centered Care (both)
- Theories of Care & Current Trends
- Cultural Competence & Environmental Psychology
- Ergonomic & Anthropomorphic
- Universal Design/Design for All/Accessible Design
- Designing for Pediatric & Gerontology Facilities
- Wayfinding
- Lighting for Healthcare
- Color for Healthcare
- Materials for Healthcare Facilities
- Acoustics and Air Quality for Healthcare Facilities
- Codes for Health Clinics
- Safety & Security in Behavioral Health Facilities

Diagramming / Schematic Design

- Scanned Matrix, Relationship, & Bubble Block Diagramming Assignments
- Circulation Study with Acoustical, Light/View Studies
- **Schematic Design Plan**

Spaceplan / Design Development

- **Final colorized spaceplan (Design Development)**
- Wayfinding elements noted on plan (Landmark, Decision Point, etc., with legend)

Final Areas /Rooms

- Final Rooms/Spaces studied should be digitally shown on final pages.
- Room Pages – Use digital images - make sure your digital finishes are readable and not simply blocks of color.
- Room /Space study pages should be in the following order:
 - **Wayfinding Study** –Concept and key points with Renderings (2 min.) Use Corridor partial plan showing major concepts. Renderings should clearly illustrate the concept. Wayfinding elements clearly shown – no concept photos.
 - **Waiting Area** – Spaceplan (exception can be smaller than 1/8" scale if needed) rendering of key features in the waiting area, Furniture, lighting, artwork. Finishes and fabrics.

- **Reception Desk** – Space Plan, rendering of front, furniture, lighting, artwork. Finishes and fabrics.
- **Group Room** - Space Plan (you choose one), rendering of set up, furniture, lighting, artwork. Finishes and fabrics.
- **Teen Activity Room** - Space Plan, rendering of key view, furniture, lighting, artwork. Finishes and fabrics.
- **Therapist Office** - Space Plan (you choose one), rendering of set up, furniture, lighting, artwork. Finishes and fabrics.
- **Exam Room/Detox /Work area** - Space Plan of the whole area or that includes at least one exam room, rendering of Detox or Exam Room, furniture, lighting, artwork. Finishes and fabrics.
- **Employee Lounge** - Space Plan, rendering of key view, furniture, lighting, artwork. Finishes and fabrics.

Back Cover Page – Can match the front cover in color – perhaps make interesting?

General Requirements for all Room/Space Study pages

- Each spaceplan represented will be minimum 1/8" scale (Waiting and Detox area are possible exceptions)
- Each space plan will have one perspective rendering (minimum) – colored.
- Research points that support your selections for each spaceplan (3 minimum per board) Annotated on plan – use lines/arrows
- All page layouts should be identical
- Clinic name/Logo on each Area/Space page – small and in same location
- Room Space is Title of Page – medium and in same location
- Your name on each page – small and in same location
- All digital (plan, rendering, furniture, finishes, fabrics, lighting, equipment, artwork, accessories) Note: Solid fabrics may read poorly as just a color block
- You may add a short quote, word, or inspiration image to each board but it should occur in the same location and be different for each board and should not be the focus – i.e., keep it small!
- Make sure you illustrate by keynoted example ALL of the key research topics covered in class and readings. Use the bullet points for reference.

Design Development Plan, Project Booklet, and Specifications Presentation – Due last day of class.

Students must be online and submit a Design Development Plan and Project Booklet (in agreed format) on the last day of class to successfully pass the class. Specification information may be submitted as a separate file but is also due on the final date.

Plagiarism

While we worked together as teams, all work presented on your boards must be your work. All computer work must be generated by you. Having another student input your plan on CAD for you is a form of plagiarism. Both you and the student inputting your plan on CAD will be dismissed from the college. For team research pages, you may put a footnote at the bottom of the page indicating student(s) who contributed the research to the team. It is still presented as your project.

ONLINE CLASSES WILL BE HELD AT THE NORMAL CLASS TIME AND ATTENDANCE IS MANDATORY.

Note: Schedule may be altered considering time restraints and class size. Students should verify class instruction, meetings, and deliverable due dates.

Research Phase

Week 1: online lecture

- Review online class format, syllabus, and schedule
- Introduction to Healthcare Design and Behavioral Health
- Introduction to project and research format
- Review Teams for Research Project Topics and Communities
- Discuss assigned topics for research project
- Discuss Architectural Review Board research
- Assignment (due week 2):
- Architectural Review Board research (and images)
- Assignment (due week 3):
- Research project Team PowerPoint Presentation Assignment (due week 4):
- Community research and Video Presentations

WEEK 2: online lecture

- Review Architectural Review Board research
- Due: Architectural Review Board Research and imagery

- Assignment (due next week):
- Research project Team PowerPoint Presentation
 - Assignment (due week 4):
- Community research and Video Presentations

Week 3: online lecture

- Presentations of Research PowerPoint assignments
- Discuss Community evidence-based research
- Due: Research assignment
 - Assignment (due next week):
- Community research and Video Presentations

Week 4: online lecture

- Review the Program of the clinic
- Presentations of Community Research Videos
- Discuss Programming the space, adjacencies, and program requirements
- Discuss Room Space Studies, Programming Matrix, and Relationship Diagrams
- Review the Floor Plan
- Begin work on Programming Matrix and Relationship Diagrams
- Due: Community research with video
 - Assignment (due next week):
- Room Space Studies – Turn in online
 - Programming Matrix – Turn in online
 - Relationship Diagram – Turn in online

The Project

Pre-Design Phase

Week 5: online

- Review Room Space Studies along with Program Matrix and Relationship Diagrams
- Discuss Bubble Block Diagrams – Using the Relationship Diagram
- Introduction of Patient and Staff Circulation - How does traffic and patient/staff interaction affect the space and flow?
- Introduction of Acoustic study - How does the need for privacy and noise reduction affect the space?
- Introduction of Light/View study - How does light and access to a view affect patient comfort and promote healing? Views and Wayfinding? Views and Security?
 - Due: Room space studies – Turn in online
- Programming Matrix – Turn in online
- Relationship Diagrams – Turn in online

- Assignment (due next week):
- Bubble Block Diagrams – Turn in online
- Circulation / Acoustic / Light/View Study – Turn in online
- Draft Schematic Design Plan

Schematic Design Phase

Week 6: online

- Review Bubble Block Diagrams – Turn in online
 - Review Acoustic Study, Circulation Study, Light/View Study
- Discussion and creation of Overarching Goals
- Discussion on Schematic Design deliverables (Plan and Wayfinding)
- Review Draft Schematic Design Plan
- Due: Bubble Block Diagrams – Turn in online
 - Acoustic / Circulation/ Light/View Study – Turn in online
 - Draft Schematic Design Plan Review for questions
 - Assignment (due next week):
- Schematic Design Plan - MUST BE COMPLETED

Week 7: online

- Review Schematic Design Plan Deliverable
- Faculty lecture: Healthcare appropriate finishes and materials
- Due: Schematic Design Deliverables:
- Assignment: Refinement of Schematic Design Space Plan
- Design Development Phase
- Students please note: Weeks 8 -12 may be revised subject to changing health and safety recommendations and dynamics of Covid-19.

Week 8: online

- Ergonomic, Inclusive, and Universal Design assignment discussion
- Review developed Space Plans with corrections and comments
 - Due: Refined Schematic Design Space Plan – Turn in online
 - Assignment (due next week):
- Ergonomic, Inclusive, and Universal Design Assignments

Week 9: online

- Discussion of Final Presentation Deliverables
- Due: Ergonomic, Inclusive, and Universal Design Assignments – Turn in online
- Assignment (due week 12): Final Presentation Deliverables



Specification & Final Deliverables Phase

Week 10: online

- Progress Review
- Assignment (due week 12): Final Presentation Deliverables

Week 11: online

- Progress Review
- Discussion on Final Presentation Format (subject to change)
 - Assignment: (all due next week):
- Design Development Plan, Project Booklet, Process Notebook, for Final Presentation

Week 12: format to be determined

- Final Presentations: Each student will have appx. 10 minutes
- Due: Design Development Plan, Project Booklet, Process Notebook, and Final Presentation

Congratulations! You're done!